

REPORT ON CHARACTERIZATION OF COASTAL COMMUNITIES AND SHORELINE ENVIRONMENTS IN THE WESTERN REGION OF GHANA



INTEGRATED COASTAL AND FISHERIES GOVERNANCE INITIATIVE FOR THE WESTERN REGION OF GHANA

SEPTEMBER 2010



Friends of the Nation

Citation: Coastal Resources Center / Friends of the Nation (2010). Report on Characterization of Coastal Communities and Shoreline Environments in the Western Region of Ghana. Integrated Coastal and Fisheries Governance Initiative for the Western Region of Ghana. Coastal Resources Center, University of Rhode Island, 425 pages.

This characterization report was written by these three groups of authors:

1. Stephen Kankam, Godfred Ameyaw, Parnarkie Kusah, Bernard Yankum and Linda Dsane.

Section 3: Rapid Assessment of Coastal Communities in the Western Region: Summary of Findings for Shama District

Section 4: Rapid Assessment of Coastal Communities in the Western Region: Summary of Findings for Sekondi-Takoradi Metropolitan Area (STMA)

2. Nana Efua Tweba Ewur, Richard Adupong, John Dickson Eshun, Patricia Aba Mensah, Justice Nketiah and Balertey Gormey

Section 5: Rapid Assessment of Coastal Communities in the Western Region: Summary of Findings for Ahanta West District

Section 6: Rapid Assessment of Coastal Communities in the Western Region: Summary of Findings for Nzema East Municipal Assembly

3. Elvis Sammy Addae; Randolph Kwesi Benyi Johnson; Solomon Kusi Ampofo; Stephen Donkoh and Balertey Gormey.

Section 7: Rapid Assessment of Coastal Communities in the Western Region: Summary of findings for Ellembelle District.

Section 8: Rapid Assessment of Coastal Communities in the Western Region: Summary of Findings for Jomoro District Assembly

Disclaimer: This publication is made possible by the generous support of the American people through the United States Agency for International Development (USAID)/Ghana. The contents are the responsibility of the authors and do not necessarily reflect the views of the United States Government. Associate Cooperative Agreement No. 641-A-00-09-00036-00 for “Integrated Coastal and Fisheries Governance (ICFG) Program for the Western Region of Ghana”, Under the Leader with Associates Award No. EPP-A-00-04-00014-00.

Cover photo: Western Region, Ghana

Photo credit: Coastal Resources Centre-Ghana

Table of contents

1.0	Background	8
1.1	Purpose of Report	8
2.0	Methods and Limitations	8
2.1	Pre-testing	8
2.3	Selection of coastal communities and districts	8
2.3	Formation of Field Teams	8
2.4	Data collection	9
3.0	Rapid Assessment of Coastal Communities in in the Western Region: Summary of Findings for Shama District	10
	Background	10
	Profile of Shama District: Brief History of Shama	10
	Physical Characteristics	10
	Local and traditional governance	11
	Demographic Characteristics	11
	Economic Activities, Livelihoods and Quality of Life	12
	Environment	12
	Land Use	13
	Key Coastal and Fisheries Issues in Shama District	13
	Fisheries Issues	13
	Coastal Management Issues	14
	Other Development Issues of Concern in Coastal Communities	15
	References	15
	Appendix 1: List of Key Contacts	16
	Appendix 2: Description of Fishing Gears	17
	Appendix 3: Description of Fishing Vessels in Shama District	19
	Appendix 4: District Validation Workshop Outputs	20
	Appendix 5: Stories from the field	24
	Annex A: Coastal Village Summaries for Shama District	25
	<i>ABIESI</i>	26
	<i>SHAMA BENTSIR, SHAMA APO, AMENA-ANO</i>	30
	<i>ABOAZZE</i>	37
	<i>ANLO BEACH</i>	42
	<i>ATWEREBOANDA</i>	46
4.0	Rapid Assessment of Coastal Communities in the Western Region: Summary of Findings for Sekondi-Takoradi Metropolitan Area (STMA)	48
	Background	48
	Profile of Sekondi-Takoradi Metropolitan Area (STMA): Brief History of STMA	48
	Physical Characteristics	49
	Local and traditional governance	49
	Demographic Characteristics	49
	Economic Activities, Livelihoods and Quality of Life	50
	Environment	51
	Land Use	52
	Key Coastal and Fisheries Issues in the STMA	52
	Other Development Issues of Concern in Coastal Communities	54
	References	55
	Appendix 1: List of Key Contacts	57

Appendix 2: Description of Fishing Gears	58
Appendix 3: Description of Fishing Vessels in the STMA	59
Appendix 4: Validation Workshop Outputs	60
Appendix 5: Stories on Traditional Knowledge and Natural Resources Management	63
Annex B: Coastal Village Summaries for Sekondi-Takoradi Metropolitan Assembly	64
<i>ADAKOPE</i>	65
<i>NEW TAKORADI</i>	69
<i>POASI</i>	73
<i>NKOTOMPO</i>	77
<i>ESSANAB AND EGYNABOWABAKAM</i>	80
<i>EKUASI</i>	84
<i>BAKANO /BAKAEKYIR</i>	87
<i>NGYERESIA</i>	91
<i>SEKONDI –EUROPEAN TOWN</i>	95
<i>ESSIPON</i>	101
5.0 Rapid Assessment of Coastal Communities in the Western Region:	
Summary of Findings for Ahanta West District	104
Background	104
Profile of Ahanta West District: Brief History	104
Physical Characteristics	104
Governance	105
Demographic Characteristics	105
Economic Activities	106
Environment	107
Land Use	108
Key Coastal and Fisheries Issues in the Ahanta West District	108
Fisheries Issues	109
Coastal Management Issues	110
Other Issues of Concern in Coastal Communities	110
References	110
Appendix 1:	112
Appendix 2: Landing Beach Committee Issues	113
Appendix 3: Description of Fishing Gears	115
Appendix 4: Description of Fishing Vessels	116
Appendix 5: Output from District validation workshop	117
Cont'd Appendix 5: Output from District validation workshop	119
Annex C: Coastal Village Summaries for the Ahanta West District	121
<i>NEW AMANFUL</i>	122
<i>FUNKO</i>	126
<i>ADJOA</i>	130
<i>PUPUNI</i>	133
<i>ASEMKO</i>	136
<i>BUTRE</i>	140
<i>BUSUA</i>	144
<i>DIXCOVE</i>	147
<i>ACHOWA</i>	151
<i>AKWIDAA</i>	155
<i>CAPE THREE POINTS</i>	159
<i>PRINCESSTOWN</i>	162
<i>AWUNA KROM (EHONLE NWIANZO)</i>	166
<i>AKATEKYI</i>	168

<i>MIEMIA</i>	172
<i>EGYAMBRA</i>	175
6.0 Rapid Assessment of Coastal Communities in the Western Region:	
Summary of Findings for Nzema East Municipal Assembly	179
Background	179
Profile of nzema east municipal assembly: Brief History of the District	179
Governance system	180
Demographic Characteristics	180
Economic Activities	181
Environment	181
Key Coastal and Fisheries Issues in the Nzema East Municipality	182
Fisheries Issues	182
Coastal Management Issues	183
Other Development Issues	183
References	183
Appendix 1: List of Key Contacts	184
Appendix 2: Description of Fishing Gears	185
Appendix 4: Landing beach committee stories/issues and others	187
Appendix 5: Output from validation workshop	189
Annex D: Coastal Village Summaries for Nzema East District	193
<i>AGYAN</i>	194
<i>AKONU</i>	198
<i>DOMUNLI</i>	202
<i>APEWOSIKA</i>	205
<i>ANTO-APEWOSIKA</i>	211
<i>FANTE LINE (LOWER AXIM)</i>	215
<i>BOAT ASE (LOWER AXIM)</i>	219
<i>UPPER AXIM (SOLO)</i>	223
<i>AMANFOKUMA</i>	227
<i>BRAWIRE</i>	231
<i>AKYENIM</i>	235
7.0 Rapid Assessment of Coastal Communities in the Western Region:	
Summary of Findings for Ellembelle District	239
Background	239
Profile of Ellembelle District : Brief History	239
Physical Characteristics	239
Local and Traditional Governance	240
Population	241
Rural – Urban Split	243
Migration	243
Religion and Ethnicity	243
Economic Activities, Livelihoods and Quality of Life	243
Environment	245
Land Use	246
Coastal Management Issues	249
References	250
Appendix 1: List of Key Contacts	251
Appendix 2: Description of Fishing Gears Used in Ellembelle	252
Appendix 3: Description of Fishing Vessels in the Ellembelle	253
Appendix 4. Ellembelle District Validation Workshop Outcomes	255

Annex E: Coastal Village Summaries for the Ellembelle District	256
<i>ANOCHIE</i>	262
<i>BAKU</i>	266
<i>NGALECHIE</i>	270
<i>NGALEKPOLE</i>	273
<i>EIKWE</i>	276
<i>KRISAN</i>	279
<i>SANZULE</i>	282
<i>AKONU</i>	285
<i>MPAIN</i>	289
<i>NZULELOANU</i>	292
<i>ESIAMA</i>	294
<i>KIKAM</i>	298
<i>ASEMKO</i>	301
<i>BOBRAMA</i>	304
<i>SANTA</i>	307
<i>SANWOMA (ANKOBRA)</i>	311
8.0 Rapid Assessment of Coastal Communities in the Western Region:	
Summary of Findings for the Jomoro District Assembly	315
Background	315
Profile of Jomoro District Assembly: Brief History	315
Demographic Characteristics	316
Governance Systems	316
Environment	320
Eco-Tourism	321
Land Use	321
Key Coastal and Fisheries Issues in the Jomoro District	322
Fisheries Issues	322
Coastal management issues	323
Other Development Issues of Concern in Coastal Communities	323
Community Needs Prioritization	324
References	324
Appendix 1: List of Key Community Contacts	325
Appendix 3: Description of Fishing Vessels in the Jomoro District	333
Annex F: Coastal Village Summaries for Jomoro District	334
<i>AGYEZA</i>	335
<i>AHOBRE 1</i>	339
<i>AHOBRE 2</i>	342
<i>ALLENGENZULE</i>	345
<i>ANLOMATOAPE</i>	348
<i>ATWEBANSO</i>	351
<i>AVOLENU/NEWTOWN</i>	355
<i>BEYIN</i>	359
<i>BONYERE</i>	364
<i>EDOBO</i>	367
<i>EFASU</i>	371
<i>EGBAZO</i>	376
<i>EKABAKU</i>	380
<i>EKPU</i>	383
<i>ELONYI</i>	388
<i>ENZILIBO</i>	392

<i>ENZEMENTIANU</i>	395
<i>JEWAY</i>	399
<i>KENGEN</i>	402
<i>MANGYEA</i>	407
<i>MATIKA</i>	411
<i>MPEASEM</i>	414
<i>NGELEKAZO</i>	417
<i>OLD KABENLASUAZO</i>	420
<i>WENEN</i>	423

1.0 Background

1.1 Purpose of Report

The *Integrated Coastal and Fisheries Governance (ICFG)* Initiative is supported by the United States Agency for International Development (USAID). The goal of the Initiative is to support the Government of Ghana (GoG) in achieving its development objectives of poverty reduction, biodiversity conservation, food security and sustainable fisheries management. Key among the actions to be undertaken by the Initiative within its first year of implementation is assembling of baseline information on coastal ecosystem conditions and governance in the Western Region.

Against this background, rapid appraisals of coastal communities, district level validation workshops and secondary literature review were undertaken to provide additional information that will ultimately contribute to assembling the baseline. While rapid appraisals gleaned community scale information, it also provided the opportunity to socialize the ICFG initiative among coastal communities visited. The purpose of district scale workshops was to solicit inputs from local people as well as reactions to findings of the rapid appraisals and to incorporate local perceptions of changes into a district level synthesis of coastal and fisheries governance issues.

This report provides summary findings for each of the six coastal districts in the Western region and details out specific information on the communities appraised.

2.0 Methods and Limitations

2.1 Pre-testing

Interview guides, check lists as well as other data collection instruments were pretested during a 2-day field exercise at Half-Assini in the Jomoro District for validity, accuracy and timing. Data collection instruments were later modified.

2.3 Selection of coastal communities and districts

The communities appraised were selected from the six coastal districts in the Western region, namely Shama District, Sekondi-Takoradi Metropolitan Area (STMA), Ahanta West District, Nzema East District, Jomoro District and Ellemelle District. In all, 89 communities were appraised of which most were homogenous as portrayed by their socio-cultural characteristics. The few heterogeneous communities were mainly in the STMA.

2.3 Formation of Field Teams

Five field officers were tasked to conduct rapid appraisals in the coastal communities within each district. Familiarity with a particular area and knowledge of the local language were taken into account in constituting research teams. The efforts of the field teams were coordinated by a team leader.

2.4 Data collection

A triangulated approach using key informant interviews, direct observation, focus group discussions and participatory mapping was used to gather data at the community scale. Additional information was collected at the district and regional scales through district validation workshops and review of secondary information.

The Table below indicates the specific variables and corresponding methods that were used to gather the information.

Table 1. Summary of Data Categories and Methods Used to Gather the Information.

Variable	Secondary data	Key informants	Direct observation	Focus groups/participatory mapping	Validation workshop
Fishing activities	X	X	X	X	
Livelihood activities and quality of life	X	X		X	
Community infrastructure	X	X	X	X	
Health	X	X		X	
Local environments and habitats	X	X	X	X	
Perceptions of local institutions		X		X	X
Community perceptions of development and resource management issues		X		X	X
Local perceptions of changes and trends in the governance system					X

3.0 Rapid Assessment of Coastal Communities in in the Western Region: Summary of Findings for Shama District

Background

A rapid appraisal was conducted in seven coastal communities in the Shama District between March 30 – April 12, 2010. The purpose of this assessment was to generate primary information that will ultimately contribute to establishing the overall baseline coastal conditions in the Western region and socialize the Integrated Coastal and Fisheries Governance (ICFG) initiative among the communities visited.

This appraisal collected mostly qualitative information and some quantitative data on issues relative to fisheries, community infrastructure, governance and institutions, local habitats and perceptions of resource management. The research team comprised five members, spending on average, two days in each community. Data was collected through focus group discussions, participatory mapping, direct observations and interviewing key informants. Information was also collected from secondary sources including development plans of the District Assembly.

The following report provides a brief overview of the Shama District as well as a synthesis of key fisheries, coastal and other coastal community development issues that were revealed during the field assessment and validation workshop organised at the district level. The Annex provides profile information and specific issues for each of the coastal villages within Shama District.

Profile of Shama District: Brief History of Shama

Shama district was established through a Legislative instrument (LI. 1882) in 2007. Prior to this, it was a sub-metro under the administrative authority of the erstwhile Shama Ahanta East Metropolitan Assembly (SAEMA).

Shama is one of the earliest villages along the coast of Western region with history dating back to the ninth century. Before arriving in Shama, early Fante migrants from *Techiman* settled in *Eguafo*. From this location, they further moved towards the sea at *Abotre* and *Amanfokese* – communities close to present time *Daboase* junction. After settling in *Yabiw* for some time, the predecessors migrated to the present location of Fort St. Sebastian where the first settlement of present time Shama emerged.

Physical Characteristics

Shama district, with a land area of approximately 215km² is four times the size of STMA. It is bordered by STMA to the west and Komenda Edina Eguafo Abirem (KEEA) district to the east and the north by Mpohor Wassa East district. The district lies within the lowlands of the country with the elevation in most areas less than 80 metres. The landscape is generally undulating with an average height of about 70m. The highest elevation ranges between 150

and 200 metres above sea level. There are also few areas, mainly the valleys of the main river that do not exceed 150 metres above sea level (Shama District Assembly, undated). The shoreline features are characterised by open sandy beaches with near shore rocky bottoms and headlands in some areas. The coastline has eroded by an average of 100metres in the last 50 years. Typical shoreline erosion control structures are gabions and boulders. The surf energy is medium to high.

Local and traditional governance

Both local and traditional governance systems prevail in Shama District. While the local government derives from the national decentralized governance system, traditional governance is sanctioned by the Chieftaincy institution. Membership of the Shama District Assembly comprises District Chief Executive, a Member of Parliament who is an ex-officio member of the Assembly, 12 elected members and 6 government appointees. While the District Chief Executive is the political and administrative head, the presiding member – elected from the Assembly’s membership – presides over the legislative and deliberative functions of the Assembly. The district is sub-divided into 6 area councils – Shama Junction, Assorku Essaman, Inchaban, Shama, Supomu Dunkwa and Aboadze/Abuesi- and 64 unit committees. There are several departments and public agencies operating within the district. These include Departments of Agriculture, Non-formal education, Feeder roads, Community development, Police service, Judicial service, National disaster management organization etc.

Relative to traditional governance, the Shama traditional area is headed by a paramount Chief with jurisdiction over three main Chieftain Divisions and several divisional chiefs. The 3 Chieftain Divisions are Inchaban, Yabiw and Dunkwa. All traditional stool lands are vested in the paramount Chief of the traditional area (Shama District Assembly, undated).

Demographic Characteristics

By the year 2000, the population of Shama district was an estimated 68,642. This increased to 88,314 by 2008. Of this number, 44,436 were males and 44,078 females. As of the year 2000, the growth rate in the district was 3.5%. This number was higher than the regional and national averages of 3.2% and 2.7% respectively. Areas with high population density include Shama, Aboadze and Abuesi which are fishing communities. Other highly populated areas are Inchaban and Supomu Dunkwa. The indigenes are Fantes, constituting 86.49% of the total population while settlers account for 13.51%. Christianity is predominantly practiced by 78.6% of the population. Since the last 3 decades, the district has witnessed an increase in the number of basic and secondary schools. However, performance at the basic education level has consistently fallen in the past decade. There are 4 private clinics and 3 government health centres in the district. The most prevalent diseases recorded in the district as of 2009 include Malaria, Acute Respiratory Infection, Skin Diseases and Ulcer, Diarrhoeal Diseases, Intestinal worms, Rheumatism and Joint Pains, Hypertension, Anaemia, Vaginal Discharge, Home Accidents and Injuries and Other Diseases. Fertility in the district is quite high with 2,115 pregnancies in 2008 increasing to 2,491 in 2009.

Economic Activities, Livelihoods and Quality of Life

The economy of the district revolves around fishing, farming and petty trading. Shama has a long history of fishing pre-dating the colonial era. This period was characterised by the use of paddle canoes until the advent of outboard motors in the 1960s paved way for operating *adi* and drift gill nets. According to key informants in the district, fishers adopted *watsa* by the 1970s due to the labour intensiveness of removing fish from drift gill nets. It is also worthy to note that majority of fishers in Shama were erstwhile employees of the public sector – Ghana Railway Corporation- particularly from the 1960s to 1980s. The retrenchment of railway workers, which began in the 1980s was a significant factor that drove people into the artisanal fishing industry around this time. The last canoe frame survey in 2004 estimated a total of 11,109 fishermen in SAEMA (Amador *et al.* 2006) which comprised fishers in present time Shama district and Sekondi-Takoradi Metropolitan Assembly. The annual fish catch in the district is estimated at 30, 000 metric tonnes (Shama district assembly, undated)

Like fishing, farming in Shama district is a major occupation for the population. Both cash and food crops are cultivated and these include plantain, cocoyam, maize, rice, oil palm, cassava and vegetables. Tiger nuts and groundnuts are also cultivated on commercial scale. Prior to the 1980s, coconut plantations was a major source of livelihood for the people until the incidence of Cape Saint Paul wilt disease resulted in destruction of large hectares of coconut farms.

According to statistics from the district assembly, 78% of the population are engaged in farming and fishing. There is a direct correlation between fishing and trading in this district. The most recent bumper fish catch in the district was recorded in 1989 and 2001. Emerging trends indicate declining fish catches which is contributing to loss of livelihoods and reduced quality of life.

Environment

The district is drained by the historical Pra river which flows southwards and meets the sea at Shama. The Pra river delta comprises vast areas of marshlands while its estuary is associated with mangrove forests, dunes with tropical foliage, various species of birds which perhaps are migratory and diverse fauna. Some coastal wetlands and mangrove forests in the district have been degraded through felling and harvesting for fuel wood. However, as compared to STMA, wetland areas and overall natural ecosystems in Shama district is less stressed.

Relative to the ocean, major upwelling occurs around late June or early July to late September or early October while the minor upwelling occurs from January to March. The shoreline in the district is heavily polluted with plastics, other solid wastes and household sewage. In some areas, desperate measures to control erosion include dumping of waste at the shoreline.

Land Use

The major land use patterns in Shama include agricultural, industrial and settlement. Agricultural lands are mostly located within the inland areas. Also, coastal communities located towards the eastern borders of the district have extensive agricultural lands. Large tracts of lands have been earmarked for Export Processing Zones (EPZ). The EPZs are part of a wider national programme aimed at attracting investors for development of commercial and service activities in selected areas. Land use changes from farmlands to settlements in Shama district is not as rapid as observed in STMA. However, the rate of shorefront construction especially for hotels and beach resorts is increasing in recent times.

Key Coastal and Fisheries Issues in Shama District

This field assessment revealed that what is unique and different about Shama district compared to other districts in the Western region is that it is a rural district with disproportionately high dependence on farming and artisanal fishing as sources of livelihoods. Even though the fishing communities are characterised by high population density, the overall population density of the district is relatively low. The district is experiencing significant growth in the tourism industry which is manifested exclusively in beach front hotel and resort development. Wetland areas and the overall natural ecosystem in the district are relatively less stressed. As compared to other districts, the role of traditional authorities in fisheries management is prominent. For instance, most Chief fishermen in Shama play key leadership roles in resolving conflicts that emerge from fishing expeditions while the roles of Chief fishmongers as negotiators of fish prices are respected and recognized. The rate of shoreline erosion in Shama is also quite high and needs immediate attention. The following section provides more detail about key fisheries, coastal management as well as other coastal community development issues within Shama district. The following issues were gleaned from field appraisal as well as district workshop.

Fisheries Issues

Declining fish catches is reducing quality of life in coastal communities. This was an issue expressed by all stakeholders during the assessment. The artisanal fishing industry in the district has witnessed declining fish catches in nearly the last decade. Fishing is the driver of the local economy in Shama – this is apparent in the high correlation between fishing and commercial activities in the district. Consequently, declining fish catches has not only reduced the quality of life in artisanal fishing households but also other households that survive on fish trade and small scale commercial activities. Furthermore, declining fish catches is increasingly changing the mode of operation of artisanal fishers in the district. Currently, most fishers from this district prefer to land their catches at the fishing harbour in Sekondi where they are assured of spot payment as opposed to credit purchase in the Shama district. These trends have contributed to displacement of livelihoods of particularly small scale fish traders.

Use of destructive fishing methods. Destructive fishing methods in the district include light fishing, use of dynamite, carbide, DDT as well as small mesh sizes. These practices are widespread among artisanal fishers in the district. However, in the fishing communities of Shama (*Benstir* and *Apo*), light fishing is not practiced due to the fact that it is prohibited

by traditional laws. Furthermore, the predominant fishing methods in these communities make it impossible to undertake light fishing. Prohibition of light fishing in this part of Shama has contributed to rising conflicts at sea between artisanal fishers. This is because the fishery is open access and the fact that light fishing is prohibited by some communities does not exclude others from engaging in the practice in common fishing grounds.

Poor processing, storage and handling of fish leading to low value addition, loss of revenue and low profit margins. Poor post-harvest handling and processing techniques is a major constraint in all the fishing communities in this district. This problem manifests in the lack of cold storage facilities as well as ineffective post-harvest smoking and drying equipment. Consequently, fish is processed and handled under unhygienic conditions, particularly at the landing sites and processing sheds. As part of the government's Cold Store project, the district will be provided with cold storage facilities in the coming years. It is also expected that this project will create employment and enhance incomes in the fishing communities.

Difficulty in accessing loans. Lower Pra Rural bank is a major creditor for fishmongers and fishermen, as well as small scale traders in the district. During the assessment, fishmongers and fishermen expressed the difficulty they encounter in the process of accessing loans to operate their businesses. Often, fishers referred to the issue of providing guarantors as the major constraint. On the other hand, personnel of the bank indicated high default rates among borrowers as a key factor hindering effective disbursement of loans to fisher folk. It was found out that loan capital get locked up in non-fishing related businesses operated by the fisher folks, particularly during low fishing seasons. Often, this resulted in lack of operating capital during the major fishing season, hence low loan repayment rate. Increasingly, other financial institutions like the SHACO credit union have emerged to enhance the overall access to loans and support small scale business operations in the district.

Coastal Management Issues

Coastal erosion is destroying habitats and property . Coastal erosion is destroying artisanal fishing settlements, fish landing sites and beaches. While the rate of erosion slightly varies from one coastal community to the other, overall, the shoreline has eroded by approximately 100 metres in the last 5 decades. Some efforts and attempts are being made to control shoreline erosion in some areas using gabions and boulders. In other areas, refuse are dumped at the shoreline to delay the rate of erosion. The current trends indicate that these measures have not been adequate in addressing the issue of shoreline erosion.

Sand winning is threatening coastal habitats. Although sand winning is illegal under the bye-laws of the district assembly, it is being practiced intensely along the beach front of some coastal communities. This activity is contributing to loss of sandy beaches as well as exacerbating coastal erosion. Other key assets and energy infrastructure are also threatened by this activity.

Threats to mangrove ecosystems and associated wetlands. Wetlands in some coastal areas have been filled and earmarked for development. The remaining pristine wetland areas are presently being degraded through gradual settlement expansion and use as refuse dumping sites. Also, mangrove ecosystems are consistently harvested for fuel wood

without replanting or undertaking any systematic regeneration activities. As population along the coastal strip and in the entire district increases, the remaining wetland and mangrove ecosystems will likely suffer degradation if no actions are taken to address this issue.

Other Development Issues of Concern in Coastal Communities

Poor sanitary facilities and waste management. Solid and liquid waste management is poor in the district. Particularly, solid wastes are dumped at the beachfront and into lagoons. Generally, solid waste disposal facilities are inadequate in the coastal communities and inland areas. In addition to the waste dumped at the shoreline, solid wastes from inland settlements are washed onto near shore marine areas through run-off. Although ZOIL has deployed personnel to clean beaches, there are significant challenges as regards ensuring adequate cleanliness of beachfronts.

Poor performance at the basic education level. Since the last decade, the district has recorded generally low performance at the basic education level. The district was ranked 16 out of the total 17 districts in the Western region in terms of performance at the basic level. In addition, school enrolment at this level is very low. During the appraisal, most teachers linked low enrolment and poor performance of children in particularly fishing communities to the lack of incentives including provision of free school uniforms, poor parental care and control as well as inadequate teachers. Lack of parental interest in education was also mentioned as contributing to this problem. Meanwhile, the district assembly and some private companies have instituted scholarship schemes to incentivise high performance of students in the district.

Prevalence of teenage pregnancy and high fertility. Teenage pregnancy and fertility are quite high in particularly the fishing communities in the Shama district. The rate of school drop-out among teenage mothers is also very high. High fertility is contributing to rising population in the fishing settlements with associated overcrowding and poor living conditions. The district has health facilities that provide various services including family planning. However, these facilities are not easily accessible by people living in distant communities. Also awareness raising on family planning is perhaps inadequate in the district.

References

Amador, K. Bannerman, P. Quartey, R and Ashong R. 2006. Ghana canoe frame survey. Information report number 34. Marine Fisheries Research Division, Ministry of Fisheries. Ghana 43pages.

Shama District Assembly, undated. Shama District: a brief profile.

Shama District Assembly, undated. Shama District Assembly profile – Draft.

Appendix 1: List of Key Contacts

Community	Contact Persons	Position	Telephone Number
Abuesi	Nana Kondua	Chief fisherman	0243681060
	Maam Abronye	Konkohene	
	Sarah Donkor	Fishmonger	
	Abena Foriwaa	Fishmonger	
Shama Bentsir, Apo and Amena –ano	John Ewusi Arhin	Assemblyman	0242522193
	Frank Kwesi Yeboah	Deputy District Coordinating Director	
	Nana Effirim	Chief fisherman (Bentsir)	
	Susanna Bisiw	Secretary to Konkohene (Bentsir)	
	John Efedu	GPRTU Shama	
	Nana Araba Nsiah	Konkohene (Apo)	
	Nana Ackon	Chief fisherman (Apo)	
	Kofi Assifuah	Fisheries data recorder	
Kweku Odum	Secretary to Chief fisherman (Amena-ano)		
Aboadze	Catherine Asuo	Detective lance corporal (Shama police)	0275504457
	Helena Offei- Bua	Headmistress	
	Attuah	Assemblyman	
Anlo Beach	Frederick Mensah	Trader	0243932886
	Mariama Adam	Chief fisherman	
	Nana Adam Eduafo	Chief	
Atwereboanda	Torgbe Tekple Garikor	Chief	
	I		
	Afamenyo Agbeu	Fishmonger	
	Awukuvi Kpordwudi	Secretary to Chief fisherman	
Atwereboanda	Stephen Mensah	Secretary at Chief's palace	
	Paul kwesi krah	Catechist	
	Nana Kweku Ntiful	Chief	

Appendix 2: Description of Fishing Gears

Gear Name (English)	Local Gear Name (A, T, F)	General Description	Species Caught
Drift Gill Net (surface)	Ashekon, Ali, nifa nifa	This type of net is normally 100-450m in length and 15-20m in depth. Its mesh size varies from 100-250mm. It is used all year round. It also uses 40HP outboard motors. This gear is operated by 8-12 crew members. It mainly targets large pelagic species. It is made with yarn of R 390 to 620 or 950 Tex, as per netting availability. It is usually set at sunset and pulled out the next morning. Hauling is done manually.	Tuna, marlin, sharks and mostly sardinellas, herrings, manta ray,
Bottom set gill net	Tenga	The length of this net is 10 yards and can be joined together with a depth of 2-3 yards. The material used is monofilament. It has mesh sizes of 1½, 1¼, 1 ⁵ / ₈ and 1 ⁷ / ₈ inches. This gear is operated by 2-3 crew members. These nets are used to catch both demersal and pelagic species. It is made from polyethylene material which could be about 200 yard long and 1.5 yards wide. They can also be joined to get any required length or dept. It is operated from small and medium-sized vessels. They set off at about 3.00 a.m. and land at 2.00 p.m. the same day. This gear is set for about 3-4 hours before it is hauled. They are most often used in the minor season.	All species of fish like herrings, sardillinas demersals finned herring, ribbon fish, thread fin, sardines, anchovies and mackerels, barracuda, Burrito, Bigeye grant, Ilisha africana, , common threadfin, oil fish, African threadfin, shine nose
Ring Net/small purse seine	Watse	This net has about 1, 1½, 1¼ and 2 inches mesh size. The length of the nets used is 450-500 yards and has a depth of 50-60 yards. Some fishermen put in nets with smaller mesh sizes into the Watse net. This is done to target smaller species of fish particularly anchovies. It mostly employs 20-30 crew members and uses 40HP outboard motors. They are use mostly in the major season which comes between July and September. 20mm mesh size. It is made with thread. They are used by big canoes, semi-industrial vessels as well as industrial vessels. These canoes usually have a small canoe which carries generators for light fishing. The big canoes have 12-25 crew members. They set off at 5pm and land at 8am the next day. They are usually used in the major season. They usually target pelagic species but are able to catch demersal species too. It costs about Gh.ϕ50,000.00	Sardillina, herrings, All species of fish Round\flat sardines,

Gear Name (English)	Local Gear Name (A, T, F)	General Description	Species Caught
Hook and line	Asosow	It targets big demersal fishes as well as large pelagic. They employ 5-10 crewmen. They use hooks with numbers ranging from 1- 16 inscribed on them. They signified the different sizes of the hooks. The lines used are also of different sizes with numbers 8, 10, 12, 14, 16 inscribed on them. They are made of nylon. They are also used to catch fish from rivers and lagoon.	Red fish, tuna, sea bream snapper, grouper, yellow fin
Beach seine	Tweewui	They employ 5-7 crew members and 2 help hands. This gear is commonly used in the Anlo Beach. The average distance from the shoreline to where the net is set is about 1 to 2 km. The size of beach-seine nets varies from 480 m long (excluding ropes) by 8 m deep to 1 640 m long by 22m deep. The net is mainly operated in the areas of concentration of the young, whether pelagic or demersal species. It requires 30 to 50 men to haul a small net and 50 to 100 men for a big net. A canoe is required to go offshore to cast the net. The net may be left in the sea for up to two days before it is hauled.	Ribbon fish, long finned herring, cassava fish, shrimps, sardinella

Appendix 3: Description of Fishing Vessels in Shama District

Boat Type	Local Name(s)	General Description	Gears Used
Small Canoe (motorized)	-	This type of canoe vessel is approximately 30m long and 2m wide made from a single dug out log. The preferred wood is Wawa. Above the dugout, the hull is planked. Outboard motors of 40 HP mounted on the read right (starboard) side of the vessel. It costs about Gh¢5,500. These vessels cost approximately Gh¢12,000	Drift gill net (surface). Bottom gill net, hook and line, long line.
Small /medium Canoes (non-motorized)	-	These are used by fishermen who do beach seining. They use paddles. It is also used by the service boys to bring the fish to the shore. It uses only 2-5 crew members. They are dug out logs of about 6-12 yards in length and about 2 yards in width. Paddles are used on these canoes.	Drift gill net (surface). Bottom gill net, hook and line, long line
Medium canoes(motorized)	-	These are mostly used by artisanal fishermen who use the hook and line. Wawa is usually used in constructing. Between 5- 10 crew men work on such canoes. They usually spend between 6-8 days on an expedition. They leave anytime they wish and fish throughout the week. They also use ice blocks to preserve their catch because of the number of days spent on an expedition. They use sardines as bait to catch the specific species they go in for. They use anchors with 10mm anchor ropes to stabilize the canoe whilst they fish. The canoe uses outboard motors of 40 HP which cost about 5,100 Ghana Cedis at subsidized rate. They also use premix fuel but have to rely on Super whenever there is a shortage of premix.	Hook and line, anchors
Large Canoe (motorized)	Waste	This canoe is named according to the type of net it uses. They use premix fuel. They range between 23-26 yards in length and about 1 1/4 to 1 1/2 yards in width. The crew size of this type of canoe ranges from 20 to 30 men. They use outboard motors of 40HP.	Ring Net/small purse seine

Appendix 4: District Validation Workshop Outputs

Theme: Natural Environment

Variable	Timeline	Trends/Changes	Suggested causes	Consequences	Governance response
Conditions and extent of beaches	1979	Pra estuary overflows its banks	Sand / sediment removal from Pra river for road construction	Destruction of houses	Relocation of settlements within the vicinity of the Pra estuary.
	2007	Excessive Shorefront development	Lack of zoning and land use guidelines	Beach front erosion	No response
Conditions and extent of wetlands	1900s	Harvesting of mangroves for fuel wood	Lack of alternative sources of wood energy	-	No response
	1998 – 2010	Intensification of mangrove harvesting	Lack of employment Population growth	Degradation of mangroves.	
Changes in fisheries	1989 and 2001	Bumper catch in Shama district	-	Increased incomes in fishing communities	
	2000 - 2010	Declining fish catches	Destructive fishing methods Pair trawling	Reduced incomes for fishmongers Increased incomes of light fishers	Ban on pair trawling Intensified fishing activities including Tuesdays.

Theme: Livelihoods

Variable	Timeline	Trends	Consequences	Suggested causes	Governance responses
Fishing	1900-1940	Use of paddle canoes			
	1940-1960	Use of <i>ali</i> nets			Introduction of 25HP outboards
	1965	Use of DGN and increasing of mesh sizes to 18,21 and 30 inches			
	1970	Commencement of <i>watsa</i>	Because removal of fish from DGN was labour intensive		
	1998	Completion of sekondi fishing harbour	Reduced availability of fish		Relocation of operation of canoes to the harbour
Farming	1900-1979	Cultivation of tiger nut, maize, groundnut	-	Low productivity of land/desertification	Movement of farmers further inland to fertile lands
	1980	Collapse of coconut plantation	Sea erosion and influence of Cape Saint Paul wilt disease	Decline in quality of life	Increased women fish traders
Trading	August – February of every year	Market is enhanced	High fishing season	Increased incomes	Increased women fish traders.
	2000	Emergence of small scale businesses and shops	Lack of employment		Increased commercial activities.
	1980s	Collapse of railways		Decline in quality of life	Majority ventured into fishing

Theme: Land Use

Variable	Timeline (in the past)	Causes of change	Consequence	Governance response
Forest	30yrs ago-depletion of forest in shama	Development activities(residential purposes) Firewood. Farming activities. Quarries. Sand winning.	Destruction of natural habitat, monkey sanctuary in abuesi Reduction in rainfall. Beautification. Job creation.	Government policy on usage of LPG. Afforestation projects-government, NGOs. Public education or sensitization by NGOs, Government and District Assembly.
Export Processing Zone(EPZ)	There were no EPZ until 5 yrs ago in Abuesi	Low fish catch has affected the export processing zones (EPZ) activities(about 2 yrs ago)	Loss of livelihoods.	Financial assistance from the Lower Pra bank. District Assembly supporting activities of EPZ.
Settlement	Over 40 years ago (decrease)	Sea erosion Population growth Low catch River flooding	Loss of lives and property	National Disaster Management Organisation (NADMO) education, sensitization and giving Aids. Sea defence wall by government
Shore front Construction	3 yrs ago (increased)	Urbanization of Shama District Tourism activities(recreational facilities)	Job creation. Revenue for District Assembly	Activities of developers controlled by tourist board Approval of plans of the developers by the DAs

Theme: Demography

Variable	Timeline (in the past)	Causes of change	Consequence	Governance response
Trend in Literacy	30 years ago-improved	Provision of more schools. Role models in shama district.	More scholars Increase in employment. Local participation in democratic activities.	Free education policy by government. School feeding program.
Poverty	30 years ago-increased	Reduction in area of farmland. Low fish catches	Low standard of living. High divorce rate.	Management of Microfinance and Small Loans Centre (MASLOC) by government.
Income	5 years ago – income has reduced	Reduction in farmland. Low fish catches	Displacement of livelihoods.	Poverty alleviation by government. MASLOC by government.
Migration(ou t-migration)	40 years ago-increased	Seasonal nature of fishing(lean and bumper season) Unemployment.	Reduction in population size. Inability to organize communal labour.	National Youth Employment Programme (NYEP). Job placement with Zoomlion and Ecobrigade Creation of jobs by the bank(70 people on attachment)
health	20 years ago - improved	Provision of health facilities.	Reduction in child mortality. Reduction in pregnancy related mortality.	NHIS by government. Health facilities by government and VRA.
population	10 years ago-increased	Urbanization In-Migration High fertility	Settlement expansion. Increasing cost of accommodation.	Establishment of the district. Provision of more secondary schools in the district. Government free delivery policy for women.

Appendix 5: Stories from the field

Box 1: The tale of Chief fisherman- Shama *Bentsir*

About 12 years ago, we signed a pact with the lesser gods regarding light fishing. This action was initiated from the Western region and I led the delegation to swear the oath since I was the Chairman of the Western region canoe fishermen council at the time. On that occasion, we took with us, bottles of local drinks and visited every fishing village in the Western Region, and together with the Chief fisherman of that village swore by the gods of the sea not to practice light fishing or use dynamite for fishing. This was also replicated in other parts of the country. However, as the activities of pair trawlers in our waters increased, the inshore fishers recognized that they were being outcompeted and resorted to the use of light. The move by inshore fishers necessitated overturning of our oath to pave way for artisanal fishers to also practice light fishing. The Chief fisherman of Abuesi played a leading role in overturning the oath since he was the chairman of the Western Region Canoe fishermen council at the time.

Box 2: The tale of a fishmonger - *Aboadze*

When fishermen with light get fish the fishmongers close to them get some fish to sell and also feed their families. Increasingly, fishmongers operating with canoes not practicing light fishing are finding it more and more difficult to survive. On most occasions these canoes do not land any catch, hence those of us depending on them do not get fish to feed our families or sell to educate our children in school. And this presents a situation where some are benefitting while others are finding it difficult to survive. I think that banning light fishing will ensure some level of equity in the access to fish.

Box 3: The tale of a community leader - *Aboadze*

The fishes in the sea have a resting period but now the use of light for fishing does not allow this. Sardinellas are the main species caught by fishermen in Ghana. In the past we caught fish continuously for months and in December the sea was allowed to rest. By so doing, we were able to catch a variety of species using different gears before the major sardinella season. Nowadays, the boats can go as far into the deep sea following the sardines during the off-season and they use light to catch them. If this method of light fishing continues fish stock will be depleted and this will bring hardship to us and the future generations.

Annex A: Coastal Village Summaries for Shama District



Anlo Beach
Photo credit: Bernard Yankum



Pra river estuary
Photo credit: Linda Dsane

ABIESI

Physical Characteristics

Abuesi is a large urban¹ fishing community located in Shama district. The community and surrounding area is characterised by flat and hilly landscapes. The coastline comprises slightly curved sandy beaches extending from the Western to the Southern edges of the population concentration. There are two fish landing sites- Abuesi and Kesewokan- in the area. Rocky outcrops are present in the near shore areas. Information from local fishermen suggests that the near shore areas also contain ship and aircraft rubbles.

Demographics and Settlement Patterns

Statistics from the Planning Unit of the Shama District Assembly indicate a population of 8,873 as of the last census in the year 2000. As of the year 2007, approximately 9,059 people lived in the community. There are close to 700 houses in the community. The houses in the main settlement areas are tightly clustered and mud-built. Most of these houses are plastered with cement and roofed with corrugated asbestos. At the southernmost shoreline is a cluster of several housing units. These are temporal structures with walls made of bamboo or raffia palm fronds and roofed with thatch. Similar housing structures are located at the Western edge of the community. However, in this area they are situated few yards away from the shoreline. While providing shelter for fishmongers, these houses double as fish smoking sites. There are neither toilet facilities nor bath houses in most of the households in this community. A tarred road links to the main market and lorry station located close to the area of population concentration and further extends to the Abuesi landing beach. There are 12 churches and 3 mosques at Abuesi. There is a school complex and community library shared with the adjacent community. The nearest hospital is the Volta River Authority (VRA) hospital, which is situated at approximately 600metres from the community. Abuesi Beach Resort is located on the hills at the South-eastern edge of the coastline.

Majority of the people at Abuesi are Fantes from *Ottom*, *Ankra* and *Moree* in the central region. Few residents are Ewes and Achantas. The first Fante settlers migrated to Abuesi in the eighteenth century. Most local residents indicated that fishing migration to the community occurred in the 1970s according to the fishing seasons. At the present time, fishing migration follows monthly patterns. It also emerged that low fish catches being experienced at the present time has spurred migration of most fishermen and their families to countries including Liberia, Benin, Gambia and Nigeria to engage in fishing.

Economy

The businesses in the community are micro and small scale. And these trade in various goods and services. The Volta River Authority (VRA) and West Africa Gas Pipeline Company (WAGPCo) are the major industries located within the vicinity of Abuesi but employing an insignificant number of residents, mostly as security and casual labourers. There are no banks or credit unions in the community. The major livelihood option is fishing.

¹ The Shama District Assembly classifies this community as urban.

Farming

There are no farmlands in the community or within the immediate surroundings.

Tourism

Abuesi Beach Resort is situated on the hills overlooking the ocean at the south-eastern edge of the community. The resort offers 4 double Villas, each with eight double rooms that rent for a minimum of 55 Ghana Cedis per night. Within the resort are monkey attraction sites for visitors. According to a key informant, the resort is mostly patronised by locals rather than expatriates. Located further east of the resort are the Shama Beach Resort and Pra River Gulf Links owned and operated by Volta River Authority.

Fisheries

The artisanal fishing industry dominates the coastal strip of this community. As of 2004, close to 110 canoes comprising 25 small and 85 large sizes operated at Abuesi. At the time of the appraisal, 92 canoes lined the coastline. These canoes operate different fishing nets according to their sizes. Canoes with length ranging between 23-26 yards and up to 1.5 yards width operate the ring net and deploy between 20-30 crewmen. These canoes utilize 40HP outboards and catch mainly sardinellas. The drift gill net is operated by canoes having 16-18 yards length and 1 yard width. These also utilize 40HP outboards and mostly harvest sardinellas. The bottom set net is operated by canoes of 10 yard length and less than 1 yard width. In addition to the 25HP or 9.9HP outboards utilized by these canoes, they are propelled by paddles. They harvest mainly demersal species. Lagoon fishing is also practiced to a lesser extent in the *Attomu* lagoon with crab traps and cast nets as the main gears. Species harvested from the lagoon are *mpatowa* (tilapia), *mambai* (flat-head grey mullet), *nkafuna* (long finned herrings) and crabs.

Processing is done in the fishing settlement areas by smoking sardinelles, frying *nkafuna* (long finned herrings) and drying anchovy. Some fish are also processed by salting. The major marketing centers for fish from this community are Kumasi, Accra, Agona Nkwanta, Techiman and Kasoa. Twice weekly, fishmongers also travel to neighbouring Togo to sell fish. The Konkohene maintains her role as the negotiator of prices of fish landed in this community. The proceeds from fish sold are divided into two- the canoe owner takes one half while the other half is shared among the crewmen. Tuesdays are fishing holidays and also during the major fishing seasons – July to September- there is a ban on lagoon fishing which gets lifted after the season.

Environment

The shoreline is polluted with plastics and debris as well as human excreta. It was indicated that waste disposal at the shoreline is a mechanism for curbing increasing rate of coastal erosion. Untreated liquid waste sewage from inland areas enters the sea. It was observed that approximately 200m x 100m size of wetland located on the south-western side of the community has been reclaimed. What remains is a streamlet of less than an acre in size. It was indicated that this area was part of a lagoon some years ago. The streamlet is piled with solid waste.

The ocean areas are open with spilling surf. At approximately 150 metres from the shoreline is nearly 20m x 20m rocky outcrop on which is formed a thin layer of soil that supports the growth of few coconut trees, grass and shrubs. It was expressed that this is a major fish

spawning ground. Information from residents also pointed to the fact that whales and dolphins are often observed in the marine areas, particularly during the month of August. The elevations close to the shoreline is covered by lush tropical foliage. It was expressed that marine turtles nest and feed at the coastline. However, it emerged that turtles are harvested and consumed in this community.

Local Institutions and Governance

Until the half last decade, the Chief fisherman of Abuesi doubled as the substantive Chief of the community. Currently, there is a non-resident Chief who visits the community periodically. Both the Chief fisherman and Chief of Abuesi owe allegiance to the *Omanhene* of Shama. Together with his counsel, the Chief fisherman has jurisdiction over disputes that emerge from fishing expeditions and also administer traditional laws on fishing in the community. However, issues that border on criminality – like cases of deliberate drowning of fishermen- are referred to the police. There is also a *Konkohene* with prominent role in negotiating for prices of fish. There is a CBFMC which is not functioning effectively. A new market is being built for the community by the Shama District Assembly. Yet, majority of residents expressed that the Assembly is not contributing adequately to addressing their development needs. The West African Gas Pipeline Company (WAGPCo) supported the construction of a storm drain from the area of population concentration to the sea. There is a student association which doubles as a youth group. Membership comprises secondary and tertiary students

Key Coastal and Fisheries Issues

Declining fish catches: Fishers in this community agreed to the assertion that fish catches has dwindled over the years. They attributed this problem to light fishing, pair trawling, use of carbide and dynamite as well as increasing fishing effort. They further exemplified catch decline by indicating that while 200 pans of fish were harvested per expedition in the past decade, less than 50 pans are harvested in the present time. It was also expressed that species like *Apa* and *Asafor* are barely harvested in recent times.

Coastal erosion: It was suggested that the beachfront has eroded up to 100 metres in 5 years. Some houses at the shorefront were indicated to have been washed away. This problem was attributed to the effects of construction of the Takoardi Harbour.

Inappropriate fishing methods: Fishermen in this town practice light fishing and use dynamite and carbide in their operations.

Declining quality of life: Fishermen expressed their difficulty in meeting the subsistence needs of their families in recent times. They indicated that fish catch decline has reduced their incomes significantly, hence their inability to cater for basic needs of their families. It was expressed that fishermen resort to stealing to make ends meet, particularly during the lean fishing seasons. On the other hand, fishmongers mentioned that in times of fish shortage, they resort to selling of their clothes as coping strategies. They however indicated that transactional sex for fish is not an option in times of fish shortage.

Inadequate human waste disposal: There are no household latrines and bath houses. Most residents use the shoreline as sites for defaecation.

Changes in fishing seasons: While the major, minor and lean fishing seasons existed in the past, current trends indicate a shift from these seasons towards fishing all year round. The current seasonal regime follows the phases of the moon's revolution - light fishing is practiced at "new moon" which lasts two weeks while fishers rest at full moon.

Lack of loan capital: Women fishmongers complained about the lack of loan capital available to operate their business or expand operations. Few also find it difficult to access bank loans as they have no collateral.

Inadequate cold storage facilities: There is no public cold-storage facility in the community. The only private cold store cannot handle the large volumes of fish landed during the high fishing season. Most fishmongers travel to Takoradi to store fish in cold storage facilities.

Poor drainage: An uncompleted storm drain from the settlement areas is piled with solid waste, resulting in poor water drainage.

Weak institutions: The role of the Chief fisherman was reported to have been undermined over the years by non-recognition of his authority by the conventional courts and law enforcement agencies. According to some informants, the CBFMC is a good concept but has failed to function effectively due to reasons such as difficulty in gazetting their byelaws and failure to attend meetings.

Conflicts over the use of marine space: there have been instances where nets of canoe fishers have been destroyed by the activities of big vessels and pair trawlers. Canoe fishers are usually compensated with fish under such circumstances. Also Chief fisherman sees to amicable resolution of such conflicts.

Poor management of premix fuel: Fishermen expressed that premix shortage is regularly experienced in the community, particularly during the high fishing seasons. During such periods, they are left with the only option of purchasing relatively expensive fuel for fishing expeditions.

Reclamation of wetlands: Wetlands in this community are stressed by housing development and solid waste disposal.

Recommendations

Key recommendations made by community members to address the above issues include;

- diversification of livelihoods as coping strategy, particularly during the lean fishing seasons.
- provision of loan capital to fishmongers.
- enacting and implementing laws that ban use of light, dynamite, carbide and DDT for fishing Proactiveness of the Navy in policing Ghana's territorial waters.
- reduction or waiving taxes on fishing inputs.
- provision of social amenities and scholarships to brilliant students.

Additional opportunities for ICFG include;

Diversification of livelihoods and awareness raising on and conservation of marine turtles. Actions aimed at strengthening institutions such as the CBFMCs.

SHAMA BENTSIR, SHAMA APO, AMENA-ANO

Physical Characteristics

Shama is a large commercial town located in the Shama district. The town is characterised by a mix of hilly and flat landscapes. Within an estimated 30 yards from the coastline, the landscape is relatively flat. It rises inland and flattens out further north. The highest elevations – of approximately 100 metres - back *Amena-ano*, which is a relatively small community located at the South-western border of Shama. The town is bordered on the East by the vast River Pra, which flows southwards and joins the sea at the South-eastern coastline – shoreline of *Shama Apo*. The Pra estuary is separated from the sea at the coastline of *Shama Apo* by approximately 700 metres stretch of sand dune. Few metres of stone sea walls and gabions also characterize the coastline of *Shama Apo*. The Pra River drains the surrounding communities located towards the North-eastern side of Shama. The shoreline is characterised by curved sandy beaches interspersed with near shore rocky bottoms. The ocean areas are open with spilling surf. There is extensive algal growth in the marine areas on the South-western part of Shama.

Demographics and Settlement Patterns

There are three main settlement areas that characterize the most part of coastal Shama. Located on the farthest South-west is *Amena-ano*, which is characterised by a cluster of about 50 houses constructed mainly with mud and roofed with corrugated asbestos and thatch. Few houses in this community are made of cement walls. Houses in this settlement area are interspersed with fish processing facilities and are not connected to the national electricity grid. At the shoreline of this hamlet, just 5 yards away from the water mark at high tide, a hotel – Alabamba Beach Resort - is being constructed. According to statistics from the Shama District Assembly, the population of *Amena-ano* was 308 as of the year 2000. Some opinion leaders in the community indicated a population of nearly 1,000 persons at the present time.

Towards the East, nearly 100metres away from *Amena-ano* is *Shama Bentsir*, which is an area comprising over 400 clustered houses, mostly one to two storeys, built from cement and roofed with corrugated asbestos and aluminium sheets. The housing in *Shama Bentsir* extends to the shoreline, where approximately 20 cement-constructed and asbestos roofed houses are lined. *Shama Apo* is located towards the East of *Shama Bentsir*. This is the largest settlement area with over 500 houses. Settlements in *Shama Apo* extend from the North and terminate at the South-eastern side, where it is bordered by the Pra River. It is noteworthy that the territorial boundaries of *Shama Bentsir* and *Shama Apo* overlap slightly, with the only Methodist Church in the town, serving as the physical boundary separating the two communities. Like in *Shama Bentsir*, settlements in *Shama Apo* are mostly single storeys, constructed with cement and roofed with corrugated aluminium or asbestos sheets. However, while houses in *Shama Bentsir* are interspersed with fish smoking ovens and processing facilities, most of the fish processing facilities in *Shama Apo* are located towards the south-eastern edge of the community, separated from substantive housing units.

According to statistics from the District Assembly, Shama (*Bentsir, Apo and Etsifie*²) was inhabited by 9,855 people as of the year 2000. This number increased to 10,062 by the end of 2007. Shama is a commercial center and the seat of the District Assembly. The businesses in the town are mostly small scale and are lined along the principal street that links the town and the other streets connecting the settlement areas. These streets are mostly tarred. There is however, an untarred road that links the landing beach at Shama Apo. A market is located close to the area of population concentration with the office of the Ghana Fire Service located nearby. At the time of the appraisal, a fire tender was on stand-by close to the market. There are several public water standpipes located at various points in the town. While few households have toilet facilities at Bentsir, two public latrines; a 10-seater and 24-seater, situated at the shoreline are used by majority of the population. Such facilities are situated at similar location at Apo. There is a Junior High School (JHS), Senior Secondary School (SSS) as well as nursery in the town.

The Shama Health Centre is located few metres from the areas of population concentration. Health information collected during the appraisal is indicative of district wide trends rather than community specifics. It was expressed that 4 private clinics and 3 government health centres are located in the district. It was also indicated that the top 10 diseases recorded in the district for 2009 (in descending order of importance) were Malaria, Acute Respiratory Infection, Skin Diseases and Ulcer, Diarrhoeal Diseases, Intestinal worms, Rheumatism and Joint Pains, Hypertension, Anaemia, Vaginal Discharge, Home Accidents and Injuries and Other Diseases. Fertility increased from 2,115 pregnancies in 2008 to 2,491 pregnancies in 2009. Furthermore, 19 out of the 59 deliveries recorded only at the Shama Health Centre for March 2010 were teenagers between the ages of 15-19. The district recorded under five mortality ratio of 3 for the year 2009.

Fante is the dominant ethnic group in Shama. The Fantes mainly reside westwards of the Pra River. Two main groups of Fantes can be distinguished; the first are the indigenes of Shama who identify themselves as Fantes with Techiman as their ancestral origin while the second are migrant Fantes from Moree, Apam and Winneba in the Central Region who acquired permanent residency in Shama over 5 decades ago. While the indigenes reside at *Shama Bentsir* and *Shama Apo*, the migrants are confined to *Amena-ano*. There is a fair level of interaction between these two groups. Residing at Anlo Beach (*refer below for complete profile of Anlo Beach*), on the farthest South-east, are the Ewes who are the ethnic minority in terms of population size. The only means of transport from Shama to Anlo Beach is by canoe or boat. Perhaps, the inability of most Ewes to speak the Fante language is indicative of limited socio-cultural interaction between them and the Fantes. The main religious denominations in Shama are Methodist and Catholic. . There is a mosque, indicative of the presence of Muslims.

Fishing migration is a common practice in Shama. This dynamic occurs at different levels and due to varied reasons. There are trends towards migration to other coastal areas in Ghana or coastal countries in the sub-region in response to availability of fish or the need to raise money to payback accumulated debts. At times, whole families migrate or the fishmonger/*maamenie* migrate with the canoe to other countries. They spend between 2 months to 2 years or even longer periods depending on the destination and market. At their countries or places of destination, fishmongers work for enough money to remit home and also to payback debts. It is also noteworthy that price of fish is also a driver of migration, particularly in cases of in-migration to other coastal communities in Ghana.

² This is the inland community closest to Shama Bentsir and Shama Apo.

Economy

Majority of residents at *Bentsir*, *Apo* and *Amena-ano* are employed in the fishing industry. Other livelihood options are petty trading and vending undertaken by the small and micro businesses lining the streets in the town. It is to be noted that most fishmongers trade in agricultural produce, particularly during the lean fishing seasons and periods of low fish catch. Agricultural products are purchased from farming communities in the District. It also emerged that fishmongers purchase frozen fish from cold stores, which they later smoke for sale. Some fishmongers expressed that, they adopt these strategies in order to earn incomes to facilitate loan repayment and also cope with hardships associated with low fish catch.

Few residents are engaged in formal employment at the offices of the District Assembly, mainly as labourers, secretaries and security guards. Fewer are also employed by Zoil Ghana Limited as beach cleaners within the framework of the Eco Brigade project. At the time of the appraisal, some youth workers of Zoil indicated their loss of interest in this job since there has been over 4 months delay in payment of salaries.

The Lower Pra Rural Bank is headquartered in Shama and situated some few metres away from *Bentsir*, *Apo* and *Amena-ano*. It was expressed that Lower Pra is the major saving destination for most fisher folk interested in bank transactions. However, SHACO credit union, which has been in operation for almost 3 years, is also a key player in the local financial market. These two financial institutions advance loans to clients – particularly fisher folk- according to different criteria. SHACO loans are only disbursed to groups. Each individual in the group receives twice the amount of money in their SHACO savings account. On the other hand, disbursement of group loans at Lower Pra is subject to operation of a group account at the bank. Furthermore, Lower Pra disburses loans to individuals on condition that they present guarantor. The guarantors in most cases are customers of the bank and mostly considered credit worthy. The relative difficulty in accessing loans at Lower Pra was expressed by most fisher folk.

Farming

Farming is not practised to any significant extent in the three communities. In *Amena-ano*, cassava, maize and some vegetables are cultivated on less than half acre plots for mainly household consumption.

Tourism

There is a guest house and hotel located North of the three communities with accommodation rates ranging between 42-70 Ghana cedis per night. The Pra River Golf Links - owned and operated by Volta River Authority - and the Shama Beach Resort are located approximately 600 metres towards the West of *Amena-ano*. The Alabamba Beach Resort is under construction. The gigantic Fort Sebastian is situated at the area of population concentration, some few metres away from the shoreline. The Fort was built by the Portuguese around 1590 for missionary purposes. There is a tour guide at the Fort, receiving visitors and providing information to tourists. Visitation to the Fort as tourist attracts a fee of 1 Ghana Cedis. There is however, no accommodation in the Fort for visitors. Some rooms are used as offices by Ghana Post. The Fort is neither electrified nor provided with

any source of water supply. In 1471, a cross was mounted at the shoreline of Shama to symbolize the arrival of first Europeans - Portuguese missionaries -in the town. Although this cross was rebuilt some 50 years ago, it is located at the original position at present time. The people of Shama celebrate the '*Pra Nyinani Afahye*' which is the major festival organised in September of every year. It was indicated that the town witness massive influx of people from within and outside the country during the festival.

Fisheries

The artisanal fishing industry dominates the coastline of Shama. There is a landing beach in each of the three fishing villages. However, there are no modern landing facilities. During the last Canoe Frame Survey in 2004, the number of canoes recorded at *Bentsir* and *Apo* were 242 and 265 respectively. According to the Fisheries Data Recorder, the number of canoes operating in these areas has increased significantly over the last few years. This information was corroborated by many fishermen, with the mention of the fact that most canoes in Shama are now operating in countries like Liberia and Ivory Coast. Nonetheless, at the time of the appraisal, 125 and 211 canoes lined the coastline of *Bentsir* and *Apo* respectively. It was indicated that 9 canoes operate at *Amena-ano* at the present time.

The large canoes operating in *Bentsir* and *Apo* are 18-19 yards long and 2 yards deep. And these utilize 40HP outboards, operate drift gill nets and deploy between 9-10 crewmen. Species harvested by the large canoes include tuna, marlin, skipjack, manta ray, all types of shark, sailfish, dolphins, turtles etc. The medium sized canoes are 12-14 yards long, 1.5-2 yards deep and utilize 40HP outboards. These canoes operate "*ali*" nets and deploy 7 crewmen. Species harvested by medium sized canoes include *eboe* (burrito, big eye grunt), *edoe* (barracuda) *poanoma* (flying fish), herrings, *nkafuna* (long finned herring/ West African Illisha) etc. The small canoes are between 3-7 yards long and 1 yard wide and utilize 8, 9.5 or 15HP outboards. These canoes operate *Tenga / Tengraaf* (bottom set nets) as well as hook and line. *Tenga / Tengraaf* nets harvest *eboe* (burrito, big eye grunt), *eckan* (cassava fish), Long finned herring/west African Illisha, lobsters, crabs, eel, silver fish, daisy sting ray while hook and line harvest snapper, doctor fish, barracuda etc.

On the other hand, canoes at *Amena-ano* mostly operate the ring net and utilize 40HP outboards. These are relatively large canoes of 30 feet length and 7 feet depth and deploy 25 crewmen. The main species harvested are herrings, mackerel and tuna. Lagoon fishing is undertaken to a limited extent using set nets and crab traps. Species captured include tilapia, mudfish, perwinkle and crabs.

Both large and medium sized canoes share proceeds according to laid down ratios. Monies realized from fish sale are divided into two equal parts. One part pays for operational and maintenance costs (petrol, gear repairs, outboards etc) and the other part is shared equally among the crewmen and canoe owner. It is to be noted that this sharing system is rather simplistic. While fishers did not readily disclose information about the details of the sharing system, it was indicated for instance that, sharing is done on pro-rata basis according to age (elderly crewmen receive more than young), role (boat owner receive more than manager) etc. The large canoes operate up to 2 years before sharing proceeds while the small canoes share proceeds after every fishing season - major upwelling season occurs between June-September while the lean fishing season spans February-May. Tuesdays are fishing holidays in Shama.

Fish processing in Shama is mainly done through smoking, frying and salting. Burrito, cassava fish, lobsters, silver fish, daisy sting ray are usually fried while herrings, tuna, manta ray, skipjack, shark and dolphins are smoked. Sharks, herrings and other types of fish are also preserved through salting. Species like burrito, big eye grunt, *epae* (*jack mackerel*) and

ntatamire (atlantic bumper) are dried at *Amena-ano*. Major market centres for fish harvested in the three fishing villages are Accra, Agona Nkwanta, Kumasi, Sekondi, Mankessim, Tamale, Techiman, Prestea, Tarkwa, Beposo, Inchaban and Takoradi.

Environment

The shoreline is polluted with plastics and debris as well as human excreta. Untreated liquid waste sewage from inland areas enters the sea. Large quantities of untreated domestic wastes are discharged from the inland areas into the marine environment. Information from some residents at Shama Bentsir suggested that disposal of effluents from the public latrine located at the shoreline is through flushing into the marine environment. The coastline at *Amena-ano* was indicated by residents to be turtle feeding and nesting sites. Turtles are trapped by drift gill nets and usually consumed. Towards the West of *Amena-ano* is the *Amena* lagoon which is separated from the sea by a barrier of sand. About 10 acres of mangrove fringe this lagoon.

Local Institutions and Governance

There are two parallel government systems in operation at Shama: the district assembly structure with elected and central government appointed personnel and traditional administrative system deriving from chieftaincy institutions. While the DCE is the political head of the district, two elected assemblymen with clearly defined territorial jurisdictions operate in the fishing villages. These jurisdictions are divided between Shama Bentsir and *Amena-ano* on the one hand, and Shama Apo and Anlo Beach on the other. The Assemblymen facilitate development projects spearheaded by the District Assembly in the communities. The district assembly has four key priority areas: education, health, agriculture and job creation. The fishing communities are considered during programming in these areas. Specifically, the Assembly is open for collaboration on the use of child labour in fishing and also providing training for coastal youth. It was expressed that Shama is a beneficiary of the District Cold Store project and it is expected that this will create employment in the fishing villages. Gazetting of the CBFMC byelaws is also being considered by the Assembly. However, it was indicated that, there is the need for further stakeholder consultations on the content of the CBFMC byelaws.

There is an *Omanhene* of Shama Traditional Area residing at Shama Bentsir. The sub-Chief of *Amena-ano* owes allegiance to the *Omanhene*. There is a Chief fisherman in each of the three fishing villages. Conflicts and disputes arising from fishing expeditions are usually addressed by the Chief fishermen. Fisher folk cited instances where the Chief fisherman of *Benstir* cooperated with the Shama police to address conflicts that resulted in near drowning of a fisherman in the territorial waters of Shama. In addition, fishers often referred to the lead role of Chief fishermen in resolving issues related to destruction of canoe fishing gears by pair trawling vessels. Sale and distribution of premix in *Bentsir* and *Apo* are also the respective responsibilities of the Chief Fishermen in the communities.

There is a landing beach committee at Bentsir and Apo, with the responsibility for premix management. Membership of the landing beach committee comprise the Chief fisherman, representative of canoe owners, representative of fishmongers, representative of Ministry of Food and Agriculture (MOFA), representative of district assembly, secretary to the Committee and the pump attendant. Out of the profits realized through premix sale, 53% is earmarked for community development while 47% are paid to members of the landing

beach committee according to laid down ratios. In *Bentsir*, the community's share of premix profits is being spent on construction of offices and conference hall for the fisher folk while in *Apo*, accounts on premix sale are yet to be rendered to the community. There is no landing beach committee at *Amena-ano* since this village lacks a premix outlet. There is a CBFMC at *Bentsir* which is relatively well organised, with executive members meeting on Mondays. The CBFMC functions as a platform for information dissemination to the fisher folk.

There is a fisheries data recorder stationed at Shama, but with a mandate for recording catch statistics at the landing beaches in Shama, Aboadze and Abuesi. There is a *Konkohene* in each fishing village with a prominent role in negotiating prices of fish. *Maamefo* (fish mummies) at Shama contribute to pre-financing fishing expeditions. However, such investments are very marginal as compared to what pertains in Sekondi-European Town. And unlike in Sekondi- European Town, where *maamefo* play lead roles as regards fish pricing in respect of expeditions they pre-financed, in Shama, the final prices of all fish landed are solely determined by the *Konkohene* without recourse to *maamefo*. It is also noteworthy that adequate knowledge and skills in fish marketing is a major criterion for being selected as *maamenie*³ of a particular canoe in Shama.

It was also expressed that traditional laws regulate the role of children in fishing. School children between 6-12 years are not allowed at the beach during school hours. Mothers of these children are forced to pay penalties on instances where these regulations are flouted. However, children 8 years and above but not enrolled in school are sent on fishing expeditions and taught fishing.

The Ghana Private Road and Transport Union (GPRTU) operates a *trotro* (van) service in Shama. The *trotro* transports people and goods from Shama to Takoradi and nearby communities. It emerged that *trotro* is the main means of transportation of fish from Shama to Agona Nkwanta, Beposo and Sekondi. However, if fish are to be transported to much longer distances – for instance to Kumasi and Techiman- officials of the GPRTU serve as intermediaries in order to facilitate access to transport by the fishmongers.

There are few active civil society organisations in Shama. Key actors are Integrated Action for Development Initiatives (IADI) and Support for Community Mobilization Project (SCMP). Activities of these organisations include supporting decentralization, biodiversity conservation, women empowerment and community mobilization.

Key Coastal and Fisheries Issues

Declining fish catches: this problem was expressed by fishermen, fishmongers, fisheries data recorder and all other stakeholders interviewed. This was mainly attributed to the use of light, dynamite as well as small mesh sizes for fishing. Although fishers in Shama indicated that light fishing is prohibited by traditional laws, they further expressed the fact that this method is practiced on the territorial waters of Shama by canoes from other fishing communities. It also emerged that light fishing cannot be practiced with the type of fishing gear predominantly in use at Shama. Perhaps this explains non-use of light for fishing in Shama *Bentsir* and *Apo*. Fishers at *Amena-ano* however, practice light fishing.

Difficulty in accessing loans: there was unanimous agreement that loans are difficult to access from Lower Pra Rural Bank. Often, fishers referred to the issue of providing guarantors as the major constraint. It also emerged that high default rates characterises the

³ Singular of *maamefo* in Fante language

Bank's past experience with fisher folk relative to loans. Perhaps, this contributes to the present stringent criteria introduced.

Inadequate solid waste disposal: At *Bentsir*, refuse is disposed of at the shoreline. The shore is also polluted with human faeces and plastics. At areas close to the fish processing facilities in *Shama Apo*, refuse is dumped on the ground to serve as landfill.

Poor Human waste disposal: the public latrine at the shoreline at *Bentsir* is usually emptied by flushing into the open sea. It was not indicated whether effluent is treated before disposal, but generally, this practice was considered inappropriate.

Poor premix management: while premix supply and distribution is devoid of major challenges in *Bentsir* and *Apo*, fishers at *Amena-ano* complained of inadequate supply of premix to their area. They attributed this problem to existing tendencies by the other fishing villages and the Assembly towards glossing over their development needs since they are considered migrants and also minority in terms of population size.

Increasing conflicts over common fishing grounds: it emerged that vessels practicing light fishing and canoes from *Shama* are always in competition for the same fishing area. These have resulted in destruction of fishing gears and near fatal accidents.

Corruption in the fisheries sector: most fisher folk alleged that some government officials in high ranking positions own boats that engage in light fishing and also pair trawling. Consequently, they are convinced that banning of light fishing is not a policy option of choice. They also made allegations about bribery in the sector.

Coastal erosion: Coastal erosion was linked to the construction of the *Takoradi Harbour*. It was estimated that the beach front has eroded between 10-20 yards in the last 30 years.

Unfavourable fish market dynamic: Fishmongers expressed that the market allocate prices of fish inefficiently and this results in financial losses. For instance, they indicated that prices determined for the same species of fish may vary at different landing beaches. And since fish from various landing beaches are sold at the same market centers, this pricing differential exerts downward pressure on relatively high priced fish. Consequently, there is a tendency to reduce fish prices to reflect the specific market conditions. This dynamic perhaps contributes to the observed debt accumulation by fishmongers.

Recommendations

Key recommendations made by community members to address the above issues include;

- Government banning light fishing and making such laws explicit in the fisheries Act 2002.
- Introduction of alternative loan recovery methods. For instance, the traditional "susu" scheme should be considered as a loan recovery strategy.
- Chief fisherman should be the sole guarantor of loans given to fisher folks. This is because he can better identify credit worthy fishers.
- Provision of capital for fishmongers and fishermen.
- Subsidizing fishing inputs.

Additional opportunities for the ICFG initiative include;

- Reinforce existing livelihood strategies aimed at coping with low fish catch and lean fishing seasons.
- Providing alternative livelihoods through developing the tourism potential of the coastal villages.
- Awareness raising on environmental sanitation.
- Awareness raising on and conservation of marine turtles.

ABOADZE

Physical Characteristics

Aboadze is an urban fishing community located in the Shama district. The landscape is predominantly flat, with few hilly areas backing the settlements located towards the North-eastern side of the community. The inland areas are predominantly rocky and the settlements are anchored on these rocks. The coastline is L-shaped, extending from the Western to the Southern edges of the area of population concentration. The shoreline is also dominated by open sandy beaches interspersed with near shore rocky bottoms and outcroppings.

Demographics and settlement patterns

Statistics from the Planning Unit of the Shama District Assembly indicate a population of 9,399 as of the year 2000. This number increased to 9,596 by the end of 2007. Two distinct settlement patterns can be observed in Aboadze. Located towards the Western side of the tarred street linking the town is the Volta River Authority (VRA) estate. These settlements comprise relatively modern houses of single storey which are inhabited by officials of VRA. The estate is well planned with spaces between houses for vehicular access. There is a security post at the entrance of the estate. The VRA school and hospital are located close to the estate. On the eastern side of the tarred street, opposite VRA estate is the Takoradi Thermal Power Station.

Located few metres south of the VRA estate are clustered settlements inhabited by mostly fisher folks. Houses located in this area are mainly cement-constructed and roofed with corrugated asbestos. These houses extend close to the coastline and are interspersed with fish processing facilities. Some structures for fish processing are also located on the south-western and eastern edges of the area of population concentration. And these are made of bamboo or raffia palm frond walls and roofed with thatch or bamboo. A tarred road leads to the main lorry station and continues as an alleyway to the central part of the settlement areas. At the central part of the settlement area is an open space where the market is located. Close to the market is a community centre, with a well functioning community radio. The Roman Catholic Mission house is situated on the hills backing the main settlement area. There is a large storm drain that leads from the area of population concentration to the sea. At the western coastline is built a hostel called Fontana Beach.

Most households located in the slum areas do not have toilet facilities. However, there are four public latrines located in the area. There are also three Junior High Schools (JHS) and a vocational school at Aboadze. The people of this town are mainly Christians – Methodists and Catholics - and Muslims. Residents of Aboadze are mostly Fantes from Ottom, Dwomo, Ampenyi and Komenda in the Central region. These people have acquired permanent residency at Aboadze. The Ewes and Gas are the minority in terms of population size.

Fishers from Aboadze migrate to undertake fishing activities in other coastal communities in Ghana. This movement involves the whole company and sometimes family members of fisher folk. Other countries in the West African sub-region like Liberia and Ivory Coast are destinations for fishers from Aboadze, particularly during the period between July – October. It was indicated that willingness of fishers' to return to their places of origin is conditioned on how much profits they make or otherwise in their places of destination.

Economy

Residents in the slum areas of Aboadze are mainly employed in the artisanal fishing industry. Most businesses in this area are small scale and trade in all sorts of goods and services. There are two major groups of women traders at Aboadze. On the one hand are fishmongers who double as sellers of agricultural produce and on the other, women traders who engage solely in wholesale and retail of agricultural produce such as beans, maize, *gari* (cassava meal) groundnut etc. Women folk purchase agricultural produce at the farm gates in the middle belt and northern parts of the country.

It emerged that *gari* (cassava meal) are sold in large quantities during the major fishing seasons since it is taken on expeditions. However, during low fishing seasons, people tend to buy more beans to be eaten in combination with *gari and* palm oil.

Few residents of the slum areas are engaged as security guards and labourers at VRA. Fewer are employed in the same categories by West African Gas Pipeline Company (WAGPCo) and Takoradi International Company (TICO) and as beach cleaners by Zoil Ghana limited.

Lower Pra Rural Bank operates a branch at Aboadze. Generally, two conditions should be satisfied as regards qualification for loan facilities: provision of credit worthy guarantors and operation of savings accounts with the bank.

Farming

Farming is not practised to any significant extent at Aboadze.

Tourism

The Fontana Beach is situated at the western coastline of Aboadze. This is a hostel that provides accommodation for WAGPCo officials. There are plans to upgrade the hostel to hotel status. However, it was expressed that sand wining and poor sanitation at the beach are major barriers hindering realization of this objective.

Fisheries

The artisanal fishing industry dominates the coastline of Aboadze. There are two landing beaches with no modern landing facilities. There are approximately 500 canoes operating in this fishing town. At the time of the appraisal, 212 canoes lined the shoreline while 38 were moored at sea. The large canoes are 23 yards long, 2.5 yards wide and 2 yards deep. These deploy 22 crewmen on average and operate ring nets. Major species harvested by these canoes are sardinellas, *akwowona*, *apae* (jack mackerel), *nkanfuna* (long finned herrings), and *ebue* (*burrito*, *big eye grant*, *edoe* (*barracuda*) and *anchovies*). Another type of canoes is locally referred to as *Mpataku*. These canoes are 20 yards long, 1.5 yards wide and 1 yard deep and averagely deploy 7 crewmen and operate drift gill nets. Species harvested by *Mpataku* include sharks, tunas, *ekyinekyin* (Atlantic sail fish, marlin), *anful* (Skip jack tuna), *eposorsafo*(wahoo). Other large canoes with 20 yards length, 1.5 yards width and 1.5 yards depth operate *esiba*. These deploy 10-12 crewmen and harvest mainly sardinellas. Canoes with 18 yards length, 0.5 yards width and 0.5 yards depth operate *Tengraaf* and deploy between 5-7 crewmen. These canoes harvest *Anstiwanu*(pompano

dolphin fish), *Poanoma* (Sharp-chin flying fish), shrimps, *semin* (blue/milk shark) etc. All the large canoes utilize mainly 40HP outboards.

The small canoes at Aboadze have similar dimensions: while their maximum width and depth are respectively 0.5 yards, their length ranges between 7-10 yards. Nonetheless, the small canoes differ by nets operated and species harvested. Canoes that operate *adadu* harvest species like Wiriwiriw (red Pandora), *Eboe* (*Burrito*), *Eban* (Herrings), *kyekyewire* (*Atlantic sail fish*), *pampasere*(*flying gurnard/piper*), *epokitsiw*, *kyekyesomo*, *abobar* etc. These utilize 9.9HP, 15HP and 25HP outboards. The small canoes operating *Tenga* harvest species like *ankasa*(*royal thread fish*), *sukue*(*lesser African thread fin*), *edoe*(*Barracuda*), *assisi*, *konsoano*(*flat needle fish, garl fish*), *dumpona*, eel etc. and deploy up to 4 crewmen. These canoes utilize 9.9HP and 15HP outboards.

The sharing system in Aboadze follows two main criteria. First, the cost of premix is subtracted from the total income realized from fish sales. The remaining income is divided into two equal parts where a part is earmarked for maintenance and the other is equally divided among crewmen and vessel owner. In the second criterion, an amount equivalent to 25 trays of fish is reserved for the project (i.e operational expenditure and gear maintenance) while each crewmember receives an amount equivalent to 1 tray of fish. Tuesdays are fishing holidays in Aboadze. There are also traditional laws that prohibit fishing expedition in times of bad weather.

Fish is processed in this town by smoking sardinellas and all other species. *ebue*(burrito, big eye grant, *nkanfuna*(long finned herrings), and herrings are also fried. All fish species are preserved by salting. The main market centers for fish sold in this community are Beposo, Sekondi, Agona Nkwanta, Kumasi, Techiman, Accra, Obuasi, Mankessim, Inchaban, Dwomo and Daboasi.

Environment

Aboadze is bordered on the south-east by a streamlet of less than an acre in size. Information from residents suggested that this streamlet was part of a lagoon in the past. However, the area was recently reclaimed for housing development. On the south-western side, Aboadze is bordered by Anankwar River, which separates the town from Essipon. River Anankwar drains the communities located towards the northernmost part of Aboadze. There are few coconut trees lining the shoreline at the south-western end. The shoreline is polluted with plastics and other solid wastes as well as human excreta. Waste is also dumped at certain areas of the shoreline to serve as landfill. At the time of the appraisal, some residents were found defaecating in the rocky near shore areas.

Local Institutions and Governance

There is a resident Chief of Aboadze who owes allegiance to the *Omanhene* of Shama. There is also a Chief fisherman and his counsel with collective responsibility to resolve disputes that emanate from the operations of artisanal fishers and also manage conflicts that emerge from the interaction between artisanal fishers and fishers of other sectors. The position of the Chief fisherman in Aboadze rotates among the different clans in the community. This is subject to the demise of the occupant of the stool at a given time.

There is an Assemblyman who facilitates development projects spearheaded by the district assembly at the community level. Aboadze has witnessed significant development projects initiated by organisations that operate within the vicinity of the town. Volta River Authority (VRA) financed the construction of classroom blocks, toilet facilities and public stand-pipes. Takoradi International Company (TICO) has instituted a scholarship scheme for the brilliant

students at the district level. Beneficiaries of this scheme include students in basic, secondary and tertiary levels of education. This company has also built a library for Aboadze and the adjacent community- Abuesi. West African Gas Pipeline Company (WAPCO) financed the construction of a 430 metre storm drain as well as the community centre. It was expressed that WAPCO are currently facilitating training of the youth in employable skills and providing soft loans for start-up. The Shama District Assembly has constructed a three unit classroom block and a public latrine.

Several women oriented associations exist in Aboadze. These associations revolve around trade in common agricultural produce, thereby providing the platform for women folk to network their business activities and also undertake self-help activities. There is a landing beach committee with responsibility to supply and distribute premix fuel. No CBFMC exists in Aboadze. However, the Chief fisherman and his counsel are very proactive with issues regarding conflicts in the artisanal fishery.

Information from Police Officers at Aboadze suggested that cases of crime are uncommon in the town. It was also indicated that most cases on defilement and rape are not reported to the police but settled at the family level.

Key Coastal and Fisheries Issues

Declining fish catches: There was agreement among fishers, fishmongers and opinion leaders that fish catches have dwindled in recent times. This was attributed to the practice of light fishing, use of small mesh sizes and activities of pair trawling vessels.

Sand winning: Although sand winning is illegal, it is so pervasive at the coastline of Aboadze. Information from some residents suggested that some opinion leaders in the community are involved in the business of sand winning. It was indicated by some key personnel at the Assembly that drastic measures involving security personnel will be used to halt this activity.

Lack of capital: Fishmongers indicated that lack of capital is the major barrier hindering operation of their businesses. This was expressed as a major constrain since in recent times, fishmongers are usually required to make spot payments for fish at the landing beach as opposed to being offered fish on credit in the past.

Lack of legitimacy of landing beach committee: it was expressed that the Chief fisherman dissociated himself from the landing beach committee after his proposal for constituting the committee along the guidelines of the Fisheries Commission was rejected. The Assemblyman of the town is also not a member of this Committee. However, the Committee has rendered accounts on the profits generated from premix sales and suggested the use of the community's share to order fuel.

Inadequate disposal of solid waste: There is one skip for waste collection in the community. However, given the volume of solid wastes that are churned out in this area, this facility is inadequate. Consequently, refuse is dumped at the shoreline and washed by the sea at high tides.

Coastal erosion: it was expressed that the sea has eroded approximately 50 metres in the last 20 years. Erosion of the beach front was linked to excessive sand winning at the shoreline.

Low school enrolment: enrolment at the basic level and in junior high school is very low. Most teachers linked this issue to the absence of incentives such as free school uniforms as practiced elsewhere in other communities in Ghana. Lack of parental interest in education was also mentioned as contributing to this problem.

Prevalence of teenage pregnancy: it was expressed that most teenage girls are mothers. Information from teachers indicated that close to 20 teenage girls have been pregnant in the

last 3 years. Most of these young mothers fail to return to school after childbirth, although the schools operate a policy of re-integrating young mothers.

Recommendations

Key recommendations made by the community residents to address the above issues include;

- Enactment of laws that will prohibit light fishing.
- Enhanced monitoring of pair trawling vessels by the Ghana Navy.
- Extension of school feeding programme and provision of free uniforms to the community.
- Educating parents on family planning and the need to encourage school attendance by their children.
- Provision of capital to enhance the business of womenfolk.

Additional opportunities for the ICFG initiative include;

Strengthening existing livelihood strategies aimed at coping with decline in fish stocks.

ANLO BEACH

Physical Characteristics

Anlo beach is a relatively small fishing community in the Shama District. The landscape is mainly flat. There are no hills or elevations within the vicinity of the community. The shoreline is characterised by curved sandy beach and the ocean areas are open with pounding surf.

Demographics and Settlement Patterns

Statistics from the Planning Unit of the Shama District Assembly indicate a population of 2,231 comprising 1,028 males and 1,203 females as of the last census in 2000. By 2007, the population of this community increased to 2,278. The population is settled on a strip of land between the Pra river and its associated wetlands and the sea. Statistics from community elders indicate 322 houses as of 2009. The settlement pattern of the community can be classified as clustered – an average cluster of three houses fenced with raffia palm fronds or bamboo. Fronting the settlements are coconut trees. Most of the houses are built from clay bricks and roofed with thatch. Few houses are cement constructed and roofed with corrugated asbestos. There is an untarred road from the North that stretches over ten miles and terminates close to the area of population concentration. Only two vans use this road to transport goods and people to and from this community. The community is not yet connected to the national electricity grid. However, at the time of the appraisal, it was observed that low voltage poles were mounted at certain locations in the community. There are no household latrines. Several public toilets in the community are owned by groups of individuals. There are two junior high schools in this community. The community has no clinic, market centre or source of potable water supply. Most of the hand-dug wells are salty and not drinkable, so residents travel by small paddle canoes to Shama Apo for potable water.

According to the Chief of this community, first migration to this area occurred nearly a century ago. This movement was associated with fishing. It was mentioned that prior to the last few decades, this community was an important destination for migrant fishers from the Volta region. Over the years, these fishers who mainly belong to the Ewe ethnicity have acquired permanent residency in the community and constitute the dominant ethnic group at the present time. Currently, fishing migration from this community to other fishing villages occurs less frequently.

Economy

Livelihood activities in this community revolve around fishing and farming. Although fishing is the predominant activity, farming is practiced intensely during lean fishing seasons. Most fishermen and fishmongers in this community double as farmers. Gari processing is another important livelihood activity undertaken in this community by mostly women. There is no bank in this community. However, information from residents suggested that in the past, Lower Pra Rural Bank provided financial assistance to fishmongers from this community. It was mentioned that the bank ceased to offer banking services to clients from this community due to high default in repayment of loans. Currently, the main source of financial assistance to fisher folks is individual money lenders in Accra and Volta region. Small businesses trading in all kinds of goods and services operate from households.

Farming

Farming is practised at the subsistence level on average farm plot size of less than an acre. The farming season falls within April – July which coincides with the lean fishing season in this area. Major crops cultivated are cassava and maize.

Tourism

There are no hotels or guesthouses in this community for visitors. However, Anlo beach and the surrounding area possess ecological features that are interesting from the eco-tourism perspective. Small paddle canoes operated by local residents link the community to *Shama Apo* and nearby villages and also provide means for navigating the Pra River.

Fisheries

Fishers in this community are organised around “companies”, of which 33 are actively involved in artisanal marine fishing. Membership of fishing companies range between 9 to 15 persons. Estuary fishing is also practiced by fishers from this community. While the beach seine is the dominant gear utilized for marine fishing, cast nets are predominantly used for estuarine fishing. It was expressed that the main fishing season in this community occurs in August where lobsters are mainly harvested. And between September – November, *silver fish* are the target species. In addition to the mentioned species, the beach seine is used to harvest *nkafuna*, *eboe* and *tantemire*.

Species harvested from the estuary include ponga fish, tilapia, crabs and mudfish. In this community, two main criteria for sharing proceeds are followed. Either the total catch is shared daily or proceeds from fish sale are shared at the end of the 7th or 9th month of operations. In both cases, proportions received by fishers are dependent on the extent of labour contributed. All the species landed are mainly smoked and fried. The major market centers for fish from this community are Sekondi, Beposo and Kumasi.

Environment

Anlo Beach is bounded on the South-west by the Pra river estuary. Backing the settlements are mangroves and wetlands associated with the Pra river delta which stretches from the north-eastern to western side. On the south, the community is bordered by the sea. Several dozen acres of mangroves are found along the entire perimeter of the Pra river and its estuary. The Pra river estuary provides suitable roosting and nesting grounds for birds and marine turtles. There is indiscriminate cutting of mangrove by local residents for firewood, resulting in degradation of sections of mangroves lining the Pra river estuary. Degraded mangrove areas are used as refuse disposal sites. Nevertheless, the overall natural ecosystem can be considered slightly healthy, due to its relatively less stressed state as evidenced by the presence of sand dunes with tropical foliage, presence of birds which perhaps are migratory and other diverse fauna species that are linked to this natural habitat. Further north of the community are located the farmlands.

Local Institutions and Governance

There is a resident Chief at Anlo Beach who owes allegiance to the *Omanhene of Shama*. There is also a Chief fisherman who was appointed by the *Omanhene of Shama* in consultation with inhabitants of this community. It was expressed that both the substantive

Chief and Chief fisherman are less involved in fisheries management issues at the community level. Increasingly, fishers in this community disregard the authority of the Chief fisherman. Fishers also resist attempts made by the substantive Chief to address issues hinging on fisheries management in the community. There is no Konkohene in this community. However, each company has a woman fish trader who negotiates for the price of fish landed and subsequently sells on credit to small-scale fishmongers. The fish trader is invariably a person with adequate knowledge in fish marketing and also a financier of gear repair and maintenance. The leader of the company is the owner of the fishing gear.

The community is divided into 8 zones to facilitate communal labour. Each zone has a leader with responsibility to mobilize resources and labour for key development projects such as construction of latrines.

Since canoes in this community do not use outboards, premix or landing beach committees do not prevail here. An NGO- Christian Rural Aid Network (CRAN) with headquarters in the Central region has built a school in this community.

Key Coastal and Fisheries Issues

Decline in fish catches: it was indicated that fish catches have dwindled over the last few decades. Fishers exemplified this decline by indicating that an average of 60 pans of fish was harvested 20 years ago while the current maximum catch lies between 8-20 pans. They attributed this to the practice of light fishing.

Weak institutions: there is disunity, mistrust and conflicts among fishers, as well as weak leadership in fisheries management within this community. For instance, rules that prohibit casting of seine nets in the same fishing areas are flouted with impunity by fishers from this community. It also emerged that the Chief fisherman in this community is not proactive as regards addressing conflicts on fisheries. The cause and consequence of which has been lack of respect for the authority of the Chief fisherman.

Inappropriate fishing methods: although it is against the norms of the Shama traditional council, it was indicated that fishers operate drag nets in the Pra river estuary.

Cutting of mangroves for firewood: there are no bye-laws or traditional norms that prohibit cutting of mangrove in this community. Also, opinion leaders of the community did not indicate any short-term plans to halt the current trend towards cutting of mangrove for firewood.

Lack of operating capital: this problem was expressed by most fishmongers. Particularly, their inability to obtain loans from banks was often mentioned as a key constraint to the development and growth of their businesses.

Coastal erosion: it was indicated that in the last 40 years, the sea has eroded about 100 yards inland with attendant destruction of houses that were situated close to the shoreline. Most residents attributed this to the construction of the Takoradi Harbour.

Poor state of infrastructure development resulting in low quality of life: most residents indicated that the lack of electricity and potable water supply, coupled with inadequate toilet facilities and untarred road network is negatively impacting productivity in the community.

Low retention of teachers due to poor state of infrastructure : it was expressed that most teachers posted to this community often secure transfer to other communities due to lack of electricity and other basic social services.

Recommendations

Recommendations made by community members to address the above issues include;

- Construction of a community centre
- Construction of boreholes further north of the community.
- Connection to the national electricity grid.

Additional opportunities for the ICFG initiative include;

- Restoration of mangroves and conservation of wetlands associated with the Pra river estuary.
- Reinforcing existing agro-based livelihoods.
- Strengthening of fisher-based institutions.

ATWEREBOANDA

Physical Characteristics

Atwereboanda is a predominantly farming community in the Shama district. The large part of the community is situated on a hill with an estimated 100m x100m surface area. The landscape is hilly with gullies running down at various points. The community is bordered on the south by Pra river and on the east by Whin river.

Demographics and Settlement Patterns

The population of this community stood at 506 as of the year 2007. Atwereboanda is a small community with approximately 200 houses clustered on a hill and few others situated below. Materials utilized for housing construction in this community are mixed. There are brick and mud built houses roofed with corrugated aluminium sheets and some cement constructed houses with asbestos cement roofing. Some houses are also constructed and roofed with bamboo. There is an untarred road that stretches over 6 miles and terminates at the central part of the community. Only two taxis commute to and from this community. While there are no household latrines, there is a 16-seater public toilet that is accessible by the community members. There are also public bathhouses for communal usage. There is a community center which is used for meetings and social activities. There is no skip for refuse disposal. There are four churches – catholic, Methodist, Pentecost and New Apostolic church. There is a community clinic donated by an expatriate philanthropist as well as a primary and junior secondary school. The Pra river is a major source of water for domestic use and drinking in the community. There is a bore hole that is located nearly 1kilometre from the main settlement area, hence not easily accessible to community members. The people are mainly Fantes from Supomu Dunkwa.

Economy

There is no bank or market in the community. However, it was indicated that there is an established market for shrimps involving buyers that commute from Cape Coast, Takoradi, Dunkwa and Daboase to purchase shrimps in the community. Most agricultural products from farms are sold at the nearest market centers in Beposo and Shama. Oil palm is purchased by Benso Oil Palm Plantation (BOPP) which operates large commercial oil mills. The youth in the community are mainly employed by the seven quarries operating in the area. There are few small scale shops in some households.

Farming

Farming is a major occupation in this community. The average farm size is 2 acres. Over 95% of households are involved in food and cash crop cultivation. Major crops grown are cassava, sugar cane, sweet potato and oil palm. It was indicated that, oil palm cultivation was the major livelihood option until devastation of the plantation by Cape Saint Paul Wilt disease. Currently, the Ministry of Food and Agriculture (MOFA) is supporting farmers to grow new coconut varieties resistant to the disease.

Tourism

There are no hotels, lodges or guesthouses in this community. There is a small museum in the community. It was closed at the time of the appraisal. Community members indicated that some artefacts and historical ornaments are stored in the museum.

Fisheries

Fishing is mainly practised in the Pra river. Shrimps are the major species harvested. Other species harvested on small scale include tilapias, crabs and mudfish. The typical gears used are the set nets, crab traps and hook and line. In this community, river fishing is practiced on Wednesdays, Fridays and Sundays. The rest of the days are reserved for farming.

Environment

The southern border of the community is the Pra river while it is bordered on the east by the Whin river. There are farmlands and swamps located on the Western side of the community.

Local institutions and governance

There is a resident Chief in the community who administers local taboos and norms on resource use and environmental protection. For instance, on Wednesdays, farming activities are not permitted around the Pra river. There is also a ban on farming on Tuesday around the Whin river. It was also indicated that all marshlands around the community are vested in the Chief. There are no fishing or farming associations in this community. There is a community radio for providing information at the community level. There are small dug-out canoes that are mainly used for transporting farm produce to market centers.

Key Coastal and Fisheries Issues

Destruction of houses due to the impact of blasting from quarries: the community members expressed that the impact of blasting in the quarry industry is significant in the community. They claimed that this has resulted in cracks that develop in buildings and collapse of even more houses.

Inadequate water supply: It was expressed that access to potable water was very difficult since community members have to trek very long distances for just a bucket of water. This is coupled with an untarred road network that makes it more dangerous for children trek for water particularly during rainy seasons.

Poor solid waste management: There is no container for solid waste disposal. Hence garbage is dumped in the bushes and in open spaces within the community.

4.0 Rapid Assessment of Coastal Communities in the Western Region: Summary of Findings for Sekondi-Takoradi Metropolitan Area (STMA)

Background

A rapid appraisal was conducted in eleven coastal communities in the Sekondi-Takoradi Metropolitan Area (STMA) between February 24 - March 15, 2010. The purpose of this assessment was to generate primary information that will ultimately contribute to establishing the overall baseline coastal conditions and socialize the Integrated Coastal Fisheries and Governance (ICFG) initiative among the communities visited.

This appraisal collected mostly qualitative information and some quantitative data on issues relative to fisheries, community infrastructure, governance and institutions, local habitats and perceptions of resource management. The research team comprised five members, spending on the average, two days in each community. Data was collected through focus group discussions, participatory mapping, direct observations and interviewing key informants. Information was also collected from secondary sources including development plans of the Metropolitan Assembly.

The following report provides a brief overview of the STMA as well as a synthesis of key fisheries, coastal and other coastal community development issues that were revealed during the field assessment and validation workshop organised at the Metropolitan level. The Annex provides profile information and specific issues for each of the coastal villages within the STMA.

Profile of Sekondi-Takoradi Metropolitan Area (STMA): Brief History of STMA

The Sekondi-Takoradi Metropolitan Assembly (STMA) has gone through a series of institutional transformations over the last century. It evolved from Sekondi Town Council in 1903 to Sekondi Takoradi Town council in 1946. It was elevated to a Municipality status in 1954 following the promulgation of the Municipality Ordinance. By 1972, the administrative boundaries of Sekondi-Takoradi Municipal Assembly have been extended to cover Shama and Ahanta local Councils. By 1994, the name of the Assembly has been changed to Shama Ahanta East Metropolitan Assembly (SAEMA). After Shama attained the District status in 2007, the name was reverted to STMA.

The history of STMA and particularly its twin city- Sekondi-Takoradi – revolve around the sea. Early settlers of present time Sekondi-Takoradi migrated from the Central region. These people were attracted to this area by the favourable tidal energy of the marine environment which permitted fishing. Majority of these early settlers inhabited the area around present time Takoradi harbour, *Amanful* and around the *Ayire* Estuary- a tributary of the Whin River. Settlers around Takoradi Harbour area were later resettled at present time *New Takoradi* to pave way for the construction of the seaport.

Physical Characteristics

The STMA is located approximately 210 Km West of Accra and 120km East of La Cote D'Ivoire. It is predominantly urban, with relatively small area of land totalling 49.78 km² under its jurisdiction. It is bordered to the north by Mpohor Wassa East district, to the east by Shama District, to the west by Ahanta West district and the south by the Gulf of Guinea. The Metropolis is of varied topography with the central area of Takoradi lying 6m below sea level. Most low lying areas are interspersed by ridges and hills ranging from 30m-60m high (STMA, forthcoming). The shoreline features are characterized by sandy beaches and rocky headlands in few communities, near shore rocky bottoms and engineered structures such as gabions, boulders and port facilities. The coastline has eroded between 20-100 metres in the last five decades. Surf energy is characterized as medium to high energy.

Local and traditional governance

Local and traditional governance systems prevail in STMA. The Metropolitan Assembly is the highest administrative and political authority. It comprises 56 members made up of 44 elected, 21 Government Appointees, 4 MPs who are ex-officio members and the Metropolitan Chief Executive (MCE). The MCE is the political and administrative head while the presiding member presides over the legislative and deliberative functions of the Assembly. The Assembly is made up of sub-metropolitan councils, town councils and unit committees. There is an Executive Committee comprising 14 members and 7 representatives of the Assembly's sub-committees. These sub-committees are responsible for collating and deliberating relevant development issues for subsequent presentation to and consideration by the Executive committee. The sub-committees are Finance and Administration, Economic Development, Works, Social Services, Revenue Mobilisation, Education and Environmental and Sanitation.

Regarding traditional governance, two traditional councils exist in STMA - Sekondi and Essikadu traditional councils. The Councils meet regularly to discuss issues affecting the development of the various communities. Council meetings are also used to settle chieftaincy disputes among the various families. The traditional councils thus serve as alternative source of settling disputes and a focal point for initiation and implementation of development projects.

Demographic Characteristics

The population of Sekondi –Takoradi Metropolitan Area (STMA) was an estimated 123,313 in 1960, reaching 160,868 in 1970 and declining to 117,196 by 1984 (Songsore, undated). This decline in population had been associated with the economic decline of 1983 which spurred out-migration from the urban areas. From 1984, the population started to grow again. According to the 1984 census information, the aggregate population of STMA and present time Shama district was 249, 371 and reached an estimated 357,431 by 1996 (Listorti and Doumani, 2001). By the year 2000, the population⁴ reached 370,000 people. There has been a floating population of approximately 80,000 that commute to work in the area (Tullow Ghana, 2009). As of the first quarter of 2010, the population of only STMA was estimated at approximately 404,000 (STMA, forthcoming). According to Tullow Ghana

⁴ This was the population of erstwhile Shama Ahanta East Metropolitan Assembly (SAEMA)

(2009), the aggregate population of STMA and Shama district constitute an estimated 15% of Western region's total population. STMA statistics indicate a population density of 8,140 persons per Km² at present time which is above the regional average of 80.2 persons per Km². Christians are predominant (approximately 81%), comprising Catholics, Protestants and Pentecostals. Approximately 9% are Islam, 2% practise traditional African religion and 8% have no religion. Most fishing communities in the Metropolitan area, particularly Sekondi-European Town are destination for migrant fishers. Regarding literacy, 42.3% of the population above 15 years of age can read and write English as well as a Ghanaian language and 26.5% are illiterate (STMA, forthcoming)

Economic Activities, Livelihoods and Quality of Life

The construction of the Sekondi Wharf in 1903, building of the first railway terminus around the same time and completion of the Takoradi Harbour in 1928, significantly influenced early twentieth century livelihoods in this area. Trading in goods and services was the preferred and dominant livelihood option particularly for inhabitants in the coastal areas. At the time, the formal sector, particularly the Ghana Railway Corporation employed majority of the residents in Sekondi-Takoradi (Agovi, 2002). Around the same time, migrants from Shama and later Central region were the key drivers of marine fishing in the territorial waters of Sekondi-Takoradi. Around the 1950s to the early 1990s most people found work with Ghana's Shipping Line- the Black Star line and other foreign vessels as seamen. This period also witnessed massive employment of people as Harbour workers. According to 1984 census information, retail trade was the major occupation in SAEMA followed by agriculture, forestry, fishing and activities in the manufacturing industry- wood and food processing (Listorti and Doumani, 2001). Construction of the Bosomtwi-Sam fishing harbour by 1999 attracted more migrant fishers to Sekondi and revived the fishing industry in the area. Since 2006, an estimated 59.9% of the population of STMA have been employed in the service sector. The industrial sector has employed 19.1% people while an estimated 14.5 % are engaged in agriculture and 6.5 % in fishing (STMA, forthcoming).

The last canoe frame survey in 2004 estimated a total of 11,109 fishermen in STMA and Shama. According to this source, close to 3,000 operate from STMA. It is currently estimated that slightly over 5,000 fishermen operate in STMA. Vessel types vary from the small sized paddle and service canoes, to industrial trawlers, semi-industrial trawlers, industrial purse seiners, *watsa* canoes, industrial pair trawlers, industrial shrimpers, and semi- industrial purse seiners. Gears used in the fishery include lobster net, set net, *ali/poli/watsa* net, *ali net*, drift gill net, ring net, hook and line, trawl net, purse seine, cast net and crab traps. The motorized canoes use 15, 25 and 40HP outboard motors, and the larger semi-industrial vessels use 225 HP (DAF engines), 125 HP marine engines, global positioning system (GPS), fish finders and echo sounders. The main species caught include anchovy, sardinellas, sail fish, lobsters, shrimps, burrito, big eye grunt, bumper, barracudas, ribbon, cassava fish, king fish, tunas, sole, quid, snapper, sea breams, groupers, threadfin, red pandoras, mackerels, atlantic tuna, yellow fin tuna, sword fish, and sting ray. While production has been variable over the years, there is a trend of increased landings within the STMA with annual fisheries landings in 2001 at 20,488 MT and in 2009, they were 56,247 MT.

Agricultural production in STMA is mainly in small farms that crop maize, cassava, plantain and other staples. Oil palm is also produced. Production recently has dropped as there is a reduced area of arable land reported in official statistics as used for agriculture. This may

be due to recent conversion of land to others uses. It is to be noted that coconut plantations which once provided a source of livelihoods to a majority of coastal inhabitants in the Metropolitan area have been devastated by Cape Saint Paul wilt disease. Several thousands of acres of plantations in the Western Region are perceived to have been lost since the 1960s when first signs of the disease were recorded in the area.

As of 1999, the incidence of poverty in SAEMA was 45% which was much higher than the Western regional average of 29.1%. At the time, poverty was pronounced in the rural areas with a recorded 55% poverty incidence compared to 18% in the urban areas (Osei and Dekuwmini, 2007). It is to be noted that there is paucity of data on income levels in the Metropolitan area. However, the perceptions of people interviewed is that there has been a general trend towards rising cost of living due to food and housing price hikes within the Metropolitan area in the last 10 years. This has occurred without corresponding increase in employment opportunities or income for the majority of the people and thus contributing to deepening poverty and general decline in quality of life, particularly in low income households.

Environment

The five major drainage basins in the area are the Pokuantra, Kansawura, Buwen, Anankwari and Whin. Major estuary is the Whin river estuary while Essei and Butua are the main lagoons. Rivers include Anankwari, Kansawurodo, Subin and Whin. Natural vegetation has been degraded. Existing vegetation is woodland in the North and central portions. Along the coast are sparsely distributed areas of mangroves. In the ocean, major upwelling occurs around late June or early July to late September or early October while the minor upwelling occurs from January to March.

Mangrove forests in STMA are associated with the Essei Lagoon and the Whin river estuary. Over the years, these habitats have been negatively impacted by human activities, particularly felling of mangrove trees for fuel wood and housing construction. While the mangrove forests around the Whin estuary is approximately 32 acres in size, large sections of the mangrove along the Essei lagoon has been fragmented and reduced to approximately 3 acres. These estimates are based on field observations during the appraisal.

Approximately 50 metres from the coastline is situated the Monkey Hill Forest Reserve. This used to cover a much larger acreage of forested area than the current 12.6 hectares. This forest reserve is inhabited by three monkey species: Olive Colobus, Mona and Spot-nosed, 58 species of birds and 128 species of vascular plants with medicinal properties (Owusu, Asamoah and Ekpe, 2004). Adjacent to the Monkey Hill forest reserve is an estimated 150 acres of marshlands associated with the Butuah Lagoon. There are significant threats to this marshland as portions of it have been filled and earmarked for establishment of an oil storage facility (<http://news.myjoyonline.com/news/201002/41880.asp>).

Over the past 3 decades, near shore marine areas of most coastal communities in STMA have been polluted by untreated household sewage as well as liquid wastes from the regional hospital. In addition, sediment levels are high in the Whin river estuary and some inland water bodies. Rapid population growth, settlement expansion and emergence of pollution-intensive industries in STMA from the mid 1980s have been key drivers of pollution and reduced water quality. Currently, instances of water pollution from point sources is

illustrated so well by huge volumes of untreated wastes dumped into the Butua lagoon by industries located within its vicinity.

Land Use

The construction of the Takoradi Harbour marked a significant land use change from settlement to seaport in the 1930s. Around the same time, the development of an urbanisation plan for Takoradi (Ghana districts, 2005) spurred what later became an urban land use trajectory based on settlement and industrial development in Sekondi-Takoradi. Development of coastal residential areas in the twin city occurred around this time (Ghana districts, 2005). While settlement development was predominantly a coastal phenomenon, the inland native vegetation was also gradually being converted into settlement areas. Since the mid 1980s till present, rapid and haphazard settlement development has been the dominant land use trend. Agricultural lands are sparse and located mainly in the inland areas and the Western borders of STMA. Large tracts of lands in STMA have been earmarked for Export Processing Zones as part of a national programme to develop commercial and service activities at seaport and airport areas. The coastline towards the Eastern border of STMA has been extensively developed as private residential and hotel facilities. Increasingly, private land developers are acquiring lands along the coastal strip and there is currently restricted access to hitherto public beaches and parks along the coast. The future uses of these private lands are still not clear.

Key Coastal and Fisheries Issues in the STMA

This field assessment revealed that what is unique and different about the STMA compared to other districts in the Western region is that it is a highly urbanized area that is experiencing rapid changes in its population and economy in the last decade. This, in part, is fuelled by the oil and gas development as the STMA serves as a major staging ground for these offshore operations. In recent years, the area seems to be experiencing high inflation, particularly of land values, and experiencing significant land use changes. Some of the natural estuaries located within the twin cities are also being severely degraded by pollution and filling. The STMA also contains the largest commercial fishing port in the Western region with a large fleet of semi-industrial trawlers and purse seiners. Fishing villages located along the shoreline within this growing urban area are being squeezed by surrounding development, and many areas are experiencing high erosion rates that exacerbate crowding of their living space. Local residents are also losing access to what were previously publicly accessible beaches due to increasing privatization and development of the shoreline. The following section provides more detail about these key fisheries, coastal management as well as other coastal community development issues within the STMA. The following issues were gleaned from field interviews as well as district workshops.

Fisheries Issues

Declining fish catches is reducing quality of life in coastal communities. This is an issue in all fishing communities, particularly in the artisanal sector. Quality of life is negatively impacted since most households depend on the fishery as primary source of livelihood and dietary protein. Also commercial activities in these communities thrive on the fishing industry. During the appraisal most respondents indicated a net reduction in

household incomes due to rising cost of living in the face of declining commercial activities and fish catches.

Destructive fishing methods and equity concerns. The use of light, dynamite, DDT and carbide are widely acknowledged as destructive to marine life and ecosystems. The level of awareness about the negative impacts of such destructive fishing methods is not only prevalent in the scientific community, but also in the artisanal marine fishing sector. During the rapid appraisals, most artisanal fishers demonstrated this awareness. However, they justified their practice by referring to the unsustainable practices of industrial vessels engaged in pair trawling and semi-industrial vessels practicing light fishing. Central to the concerns of artisanal fishers are the issues of equity and survival rather than the long-term benefits of marine ecosystem integrity.

Weakening of traditional institutions for fisheries management due to influence of market forces. The roles of *Konkohene* and Chief fishermen have been modified by rapidly changing market and demographic conditions. In the past, the sea was conceived of as a god containing lesser gods. Abundance or scarcity of fish was attributed to the activities of these gods. In the event of fish scarcity, the gods were pacified through performance of religious rituals connected to the sea. The religious dimensions of fishing were equally important as its economic implications. This was evident in the fact that even technical matters that involved restrictions of the use of certain gears during some times of the year were considered as instructions from the gods who would cause harm when their instructions were disobeyed (Odotei, undated). However, trends in modernity have significantly modified perceptions relative to the sanctity of the sea and marine life.

Weak governance institutions for Fisheries management: There is an absence of a fisheries sub-committee in the Metropolitan Assembly. Inadequate attention is given to fisheries management issues by the Metropolitan Assembly due to absence of a fisheries sub-committee. In addition, there is inadequate capacity of CBFMCs to address emerging conflicts and fisheries resource management issues. Operations of CBFMCs are not backed by requisite laws. Apathy is also high among CBFMC members. Poor governance also results in the increasing number of conflicts between artisanal, semi-industrial and industrial fleets being unresolved. This issue manifests itself in the destruction of nets and fishing gears of artisanal fishers.

Poor processing, storage and handling of fish leading to low value addition and loss of revenue. Inadequate cold storage facilities restrict the volume of fish purchased by fishmongers particularly during bumper fish catch. This is coupled with the fact that fishmongers are forced to smoke and fry all the quantities of fish purchased in order to avoid spoilage. In times of glut, this results in loss of revenue to fishmongers. Also, fish is processed and handled under unhygienic conditions, particularly at the landing sites and processing sheds. There are plans to install cold storage facilities in few communities in the district as part of the government's cold store project.

Lack of transparency in the management of funds that accrue from pre-mix sales and inadequate supply and distribution of pre-mix leading to occasional shortages . This issue is pervasive in all landing beaches. Pre-mix subsidy was introduced in 1994 with an objective to ensure timely availability of the product to fishers at affordable price. It was also to empower the fishermen groups to run the pre-mix outlets at the landing beaches and use proceeds in developing their communities. Currently, the key issues that hamper effective allocation, distribution and sale of pre-mix include; individual ownership of pre-mix outlets;

corruption in pre-mix administration; diversion of the product; shortages at landing beaches; adulteration with regular petrol and dissent among fishers regarding the mode of sale of the product. So far, efforts made by successive governments to address the challenges associated with pre-mix has been piecemeal and in large part, politically driven. The legitimate 53% of profit that accrue from pre-mix sales are barely used for projects with community benefits.

Coastal Management Issues

Threats to coastal wetlands and estuaries. This includes excessive cutting of mangrove for fuel wood. Degradation of mangroves is predominant in areas where they exist. Pollution of estuarine areas from household sewage and solid waste are also problems in addition to gradual filling of wetland areas bordering the estuaries. High discharge of industrial wastes into lagoons was also observed during the appraisal.

Coastal erosion is destroying habitats and property . The shorefront has eroded between 20-100 metres in the last 5 decades. Erosion has resulted in loss of sandy beaches and artisanal fish landing sites. Some private properties located at the shoreline have also been washed-off in the last few decades. The shorefronts in some communities have been lined with boulders to control erosion and protect adjoining roads. However, at high tides the sea waves overflow the boulders resulting in further erosion. Erosion is exacerbated by sand winning. This practice varies from digging small volumes of sand to large excavation along the shores of some coastal communities.

Restricted public access to shoreline beaches. Until recently, most shoreline beaches in STMA were open to the public for recreational purposes. This trend has been reversed by increasing private sector development of shoreline areas in the Metropolitan area. There is extensive shorefront construction at the eastern border of the Metropolitan area. In other areas, walls are built around property boundaries and the future uses of those spaces are still unclear.

Other Development Issues of Concern in Coastal Communities

Poor sanitary facilities and waste management. Solid and liquid waste management in the Metropolitan area is poor. Near shore marine areas of most coastal communities have been polluted by untreated household sewage as well as run-off from upland industrial activities. There is also high sediment discharge into rivers. The shoreline serves as dump sites for solid waste in most coastal communities. There are ongoing efforts by personnel of ZOIL eco-brigade to clean beaches but this has not been very effective.

Fish-related migration is causing population growth and driving over-fishing. In-migration for the purpose of fishing is significant in the Metropolitan area. There is regular movement of fishers from other parts of the country to the coastal communities in the Metropolitan area. This contributes to population growth in the fishing communities and also influences fishing effort. During the appraisal, most fishermen expressed that while fish related migration occurred in the past according to seasonal availability of fish, in recent times, fishing migration occurs fortnightly.

Relatively high number of basic schools but enrolment in coastal communities is low.

As compared to other districts in the Western region, the STMA has the largest number of basic and secondary schools. However, there is high incidence of truancy and drop-out from school in most coastal communities. Children are seen loitering at landing sites particularly during school hours. During the appraisal, it was also observed that children of school going age were involved in fishing activities.

References

Agovi, K. E. 2002. The colonial legacy and the self-definition of a Ghanaian city Sekondi-Takoradi 1928 – 65. In *Museums and urban culture in West Africa*, edited by Alexis B.A Adande and Emmanuel Arinze. Cumbria: West African Museums Programme.

Amador, K. Bannerman, P. Quartey, R and Ashong R. 2006. Ghana canoe frame survey. Information report number 34. Marine Fisheries Research Division, Ministry of Fisheries. Ghana 43pages.

Amlalo, D.S. Undated. The protection, management and development of the marine and coastal environment of Ghana. http://www.fig.net/pub/figpub/pub36/chapters/chapter_10.pdf (accessed on May 16 2010)

Ghana Districts, 2006. http://www.ghanadistricts.com/districts/?r=5&_id=132&sa=4390 (accessed on May 21 2010)

Ghana Districts, 2006. http://www.ghanadistricts.com/districts/?r=5&_id=132&sa=2877 (accessed on May 25 2010)

Ghana Districts, 2006. The re-emergence of Sekondi. <http://www.ghanaweb.com/GhanaHomePage/NewsArchive/artikel.php?ID=79570> (accessed on May 21 2010).

Listorti, J.A. and Doumani, F.M. 2001. Environmental health: Bridging the gaps. World Bank discussion paper # 422. 372 pages.

Odotei, I. undated. Gender and traditional authority in the artisanal marine fishing industry in Ghana.

Osei, R.D. and Dekuwmini, M. 2007. International trade rules and the fishing industry in Ghana. Friedrich-Ebert-Stiftung Ghana.

Owusu ,E. H., Asamoah, A. and Ekpe, P. 2004. Survey of flora and fauna species of the Takoradi Monkey hill forest reserve. Report submitted to Friends of the Nation.

Songsore, J. undated. The urban transition in Ghana: urbanization, national development and poverty reduction. <http://www.iied.org/pubs/pdfs/G02540.pdf> (accessed on May 18 2010).

STMA (Sekondi-Takoradi Metropolitan Assembly), forthcoming. Draft Medium Term Development Plan (2010-2013). 165 pages

Tullow Ghana, 2009. Draft environmental impact statement. Ghana Jubilee Field phase 1 Development.

Appendix 1: List of Key Contacts

Community	Contact Persons	Position	Telephone Number
Adakope	Christian Atichoba	Assemblyman	0208378346
New Takoradi	Torgbi Kluvia II	Chief of Adakope	
	Nana Ekow Ackon	Chief fisherman	
	Mr Koomson	Assemblyman	
	Mr Tawiah	Fisheries data recorder	
	Mr Dadzie	Opinion leader	
Poasi	Mr Atuabo	Fisherman	
	Nana Kobina Dawur	Chief fisherman	020 1411162
	Chopstone	Community elder	
	Nana Asafua Kuma	Chief of Poasi	
Essaman and Egyinabowabakam	Kwamina Mensah	Executive director – Human Kindness Foundation (NGO)	0244894893
	Baidoo		
	Kwabina Awotwe	Assemblyman	
	Bartels		
	Nana Kobina Ewusi II	Chief of Essaman	
Bakaekyir, Bakano and Asemensedo	Papa Kojo Atta	Chief fisherman- Essaman	
	Robert Oman Kwofie	Member of royal family - Egyinabowabakam	
	Emaa	Leader of palm kernel oil producers	
	Nana Kwamena	Chief of Bakaekyir	
	Ahinkofi		
Ngyiresia	Jim Amoo	Assemblyman of Bakana	
	Nana Kofi Dadzie	Chief of Bakano/Asemensedo	
	Rita Yawson	Assembly woman	0275167798
	Kwesi Essah	Landing Beach Committee Member	
	Madam Adjoa	Konkohene	
Sekondi-Town European	Amissah		
	Nii Botchwey	Secretary – Ghana Inshore fisheries (Western region)	
	S.K Mensah	Assemblyman	028 7308 340
	Abu Seidu	Assemblyman	024 3432 553
	Nana Segu	Chief fisherman	
Essipon	Nana Tawiah	Leader – Kwantua Fishmongers Association	
	Mr Afful	PRO – Ghana Canoe Council (Western region)	024 4889 991
	Edilove	Representative of Hook and line	024 3162 241
	Uncle Biney	Chief's linguist	
	Cecilia Attah	Fishmonger	
	Horatio Crossfield	Assemblyman	
	Bruce		

Appendix 2: Description of Fishing Gears

Gear Name (English)	Local Gear Name (A, T, F)	General Description	Species Caught
Drift Gill Net (surface)	Ashekon		Tuna, marlin, sharks
Bottom set gill net	Tenga	This gear is operated by 2-6 crew members. The smallest mesh size is 10mm ² . There are also 20mm ² mesh sizes of these nets. These nets target both demersal and pelagic species. It is made from polyethylene material which could be about 200 yard long and 1.5 yards wide. They are set attached to long bamboo poles which are fixed at the bottom with floats that are sometimes reflectors. It is operated from small and medium-sized vessels. They set off at about 3.00 a.m. and land at 2.00 p.m. the same day. This gear is set for about 3-4 hours before it is hauled. They are employed in the minor season.	All species of fish like kanfla., long finned herring, ribbon fish, thread fin, sardines, anchovies and mackerels, barracuda, Burrito, Bigeye grant, Ilisha africana, oil fish, African threadfin, shine nose, common threadfin
Ring Net/small purse seine	Watse	This net has about 20mm mesh size. It is made with thread. They are used by big canoes, semi-industrial vessels as well as industrial vessels. These canoes usually have a small canoe which carries generators for light fishing. The big canoes have 12-25 crew members. They set off at 5pm and land at 8am the next day. They are employed in the major season. They usually target pelagic species but are able to catch demersal species too.	All species of fish Round/flat sardines
Hook and line	Asosow	It targets big demersal fishes as well as large pelagics. They employ 5-10 crewmen	Red fish, tuna, sea bream snapper, grouper, yellow fin
Beach seine	Tweewui	They employ 5-7 crew members and 2 help hands. This gear is commonly used in the Egyamboa bakamu.	Ribbon fish, long finned herring, cassava fish, shrimps
Trawl	-	These are used by the industrial vessels. They are mostly 60mm by 60mm mesh size. They target demersal species but are able to catch pelagic species too.	Cassava croaker, burrito, bigeye grunt, shine nose, lesser African threadfin, common threadfin
Sieve	-	This is 450-540m long and 35-45m deep. It is constructed of small mesh sizes mainly 13mm.	Engraulis encrasiclus, juvenile Sardinella spp.

Appendix 3: Description of Fishing Vessels in the STMA

Boat Type	Local Name(s)	General Description	Gears Used
Small (motorized) Canoe		This type of canoe vessel is approximately 30m long and 2m wide made from a single dug out log. The preferred wood is Wawa. Above the dugout, the hull is planked. Outboard motors of 40 HP mounted on the read right (starboard) side of the vessel. It costs about 5,500 Ghana cedis. These vessels cost approximately 12,000 Ghana cedis.	Drift gill net (surface). Bottom gill net, hook and line, long line.
Large (motorized) Semi-industrial (wooden) Canoe		They use pre-mix fuel. They do purse seining. There are 25-30 crew members. The nets are hauled by man power.	Ring Net/small purse seine Purse seine nets
Industrial	China Boats	Iron These are foreign built vessels operated mainly by Chinese. They do mainly demersal trawling. They were engaged in pair trawling but are now being reconstructed to do single trawling since pair trawling is banned. They usually spend about a week at sea. They use ice for preservation of the fish caught. The nets are hauled by mechanical winch. They have about 8 crew members. They have in-built engines of 120 HP which use gas oil. They therefore do not have problems with pre-mix fuel. They spend up to a week at sea. They target demersal species of high quality and prices depend on species.	Trawl nets, Purse seine nets
China boats	wooden	These are built by Chinese expatriates. They do trawling and target demersals but are able to catch some pelagic Species as well.	Trawl nets

Appendix 4: Validation Workshop Outputs

Theme: Natural Environment

<i>Variable</i>	Timeline	Trends	Consequences	Suggested Causes	Governance responses
<i>conditions and extent of forests</i>	1940	Monkey hill nature reserve was pristine	-	-	-
	1950s	Fragmentation of Monkey hill forest through settlement construction and private acquisition of portions of reserve area.	Loss of biodiversity	Industrialization and population growth	
	1960s	Degradation of forests along major rivers including <i>Anankwar</i> .	Loss of habitat and sedimentation.	Private acquisition of land for charcoal production.	Extension of national electricity grid to the fringe communities. Government's reforestation policies.
<i>Conditions and extent of beaches</i>	1920s	Construction of Takoradi Harbour	Loss of fish landing sites	Coastal erosion Sand winning	Sea defence walls- gabions, boulders.
	1963-1964	Construction of Sekondi Naval base wharf	Loss of houses and beaches		
<i>Conditions and extent of wetlands</i>	1930s	Citing of bulk oil storage near Butuah lagoon	Contributed to pollution of wetlands	Industrialization	
	1960s	Cutting of mangroves	Degradation of habitats	Need for reliable source of fuel wood	
	1990s	Housing construction on wetlands	Flooding	Population growth and scarcity of lands.	
<i>Changes in fisheries</i>	1985	Initial signs of declining fish catches	Loss of livelihoods and deepening poverty	Use of dynamite, DDT and carbide.	Swearing of oaths by Chief fishermen to prohibit destructive fishing
	2000	Consistent decline of fish catches.	Reduced incomes in artisanal sector	Pair trawling and light fishing.	Increased pair trawling and artisanal

					fishing effort
--	--	--	--	--	----------------

Theme: Livelihoods

Variable	Timeline	Trends	Consequences	Suggested causes	Governance responses
Employment in the formal sector	1920 - 1980s	Majority of people in Sekondi-Takoradi were employed at railways.	Good quality of life.	Construction of the railway from Sekondi-Takoradi to other parts of Ghana	Vibrant commercial activities in Takoradi
Farming	1960-1990s	Acquisition of farmlands for development purposes	Decline of farming as a livelihood option. Unemployment	Population increase and urbanization	Increased acquisition and sale of land
Fishing	1990	Upsurge of industrial and semi-industrial vessels.	Depletion of fish stock	Open access policies	Banning of pair

Theme: Land use

Variable	Timeline	Trends	Consequences	Suggested causes	Governance responses
Forests	1910	Loss of forest cover in most parts of the Metropolitan area	Loss of biodiversity		Government's reforestation policy
Farmlands	1980s	Conversion of farmlands into residential areas		Population growth and industrialization	
Settlements	1990	Expansion of settlements		Population growth	

Theme: Demography

Variable	Timeline	Trends	Consequences	Suggested causes	Governance responses
Poverty	1980s	High unemployment Rising cost of living	Increased social vices High illiteracy School drop-out	Structural adjustment policies	Provision of soft loans
Population	1990s	Increasing population	Pressures on social infrastructure Increasing fishing effort	Rural-urban migration High fertility	Institutionalization of Planned Parenthood Association of Ghana (PPAG)

Appendix 5: Stories on Traditional Knowledge and Natural Resources Management.

Box 1: Chief of Nkotompo's tale

In the past women wore white gowns and sprinkled mashed yam (*eto*) around town. They went as far as the bridge on the Sekondi road. They called on the gods like *Nana Mente* and others like *Asopro* and *Nana Donkoh*. They usually started at 7am and finished around 2pm. In the night they beat *asafo* drums for one week. This brings about a lot of fish harvest for the entire year and the fishermen caught various types of fish. "We practiced this tradition about 25 years ago on annual basis". Now people are no longer interested in all of these traditional practices.

Box 2: Chief of Bakano/Asemensedo

Light fishing is destroying fish stock in recent times. Fish caught these days are not fresh. In the past the fishermen were bringing live fish. Traditional leaders sometimes have confrontations with the fishermen regarding the use of light fishing. The use of dynamite and DDT for fishing is also depleting fish stock. There are no rituals done to protect the sea in our time. The *Kundum* festival which presented opportunities for these rituals to be performed has not been celebrated for the past 10 years. Now only the chief fisherman leads in the pouring of libation. In the past the celebration of the kundum festival started with the de-silting of the space between the lagoon and the sea to make way for easy flow of water. Now the lagoon has become smaller because certain rituals are not being performed. People are also building close to the lagoon.

Annex B: Coastal Village Summaries for Sekondi-Takoradi Metropolitan Assembly



Bosomtwi-Sam Fishing Harbour
Photo credit: Panarkie Kusuah



Shoreline erosion
Photo credit: Godfred Ameyaw

ADAKOPE

Brief History

Several centuries ago, the land which covers present day Adakope was a forested area. The early settlers in this community were from the Ada ethnicity. However, by the early 1940s the Ewes migrated to the community to discover the earlier settlers, hence giving the community its name, Adakope- which literally means Ada land. The Ewes were attracted to the community by the bumper fish catch experienced around the time in the marine fishing industry. Since the mid twentieth centuries, these ethnic groups have co-existed peacefully in the community and jointly participated in social and cultural activities at the community level.

Physical Characteristics

Adakope is a mixed fishing and farming community that is bordered on the West by Takoradi Airforce military base. The community is characterised by hills on the Western side, sloping gently towards the East. The Whin River estuary is located at the southern edge of the community and it separates Adakope from the adjacent community – Amanfokuma. This estuary emerges from the convergence between the sea and the Whin River flowing Eastwards. Along the estuary is dotted approximately 32 acres of mangrove forest. Outside the community, extending further Westwards from the estuary are farms owned by residents of Adakope. Small parcels of farmlands also dot the Northern part of the community. The Eastern border of the community is characterised by a recently constructed storm drain which separates Adakope from the largest auto-mechanic workshop in Takoradi.

Demographics and Settlement Patterns

Adokope has approximately 350 households and an estimated population of 1,500 persons as of the last census in the year 2000. The major ethnic groups in the community are the Fantes, Ewes and Adas. Most of the houses in this community are made of mud and thatch grass roofs. These are interspersed with few cement houses with corrugated aluminium roofing. The settlement patterns are mainly clustered, with few paths between rows of housing wide enough to allow passage of vehicles. Electricity is usually tapped from one house to the other. There are 5 pipe-borne water points for community access. There is no school and place for solid waste disposal. There are five churches in the community. However, it has no mosque, school, clinic and market. The community has a 14-seater KVIP which is in a deplorable condition. Currently, there are trends towards increasing population and settlement development in the community, which is due in large part, to the relatively cheap cost of land in the community and the high cost of accommodation in Takoradi town.

Economy

There is no bank or credit union in this community. However, there is Lower Pra Rural Bank and few other banks located within the vicinity of the auto-mechanic workshop. Majority of residents are not employed at this workshop. The community is dotted by several small businesses and shops that trade in general goods and services. Some food crops and vegetables cultivated by farmers are sold at the community level, but majority of these are put on sale in the major and other satellite markets in Takoradi. The Takoradi market is about 10 minutes drive from Adakope. In this community, farming and fishing activities are highly interdependent. During periods of bumper fish catch, there is increased demand for farmers' food crops and vegetables and vice versa. Also, there is some diversification of livelihoods, with most fishermen doubling as farmers and engaging in either occupation during certain periods of the year.

Farming

Farming is a major occupation in Adakope employing approximately 75% of the population. Farmers acknowledged the availability of ready market for their produce and attendant positive impact on their livelihoods. Few parcels of farm lands are located towards the Northern part of the community, while large portions lie outside the community, within the Airforce military base area. Major crops cultivated, mostly at the commercial level, include maize, cassava, okro, tomato, onions and water melons.

Tourism

There are no hotels, guesthouses or tourism-related activities in this community.

Fisheries

Fishing activities in this community predominantly occurs in the estuary and it happens all year round with no particular major or minor fishing seasons. Over 95% of households in this community engage in estuary fishing. Wednesdays are observed as fishing holidays with respect to estuary fishing. Hence, fishers usually engage in marine fishing on such days. Fishing activities in the estuary follow day and night pattern, with approximately 300 and 200 persons respectively fishing at a time. Children of school going age are involved in fishing, particularly during school holidays. Small paddle canoes, up to approximately 6 feet in length, with a 2-member crew are usually utilized for estuary fishing. These canoes use mainly drag net, cast net, lobster nets and crab traps. The women in this community are the major suppliers of fishing gears utilized by the fishermen. Yet, these women do not obtain any rebate from fish sold to them by the fishermen. The fish purchased by these women are subject to current market prices and conditions imposed by the fishermen. The types of fish harvested from the estuary include Tilapias, lobsters, *mamai* and shrimps. Herrings, *eboe* (burrito, bigeye grant), *Nkanfuna* (long finned herring/west African illisha), *wawayan* (oilfish) are some fish types harvested from the sea.

The fish processing methods often utilized include smoking and salting. Some Tilapia and *mamai* are also fried. Fish is usually transported to Takoradi for cold storage because of absence of cold storage facilities in the community. Fish from the community are sent to Accra, Kumasi and also Togo, to be sold. At the age of 10, girls are introduced to fish

marketing and processing. While fishmongers do not exchange sex for fish, they usually give their daughters for marriage to canoe crew to offset their debts.

Environment

The coastal strip is characterised by an open beach front with spilling surf. In the recent past, turtles used to lay eggs at the shore, but this rarely occur at present. To the South is the Whin estuary that is shared with Amanfokuma on the opposite bank. The estuary is temporarily closed to the ocean by a sand barrier of approximately 20 yards. The estuary is dotted by mangrove forests of approximately 32.5 acres in size and is in a relatively pristine state. However, the part of the estuary which hitherto entered the community has been recently filled by sediments excavated during the construction of the storm drain which lies on the Eastern border. Close to the estuary are farmlands which extend Westwards into areas around Airforce military base. Relatively small sizes of farmlands are also located towards the Northern part of the settlement areas. Plastics and other solid wastes are dumped close to the storm drain and few metres from the estuary.

Local Institutions and Governance

There is neither a Chief fisherman nor *Konkohene* (Chief fishmonger) in this community. Also, there is no functional fishermen or fishmongers association. Yet, there is strict adherence to the traditional norm which prohibits fishing in the estuary on Wednesdays. There is a Chief- of Ewe ethnicity- who resides in the community and also an Assemblyman. The Sekondi-Takoradi Metropolitan Assembly (STMA) plans to build a classroom block in the community by March 2010. While there are no CBOs operating in the community Friends of the Nation (FoN) has facilitated some environmental awareness raising in this area.

Key Fisheries and Coastal Issues

Declining fish catches: There is widespread perception of declining fish catches in recent years among the fishermen as well as farmers, fishmongers and opinion leaders in the community. They unanimously attributed this decline to increasing fishing effort –number of fishers- in the estuary.

Lack of cold storage facilities: This problem increases the cost of fish marketed by the fishmongers since they need to incorporate the cost of fish transportation to Takoradi for cold storage.

Lack of capital and high interest rates: Fishmongers complained of up to 20% interest rates charged on loans given by some of their bankers. This has resulted in inability to repay loans and insolvency.

Poor sanitation and waste management practices: There are no skips for refuse disposal. Hence solid wastes are dumped approximately 30 yards from the estuary.

Coastal erosion: Some settlements have already been washed away by the sea in the last 15 years.

Sand winning: There are illegal sand wining activities along the shoreline and this is contributing to coastal erosion. However, some fishers recognize sand wining as contributing to increasing fish stocks in the estuary since it facilitates the movement of fish

laden sea water into the estuary. Generally, there seem to be lack of understanding on the difference between sediment removal and sand wining.

Poor drainage and perennial flooding: Poor construction of the storm drain has led to stagnation of water and thus facilitating mosquito breeding. It has also contributed to flooding of the low lying areas during heavy rainfall.

Land tenure insecurity: Approximately 125 acres of farmlands belonging to inhabitants of this community have recently been appropriated by the Airforce military base for use as firing range and construction of sporting facilities, leaving approximately 25 acres of land cultivation. They attributed this land takeover to the need to expand the Airforce military base due to the recent oil find.

Cutting of mangrove for firewood: Some opinion leaders indicated that since there are no plans for conserving the mangrove forest, the present practice of cutting mangroves for firewood will continue in the foreseeable future. They also recognize the mangroves as problematic since it provides havens for pythons that plague the community.

Inadequate toilet facilities: There is only one 14-seater KVIP that serves the entire community. However, the Assemblyman has initiated his own project which seeks to provide a 10-seater water closet.

Recommendations

Key recommendations made by community members to address the above issues include;

- Provision of waste disposal facilities.
- Provision of toilet facilities.
- Provision of credit capital with minimal or no interest for fishmongers.
- Provision of a basic school in the community.

Additional opportunities for ICFG include; conservation of the wetland areas and diversification of livelihoods.

NEW TAKORADI

Physical Characteristics

New Takoradi is a major coastal town in the Sekondi-Takoradi Metropolitan Area. The town and surrounding landscape are characterized by hilly areas, steep slopes and valleys. Towards the North is the major rail line linking Takoradi to other communities along the coast and in the middle belt. Along the coastline lies an open sandy beach interspersed with near shore rocky bottom. The ocean areas are open with spilling surf. Far offshore is a visible oil rig abandoned nearly a decade ago. The coastline is severely eroded and some settlements were indicated to have been washed away by ocean currents. The Takoradi harbour is located on the South-western portion of the coastline together with key public institutions including Ghana Railway, Ghana Bauxite, Takoradi Flour Mills, Ghana Cement (GHANACEM) and Ghana Ports and Harbours Authority (GPHA).

Demographics and Settlement Patterns

Shama Ahanta East Metropolitan Assembly (SAEMA) records indicate a population of 13,556 as of the year 2000. At present time, the population is an estimated 18,668. Inhabitants of this town originate from Ahanta, Ewe, Ga and Fante ethnicity, with the latter constituting the majority. An estimated 3,000 houses are located in this town. Most of the houses are cement-constructed with corrugated aluminium roofing sheets and are clustered around the central portion of the town with no paths between houses wide enough to enable access by vehicles. Some houses are also constructed with wooden materials. There is a principal road that describes a semi-circular path around the town and terminates at about 20 yards away from the shoreline. This road separates the main settlement areas from the fish processing (smoking) sheds. These sheds are tightly clustered along the shoreline and also extends Northwards along the Butuah lagoon. There is a market located in the area of the sheds close to the shoreline. There is also a pre-mix storage tank in the town.

The land covering present day New Takoradi was acquired by the Government of Ghana (GoG) from the Sekondi Chief for resettlement of people at the time of constructing the Takoradi Harbour in the 1920s. Around the same time, the town witnessed massive immigration of the Fantes from the Central Region to engage in fishing. Most of these Fante migrants settled and procreated over the years, resulting in their high population as compared to the indigenous Ahanta people. Presently, the town is a destination for Fantes migrating from Moree and Mumford in the Central Region, particularly during the major upwelling seasons (June-August). While most Fantes out-migrate during the lean seasons, some have acquired permanent residency in New Takoradi.

Economy

Located at approximately 150 yards away from the town, the Takoradi Harbour exerts a significant influence on the local economy in New Takoradi. The Takoradi harbour is the second largest sea port in Ghana and a major point of exchange of goods and services between Ghana and other countries in the world. Most inhabitants of this town trek daily to sell food and water within the vicinity of the harbour. There are no major industries in the town. However, by virtue of their proximity to the town, GHACEM and Takoradi Flour Mills are employers of some residents, usually on temporary basis. There are no banks or credit

unions in the town. Small businesses, trading in all sorts of goods are scattered within the settlement areas and also along the principal road.

Farming

Farming is not practised to any significant extent in this area. Also, agricultural lands are not located within the immediate vicinity of the town.

Tourism

The presence of narcotic drug users and peddlers at the beach discourage its use for tourism enhancing activities. However, a canoe regatta is organised on 1st May of every year by a local radio station. This event is well patronised by not only the residents of this town, but also fishermen from other parts of the country and employees from all the companies surrounding the town. There are no major hotels or guesthouses in the town.

Fisheries

The fishing industry dominates the coastal strip of this town. This comprises the artisanal and semi-industrial fishery. There is a landing site for the canoes and a separate site along the shoreline where semi-industrial boats dock for maintenance and repairs. Approximately 108 canoes lined the coast at the time of the appraisal. The large canoes are up to 19 yards in length while the small ones are up to 14 yards, deploying between 15-20 and 6- 15 crew men respectively. The large canoes use outboards with 40 HP while the small ones, particularly the service canoes use 25 HP. The canoes operate set nets, drift gill nets, ring nets and hook and line. About 100 semi-industrial (wooden) vessels- including migrant vessels- operate in this area. The large ones are 48 feet long and 9 feet deep while the small boats are between 32-35 feet long and 4-5 feet deep. Approximately 95 of these boats use 225 HP engines (DAF engines) while about 4 use 125 HP marine engines. Some species harvested by the semi-industrial vessels include *eban*, (herrings), *akowona*, (mackerel), *apoku*, (tuna) *ekan* (cassava fish), squid, common cuttlefish, *posena* (inkfish), *enuanan* (common octopus) *sasaw* (prawns) *sasaw* (shrimps). The ring net, trawl nets and “ali/poli/watsa nets” are operated by the boats.

Fisherfolks indicated that there is no significant difference between the species harvested as well as the quantity of catch during the major and minor upwelling seasons and lean fishing seasons along the coastline of this town. Furthermore, crew members and vessel owners indicated that, fishing grounds have changed dramatically over the years. They stated that while they landed catches from nearshore areas some 10 years ago, offshore areas up to 80 yards in depth are the current fishing grounds. Tuesdays are fishing holidays in this town.

The major processing method is smoking. Fish is also fried to a lesser extent. During bumper harvests, excess fish are preserved by salting. The major marketing centres for fish caught in this town include Agona, Kumasi, Takoradi and Obuasi. Proceeds from marketed fish are normally divided into 3 parts. A part goes into operation and maintenance of the vessels while the other 2 parts are equally shared among the vessel owner and crew members. In the event that fish is directly shared, each crew member gets 1 margarine bucket while the vessel owner gets 4 buckets. The role of the *Konkohene* as major bargainer of fish landed in this town has changed over the years. While in the past she

negotiated for the price of fish landed, currently, service canoes usually purchase the fish from bigger vessels at sea and subsequently sell directly to fishmongers.

Regarding pre-mix, the town's share is 3,000 gallons. This is meant to be distributed fortnightly. Of the proceeds realized from the sale of this quantity, an amount of GHS 50 is given to the Chief fisherman. It was indicated that pre-mix is not regularly supplied due to inability of fisher folk to pay promptly. The present scheme is a pre-paid system with associated challenges of irregular and inadequate supply as well as profiteering of the commodity.

Environment

Towards the northern part of the town is a 31.5 acres forest reserve - Monkey Hill forest reserve. Some opinion leaders indicated that in the past (nearly 30 years ago), this reserve was perceived to be inhabited by deities with the power to slay humans. Consequently, visitation of the reserve was prohibited by local norms. They further indicated that these beliefs have eroded over the years due to the influence of modernity. Towards the east of Monkey hill reserve is the Butuah lagoon which extends southwards and occasionally empties into the sea. This lagoon is highly polluted by solid waste dumped into it. Regarding the management of the lagoon, some opinion leaders indicated that dumping of waste into it was an offence punishable by traditional laws. However, they indicated that these traditions have eroded over the years due to influence of the Church.

Local Institutions and Governance

There is a Chief fisherman and *Konkohene* in New Takoradi. There is a community-based fisheries management committee (CBFMC) but this does not seem to function properly. According to the Chief fisherman, fishers do not regularly attend meetings of the Committee since they are occupied with livelihood activities. Also Tuesdays, which happen to be fishing holidays, are mostly reserved for social events and maintenance of fishing gear. There is an assemblyman with jurisdiction in New Takoradi as well as the adjoining coastal community. There is no pre-mix committee or landing beach committee. There is a community radio for providing information to the entire community. There are plans by the government to build a cold-storage facility for New Takoradi. FoN and Adom Mboa Kuw are the respective NGO and CBO operating in this town.

Key coastal and fisheries Issues

Changes in fish catch: There was consensus among Chief fisherman and other stakeholders regarding the decline in fish catches. According to the fisheries data recorder, catches have declined to about 60%. They attributed this to increasing effort, bad fishing methods such as use of light, dynamite and DDT. On the other hand, vessel owners and fishermen crew expressed a contrary opinion. They reiterated that the introduction of modern fishing equipment and gears has increased catch compared to the quantity landed 2 decades ago. In their exposition, vessel owners indicated that some 10 years ago, the quantity landed was 40-50 pans per expedition while in recent times, quantities are up to about 200 – 400 pans. They also indicated that this has generally improved their quality of life.

Inappropriate fishing methods: There is increased use of dynamite, DDT and light for fishing in the town.

High School Drop-out Rates: This problem is particularly associated with the female youth in the town. Majority of which cannot afford to attend school and resort to fish processing and marketing.

Non-compliance with traditional regulations: While traditional regulations such as prohibition of fishing on Tuesdays and the ban on the use of chemicals for fishing were adhered to in the past, recently, these norms are increasingly flouted by fishers. The Chief fisherman attributed this to non-recognition of these regulations by the conventional courts hence culprits cannot be prosecuted.

Weak institutions: The community-based fisheries management committees (CBFMCs) are not well organised and hence do not function properly as regards fisheries management. Some interviewees attributed this to the exclusion of most boat owners and crewmembers from this committee. Boat owners refuse to be part of the committee mostly because of their economic strength which is much higher than that of chief fisherman and also because of the perception that the committee tend to favour artisanal fishermen. That has brought about the formation of an informal boat owners association.

Coastal erosion: Coastal erosion in this town was attributed to the building of the Tarkoradi harbour in the 1920s which caused the sea waves to drift towards the direction of the community. It was expressed that the beach front has eroded between 50 – 100 metres over the last 50 years and some settlements have already been washed away by the sea.

High fertility rates: This problem is particularly associated with fishermen and teenage girls. It was indicated that since fishing is a labour intensive occupation, high rate of childbearing and large family size is recognised as an asset. Some opinion leaders also referred to rising teenage pregnancy in the town.

Sand winning: Although sand winning is prohibited, it is still undertaken by some individuals along the coastline of New Takoradi.

Illegal migration (stowaway): Illegal migration on ships and other vessels by particularly the youth is part of the problems in the community. They often migrate to Europe with Spain, Portugal and Italy as the preferred destinations.

Increased use of narcotics and drug peddling: At the beach front, there is use of and trade in narcotic substances and this has contributed to high spate of lawlessness along the beach.

Improper solid waste disposal and management: The Butuah lagoon is polluted with plastics and other inorganic matter, particularly along the part located behind the fish processing sheds.

Recommendation

Recommendations by community members to address the above issues include;

- Chief fisherman suggests the implementation of closed seasons for the fishery.
- There is need for government intervention in fisheries management since fishers are not abiding by fishing codes.
- There is the need for government to provide equipment for detecting fish harvested through unapproved means.

Additional opportunities for the ICFG initiative include;

- Diversification of livelihoods, addressing water and sanitation issues and conservation of the Butuah lagoon.

POASI

Physical characteristics

Poasi is a relatively small coastal community in the Sekondi-Takoradi Metropolitan Area. The community and surrounding areas are dominated by hilly landscapes with steep sides and valleys. Towards the North is the major rail line linking Takoradi to other communities along the coast and in the middle belt. Approximately 100 yards from the shoreline is a stairway that links lower areas to hilly area. Small farmlands are situated in the valleys towards the South-eastern side of the community. There are no flat lands except at the shoreline. There are large gullies in the major settlement areas. The shoreline is characterised by an open sandy beach interspersed with near shore rocky bottoms. An abandoned oil rig is visible far offshore.

Demographics and Settlement Patterns

The estimated population of Poasi at the present is 6,000 people. The main ethnic groups are the indigenous Ahanta people and the migrant Fantes that have had a permanent presence in the community for over 50 years. There are no significant fishing-related migration trends in the community.

Community members indicated that nearly 5 decades ago, a disproportionately large number of settlements in Poasi were situated along the coastline, hence below the adjoining hilly areas. However, severe coastal erosion has forced relocation to and development of new settlements on the hill. Currently, there are close to 90 houses situated on the hill. These are mostly cement-constructed flat and one storey buildings with corrugated aluminium roofing sheets. Fronting the shoreline are approximately 20 houses. Settlements at the coastline comprise both temporary structures built from wood and more permanent cement-constructed houses with corrugated asbestos-cement roofing. At the shoreline and on the hill, the settlements are clustered, with no roads for vehicular access. There are no roads leading to neither the community nor the shoreline. In addition to the Methodist mission house, there are about 6 churches in the community. The community is connected to the national electricity grid.

Economy

Like New Takoradi, most inhabitants of Poasi sell food and water at the Takoradi harbour. There is a wood processing company, an oil marketing company as well as an import and marketing distribution company located within the vicinity of the community. However, few residents from this community are engaged as labourers in these companies. There are some small scale shops providing sale of all sorts of goods and services in the community. Most of these shops are located in households. The main livelihood activity is fishing.

Farming

Farming is practiced at the subsistence level on about an acre of land located on the South-eastern part of the community. Cassava, maize, plantain and some vegetables are grown on these farms.

Tourism

There are neither tourist destinations nor tourism-related activities in this community.

Fisheries

Fishing activities in Poasi is dominated by the artisanal fishery industry. About 50 small and large sized canoes operate in this community. However, 3 small and 6 large canoes were moored at sea at the time of the appraisal. The large canoes are approximately 19 yards in length while the small ones are about 5 yards long. Respectively, the large and small canoes take onboard between 15-20 and 4 crewmen, including 15 year olds. The large boats use 40 HP outboards. The canoes operate lobster set nets, bottom set net, pelapin net and mono net. Most canoes harvest lobsters, shrimps, *abranwa* (guinea sole), *wiewuru* (redfish) *nkafuna* (long finned herring/ West African Illisha), *ebue* (burrito, bigeye grant), and *Faadzebegye*. Fishing activities are undertaken all year round without major, minor and lean fishing seasons. Fish harvested in this community are marketed through two main avenues. Shrimps are sold directly to predetermined buyers at Takoradi market and the wives of vessel owners sell *Faadzebegye* to retailers and fishmongers in the community. *Faadzebegye* and other species are usually processed through smoking and frying while shrimps are sold fresh. Species like *tantre* (spotted skate, daisy sting ray) are also cold stored in private refrigerators in the community at a fee. The major fish marketing centers are Agona, Takoradi, Sekondi, Mankessim and Kumasi. The sharing system in this community follows a laid down ratio. Of three parts, one goes to the boat owner, another part goes into maintenance of gear and the crewmembers take the final portion. Tuesdays are observed as fishing holidays in this community. This day is used for maintenance and repair of fishing gears. Fishermen purchase pre-mix fuel from New Takoradi, Aboadze and Sekondi, subject to its availability.

Environment

Fronting the shoreline are few coconut trees and *Ceiba petandra*. There are no household toilets within most houses in the community. There are two public latrines- a pan latrine and JAFED KVIP. Due to the pressure from usage by the entire community, these facilities are in a deplorable condition. Refuse is dumped directly on the ground at the four main refuse disposal sites- one located behind a school and three at the shoreline. The entire coastline is littered with plastic wastes and polluted by human faeces. Untreated household sewage and dirty water from the hilly areas drips through the gullies and enters the sea. Some community members indicated that ZOIL- a waste management company-has deployed people to clean the beach but the work is not properly executed. The near shore rocky areas are convenient sites for defecation by both the young and old in the community, especially at low tides. The ocean areas are mainly open with spilling surf. There is no lagoon or river mouth entering the sea.

During certain months of the year, especially September, whales are usually observed in the near shore marine areas. Turtles laid eggs at the shore some 4 years ago but these are seldom found in recent times.

Local institutions and governance

There is a Chief fisherman, a *Konkohene* as well as a poorly organised community-based fisheries management committee (CBFMC) in Poasi. The New Takoradi Assembly man has jurisdiction in Poasi as well. There is a community-based organisation – Human Kindness Foundation- which is involved in development programming in the community. It was expressed that the Assembly has not addressed any of their development concerns.

Key coastal and fisheries issues

Declining fish catches: Fishermen in this community expressed that fish catch has declined over the years and contributed significantly to declining quality of life. They attributed this to pair trawling, use of DDT, dynamite, carbide, small mesh sizes for capturing small fishes and light fishing. In the case of small mesh sizes of nets, fishers expressed how this technology used by the Koreans in Ghana waters for capturing and releasing anchovies as baits for larger fishes, is misapplied in the context of artisanal fishery. They however, indicated that all these poor fishing methods are not practiced by fishers in the community.

No supply of pre-mix fuel: Fishermen indicated that they have not received any supply of pre-mix fuel since the inception of the pre-mix programme. The Chief fisherman made arrangement with his counterpart in the adjoining community for supplying pre-mix to Poasi. However, this arrangement was ineffective. Subsequently, the Metropolitan Chief Executive (MCE) intervened and promised to facilitate pre-mix supply to the community. Yet there is still no pre-mix fuel being supplied.

Conflicts over fishing grounds: Artisanal fishermen sometimes have conflicts with inshore or industrial vessels when one group tries to fish in another's fishing area. These had resulted in instances of destruction of fishing nets.

Vulnerability to landslide: This problem pertains particularly to the Methodist school, located towards the north of the community.

Coastal erosion: The beach front has eroded over 40 metres in the last 30 years and settlements have been washed away as a result. This problem was attributed to the construction of the Takoradi harbour.

Illegal trade and stowaway: It was indicated that this community is gradually being used as an illegal transmit point for goods and passengers in a bid to bypass customs procedures. It was expressed that these passengers originating from Liberia, usually dock 6 big boats made of fibre glass for some few days. Key informants further indicated that the boats contain all sorts of goods, which are hauled into the community. The boats later sail away with huge barrels of petrol. Furthermore, the youth in this community resort to stowaway in their bid to seek greener pastures elsewhere.

Inadequate human waste disposal: There are few household latrines in this community. Of the two public latrines, one is in a deplorable state. The beach is increasingly used as site for defecation.

Trade of sex for fish: This practice does occur to some extent in this community.

Teenage pregnancy: Most young girls – between 15-18 year olds- are teenage mothers.

Poor solid waste management: In addition to dumping refuse along the beach, rubbish is also dumped and burnt behind one of the school buildings in the community causing a nuisance.

Recommendations

Key recommendations made by community members to address the above issues include;

- Need for government to outlaw the use of inappropriate fishing gears, particularly small mesh sizes.
- Need to improve sea patrol by the government boats.
- Government should consult chief fisherman on regular basis for update on emerging fisheries problems in their areas of jurisdiction and collaborate with chief fishermen to redress such issues.
- Specific sites should be earmarked for pair trawling.

Additional opportunities for the ICFG initiative include facilitating proper solid waste management and sanitation awareness raising.

NKOTOMPO

Physical Characteristics

Nkotompo is a small fishing community in the Sekondi-Takoradi Metropolitan Area (STMA). The town and surrounding areas are hilly. Towards the Northern part of the community is the main rail line that links other coastal areas and the middle part of the country. The shoreline is characterised by an open sandy beach and a sea defence which extends up to approximately 150 metres. Rocky bottoms and promontories are present in the near shore marine areas. An abandoned oil rig is visible far offshore.

Demographics and settlement patterns

According to STMA statistics, the population of Nkotompo at present time is an estimated 5,608. There are about 1,000 houses in the community. Nkotompo has three key areas of population concentration. Located at the central part of the community are about 400 clustered houses situated on the hilly areas close to the shoreline. These settlements are cement constructed with corrugated aluminium roofing. The rows between houses are narrow and impassable by vehicles. Towards the East, behind the sea defence wall are relatively few clusters of houses. These settlements are interspersed with fish processing facilities. Several metres away from the central settlement area towards the North are scattered houses of one to two storeys. These houses are also cement constructed with corrugated aluminium roofing. Along the main highway, on the Eastern border of the community, are lined several small businesses trading in all sorts of goods and services. There is a tarred road that leads to the central settlement area while an untarred road leads to the shoreline. Portions of the untarred road have been eroded by the sea. There is a market at the central settlement area. Other landmarks include churches, school and three public toilets. Effia-Nkwanta regional hospital is located approximately 100 metres from the central settlement area.

Majority of people in Nkotompo are of Fante and Ahanta ethnicity. The minority groups relative to population are Nzemas, Ewes and Gas. While the Ahantas are the indigenes, it was expressed that the Fantes migrated from Moree in the Central region as well as from Sekondi around the 1820s to the community for fishing. And since then, they have had a permanent presence in the community with no periodic movement to their ancestral villages.

Economy

There are many small shops and businesses in the community, but no large scale industries within its vicinity. There are no banks or credit unions. Most of the fisherfolk in the community undertake their businesses at the Bosomtwi-Sam fishing harbour in Sekondi. Majority of the youth in this community are unemployed. Some fishmongers have been able to secure bank loans for their businesses through formation of cooperatives.

Farming

There are no farmers or farming activities practiced in this community and surrounding areas.

Tourism

There are no significant tourism-related activities or industries in the community.

Fisheries

The fishing industry in this town has been significantly impacted by the construction of the sea defence. It was expressed that majority of fishermen and fishmongers in this community have relocated their activities to the Bosomtwi-Sam fishing harbour in Sekondi. Hence, only 10 canoes lined the beach at the time of the appraisal. The small canoes are 5 yards in length while the large are 20 yards. These deploy between 2-5 and 20- 22 crewmen respectively. Most of the canoes operated in this community do not use outboards. They are propelled by paddles, hence are unable to go farther distances. They operate *Tenga* (bottom set nets) with varied mesh sizes. The species harvested include sardinellas, tunas, *ebue* (burrito, bigeye grant), *akwawuna* (mackerel), *nkafuna* (long finned herring/ West African Illisha) *sukue* (lesser African threadfin, shine-nose, common threadfin), *ebue akwa* (burrito, bigeye grant), *wawayan* (oilfish). Processing is done by smoking sardinella and frying *nkafuna*. Salting is done on a limited scale.

Proceeds from marketed fish are normally divided into 3 parts. One part goes into operation and maintenance of the vessels while the other 2 parts are equally shared by the crew members and the vessel owner. There is no *Konkohene* in this community to bargain for the price of fish landed. The market centres for fish from this community are Agona, Kumasi, Techiman, Sunyani, Accra and Takoradi.

Environment

There is no lagoon or forested areas in this community. Whales and dolphins do appear in the marine areas, particularly during the months of August and September. Also marine turtles are easily spotted laying eggs at the beach front. It was expressed that marine turtles are usually captured and consumed in this community. The beach front is polluted with plastic wastes. Also a large gutter directs sewage from the regional hospital into the sea at this community.

Local institutions and governance

There is a Chief fisherman in the community but no *Konkohene*. There is also an Assemblyman. STMA has recently built a six classroom block for the community. There is also a scholarship scheme for needy but brilliant students in the community. There are no CBOs or NGOs operating in this community.

Key Coastal and Fisheries Issues

Declining fish catches: There was unanimous agreement that fish catches have declined over the years. Fishers in this community referred to light fishing and use of small mesh sizes by industrial and semi-industrial vessels as the major cause of this decline. They also exemplified catches decline by comparing 20 yards fishing grounds some few decades ago with 80 yards at present time.

Weak leadership and institutions: The absence of a *Konkohene* has reduced the bargaining power of fishmongers relative to purchasing fish landed at the beach. Often, fish

is purchased at relatively high prices in this community. Furthermore, there are no institutions for fisheries management at the community level. Chief fisherman in this community is loyal to the Chief fisherman in Sekondi.

Lack of cold storage facilities: This problem as expressed by fishmongers results in their inability to purchase large quantities of fish at a time.

Sand winning: This is practised on the part of the beach front behind the sea defence wall. Some community members justified this activity by indicating the fact that since there is accumulation of sand behind the sea defence wall, especially at high tides, the won sand is replaced with time. The Chief also expressed that, as a form of job creation for the unemployed youth in the community, permission has been granted for sand winning for housing construction projects only within the community. According to the Chief, it was illegal to undertake sand winning on a large scale at the shorefront.

High rate of unemployment: It was expressed that unemployment levels in the community are generally high.

Inadequate capital: This was expressed by fishmongers as limiting expansion of their businesses.

Indulgence in Sex work: It was indicated that majority of the ladies in the community engage in sex work, particularly in neighbouring Ivory Coast. Most would become burdens on their families since they would have contracted sexually transmitted diseases on their return to the community.

Child labour / abuse: These were indicated to be problematic in both the fishing industry and at the household level in this community. At the time of the appraisal it was observed that some children between 8-10 years were mending fishing nets at school hours.

Broken homes: There are trends towards divorce and single parenthood in the community. It was expressed that the female youth from such homes are particularly vulnerable to being sexually abused under such circumstances.

Coastal erosion: It was indicated that the sea has eroded between 40 – 60 metres over the last 20 years. Approximately 80% of the central settlement area has been washed away and this resulted in the construction of the sea defence wall as well as development of new settlements towards the Northern part of the community. This problem was attributed to the construction of the fishing harbour and Naval Base wharf in Sekondi.

Non-compliance with regulations and local norms: Fishers indicated that there is a general trend towards non-compliance with fishing regulations that ban specific gears to be used on particular seasons and local norms that prohibit fishing on Tuesdays.

Charging of inappropriate school fees: Basic education is supposed to be free in this community. However, most residents complained of exorbitant charges by school authorities. This results in high school drop-out rates.

Recommendations

Key recommendations made by the community members interviewed to address the above issues include:

- Diversification of livelihoods, particularly during the lean fishing seasons.
- Banning the use of light for fishing.
- Proper regulation of larger vessels for instance, restricting their activities to the deep seas.
- Skills training programmes such as hairdressing for particularly the females.

Additional opportunities for ICFG include;
Awareness raising on and conservation of marine turtles.

ESSANAB AND EGYNABOWABAKAM

Physical characteristics

Essaman and Eginabowabakam are adjoining coastal communities in STMA with no significant fishing activities. The ocean areas are open, while the coastal strip is characterised by approximately 500 metres of sea defence wall. The sea defence wall was constructed in the 1960s to help check coastal erosion caused by the construction of the Sekondi naval base wharf. This was upgraded in 1991 and 2006 to help it withstand the increasing force of the sea waves. The near shore areas are characterised by rocky bottoms. An abandoned oil rig is visible offshore.

While Essaman comprise a mix of hilly and low lying areas, Eginabowabakam is predominantly hilly. The lagoon – locally called Nana Bekyie- borders the Eastern part of Eginabowabakam and separates this community from Essaman. The lagoon describes a narrow path towards the North, into the interior parts of the community, where a portion of it is converted into an aquaculture farm. The lagoon exits to the sea through a bridge that underlies the main highway.

A rail line lies behind the hilly settlements in Eginabowabakam and links Essaman further Eastwards.

Demographics and settlement patterns

The Shama Ahanta East Metropolitan Assembly (SAEMA) Medium Term Development Plan indicates a population of 3,436 for Essaman as of the year 2000. The present voting population was estimated at 4,000 by the Assemblyman. There are about 150 houses in Essaman. Three distinct clusters of settlements characterise the community. Located on the hilly lands towards the Eastern side are approximately 40 cement constructed houses of mainly one to two storeys. On the Western side are located detached single storey houses built from cement and roofed with corrugated aluminium sheets. The central portion is a mix of hilly and low areas. These areas comprise mainly clustered mud houses with corrugated asbestos cement roofing, interspersed with cement constructed buildings. Most of the houses have household toilets. There is also a public toilet facility. The entire community is connected to the national electricity grid. Fish processing facilities intersperse settlements in the central portion and few are located close to the untarred road on the Eastern side of the community.

The community is separated from the beachfront by the main highway. Fronting the community are few kiosks trading in all kinds of goods and services. There are three untarred roads that enter the community at the Eastern, central and Western settlement areas. However, these roads terminate few metres away from the entrance to the community.

The ethnic groups in the Essaman comprise Ahanta, Fante, Ewe, Dagomba, Fafra and Dagaati. The Fantes migrated from Moree in the Central region to the community in the 1930s and have since had a permanent presence and dominance in the area. However, migrant fishermen from Central region usually stay with their relatives during August-September in order to engage in fishing activities at the fishing harbour.

According STMA statistics, the population of Eginabowabakam is projected to reach 757 by 2010. Eginabowabakam is a relatively small community with close to 50 houses clustered

on a hill. Backing these settlements and very close to the lagoon are houses at various stages of construction. There is an untarred road that links the newly constructed settlements while the major settlement on the hill has no access roads. Kiosks trading in all sorts of goods and services line the front of this community as well as few coconut trees. There are no household toilets, market and school in Egyinabowabakam. The regional hospital is 5 minutes drive away from this community. There is one public toilet in a deplorable condition.

Economy

There are no major industries or companies in these two communities. No banks or credit unions are present. Some livelihood activities include palm kernel oil production and bread making. Others earn a living by undertaking fishing activities at Bosomtwi-Sam fishing harbour. Also, some residents in both communities are government workers commuting daily between the community and Takoradi.

Farming

Few plots of farmlands are located on the Western side of Essaman and there is an aquaculture farm at Egyinabowabakam. Both farms are operated at the subsistence level. On the farms are planted cassava and maize.

Tourism

Mankrado Hotel is located close to the Western border of Essaman. This hotel has few rooms costing between GHS 15 – 300 and is mainly patronised by people within STMA. Although tourism is not well developed in these areas, some expatriates are occasionally seen watching the sea from the defence wall. There has been influx of tourists into the communities in the past as a result of Kundum celebrations. However, in the last 10 years, this festival has not been celebrated because of the absence of an Omanhene in Sekondi.

Fisheries

Fishers at Essaman have relocated their fishing activities to other coastal communities. Given time constraints, the research team decided to forego any focus group discussions with crewmen and vessel owners. However, we interviewed the Chief fisherman in Essaman to solicit his perspectives on what existed in the past regarding fishing. It was indicated that fishing activities in this community have evolved significantly. Prior to construction of the sea defence wall, close to 300 canoes lined the beachfront. These canoes ranged between small, medium and large sizes. And respectively deployed the following number of crewmen and horse power outboards: between 4-6, 5-7 and 8-9 and 15HP, 25HP and 40HP. Currently there are only 6 canoes owned by residents of Essaman and these operate in fishing communities including Funko, New Takoradi, Amanfokuma, Ngyeresia and European Town.

Other key informants indicated that upgrading of the sea defence wall in the early 1990s took into account the need for landing sites along the beachfront. However, persistent sand winning along the beachfront prevented landing of fish catches. Hence in 2002, further upgrading of the defence wall proceeded without provisions for a landing site. In recent times, sea water overflows the defence wall and spills onto the road, especially at high tides. It was also indicated that the sea defence wall has had disproportionately high impact on fishmongers in Essaman since they have to travel to the fishing harbour on daily basis to

purchase fish. Fish purchased are smoked and fried and later marketed at Agona Nkwanta, Sekondi and Nkotompo.

On the part of the coastline facing Egyinabowabakam, fishers usually operate beach seine on a limited scale. They capture demersal and some pelagic species. Lagoon fishing is also practiced with cast nets and sieves in Egyinabowabakam. Species captured include tilapias, crabs and mudfish. The same species are also harvested in the portion of the lagoon converted into an aquaculture farm.

Environment

In Essaman, there is a stream that separates the settlements towards the East from the central settlement area. There are marshlands surrounding the lagoon at Egyinabowabakam. Plastics and other solid waste are dumped at the portions of the lagoon close to the rail line serving as a landfill. There is also settlement development along the waterways in the vicinity of the lagoon. There are only few mangrove trees along the part of the lagoon close to the highway.

Local institutions and governance

Egyinabowabakam has a resident Chief. The Assemblyman has jurisdiction in three communities – Egyinabowabakam, Essaman and Ekuasi. There is also a resident Chief and Chief fisherman at the Essaman. There are no community-based organisations or fishery-related local associations. There are also no CBOs operating in these communities.

Key coastal and fisheries issues

Exchange of sex for fish: At Essaman, it was indicated that this randomly occurs between fishmongers and crewmen.

Poor drainage: There are no drainage systems in both communities. This results in perennial flooding in certain portions of the central settlement areas in Essaman during periods of heavy rainfall. However, this problem is not pronounced in Egyinabowabakam.

Lack of community-based fishing associations: This problem was particularly mentioned by fishmongers at Essaman as causing their inability to bargain for the price of fish with crewmen.

Poor quality fish: The fishmongers indicated that sometimes, they inadvertently purchase rotten fish. They attributed this to the bad fishing practices such as use of light and carbide.

High school drop-out rates: In Essaman, teachers indicated that parents refuse to invest in their children's education and also most children are not able to cope with learning. Hence, majority of children drop out of school.

Difficulty in accessing the coastline: This is due to the construction of the sea defence wall.

Coastal erosion: There is severe coastal erosion in Essaman. If not for the defence wall constructed about 50 years ago and upgraded at certain points in time, the sea would have caused severe damage to the main highway as well as property in the community. In recent years the sea overflows the defence wall onto the road during high tides.

Lack of waste disposal facilities: There is no solid waste disposal facility in Egyinabowabakam resulting in dumping of solid waste in parts of the lagoon.

Lack of human waste disposal facilities: There are no household latrines at Egyinabowabakam, resulting in defaecation around the lagoon and close to the rail line.

Marginalization of women folk: About 20 women had to relocate their palm kernel oil production activities on lands very close to the rail line behind the main settlement area in Egyinabowabakam. This was in response to agitation by community members in Essaman

regarding the nuisance caused by smoke generated from their activities. At their present location, these women complained of land tenure insecurity since they have been served notices to pay ground rents by an unknown but purported land owner. They further indicated that the collapse of the fishing industry has negatively impacted their business. It was observed that these women face difficulties relative to processing their kernels. They were also prone to rail accidents.

Recommendations

Key recommendations made by the residents to address the above issues include;

- Construction of storm drains.
- Introduction of diversified livelihood activities.
- Provision of waste disposal facilities.

Additional opportunities for ICFG initiative include;

Awareness raising on and conservation of wetlands and enhancing livelihoods.

EKUASI

Brief History

According to oral history, the land which covers present day Ekuasi was a forested area some few centuries ago. The land was inhabited by settlers from Sekondi in the early 20th century due to relocation of people to pave way for construction of the Sekondi wharf. At the time, the main occupation of the settlers was fishing and the Chief fisherman was elected to act as the Chief of Ekuasi. Till present, the Chief of Ekuasi doubles as the Chief fisherman.

Physical Characteristics

Ekuasi is a coastal community in STMA characterised by hilly and flat landscapes. There are shrubs and bushes on the hills backing the residences on the flat areas. An approximately 600-metre sea defence is built along the stretch of coastline that faces the community, leaving a strip of sandy beach that is often covered by sea water at high tides. The construction of the defence wall commenced in the 1960s and further upgraded in 1991 and 2002 to withstand increasing force of the sea waves. It was again upgraded in 2006 in a bid to prevent the road from being washed away. The main highway leading to Sekondi separates the community from the coastline. An abandoned oil rig is visible offshore.

Demographics and Settlement Patterns

The present population of Ekuasi is about 2,000. There are 106 houses in the community and close to a third of these have household flush toilets. The settlements are nucleated with two asphalted roads running parallel to the settlement areas. The houses are mostly cement constructed and roofed with corrugated aluminium. The Ekuasi Prison is situated on the hills, towards the North-eastern part of the community. Below the prison's hills are less than two acres of farmlands. There are two clusters of fish processing facilities. On the Western side are relatively few smoking ovens for fishmongers residing in the community. And towards the Eastern edge are processing facilities utilized by fishmongers from Ekuasi, Bakano and Sekondi for smoking, frying and salting fish. An auto-mechanic workshop is also located close to the Eastern border of the community. While the Ahanta and Fante constitute the dominant ethnic groups, the Ewe and Ga are in the minority. Yet people from all these groups co-exist peacefully in the community. There is a school, 5 churches and a mosque in Ekuasi.

Economy

There are no major industries or companies in the community. There is no bank or credit union. While most of the youth are unemployed, some are artisans at the auto-mechanic workshop. Others are also taxi drivers. Most adults are government workers, commuting daily from Ekuasi to Takoradi and Sekondi.

Farming

Farming is undertaken predominantly at the subsistence level. Surplus produce are however sold on the market. Major crops cultivated include; banana, cabbage, oil palm, plantain and pepper.

Tourism

There are no hotels, guesthouses or tourism related activities in this community.

Fisheries

The sea defence wall has rendered it impossible to land fish catch at the coastline. Consequently, most fishers have relocated their fishing activities to the fishing harbour in Sekondi. Given the constraints of mobilizing fishers in this community and time, the research team decided to forego any focus group discussions with crewmen and vessel owners. However, the team had extensive dialogue with groups of traders and fishmongers.

It was indicated that fish is mainly purchased from the fishing harbour. Due to the lack of storage facilities, they buy quantities that can be smoked and sold. Fishmongers usually purchase fish on credit and they repay after processing and marketing. However, this happens during periods of low demand for fish landed. It was also indicated that light fishing has affected the quantity of fish they purchase from fishermen. They exemplified the effect of light fishing with the fact that during major seasons, the usual bumper harvests are not experienced as existed some 10 years ago.

While they smoke tunas, fishmongers in this community usually smoke and fry herrings. Fish is sold in Kumasi and Sekondi.

Environment

There are no forested areas, lagoon or stream in this community. There is a skip for garbage collection and the surroundings are relatively clean. The coastline is also relatively clean due to strict adherence to regulations preventing defecation at the shoreline.

Local Institutions and governance

There is a Chief who doubles as the Chief fisherman. The Assemblyman resides at Essaman and has jurisdiction covering Ekuasi and Egyinambowabakam. There are no CBOs and NGOs operating in these communities.

Key coastal and fisheries issues

Poor fish smoking site: fish mongers operating on the processing site located towards the Western side of the community complained about the small space for fish smoking. They often referred to poor health and safety conditions associated with their working environment.

Lack of capital: Fishmongers also indicated the general lack of capital for operating their businesses.

Inadequate human waste disposal: Measured against the population in the community and the fact that few households have flush toilets, it was indicated that the 2 public toilet facilities in the community are inadequate.

High youth unemployment: Majority of the youth in the community are neither employed in the formal nor informal sector

Lack of a community center: It was expressed that the absence of a community center is a barrier hindering the organisation of social activities and events in the community.

Coastal erosion: Coastal erosion in Ekuasi was attributed to the construction of the fishing harbour and Naval Base wharf in Sekondi. This necessitated the construction of the sea

defence wall in the early 1960s. Currently the sea overflows defence wall onto the main highway at high tides.

Recommendations

Key recommendations made by community members to address the above issues include;

- Construction of a community center.
- Provision of public toilet facilities.

BAKANO /BAKAEKYIR

Physical Characteristics

Bakano and Bakaekyir are coastal communities located in the Sekondi-Takoradi Metropolitan Area (STMA) and separated by the Essei lagoon. While Bakano is located towards the Eastern side of the lagoon and closer to the shoreline, a greater portion of Bakaekyir lies towards the North of the lagoon, approximately 300 metres from the shoreline. However, part of Bakaekyir – few settlements - is located on the Western edge of the lagoon, approximately 50 metres from the shoreline. The main highway that links Sekondi-European town separates Bakano from the shoreline. The part of the coastline facing Bakano is built a sea defence wall which extends up to approximately 400 metres. The sea defence wall also extends few yards along the banks of the Essei Lagoon, close to the point where it exits to the sea. Construction of the sea defence occurred in three contiguous time lines – early 1960s, beginning of the 1990s and around 2002. The ocean areas are open with pounding sea waves. To the west of Bakano is the Essei lagoon embankment covering an area of approximately 5 acres. The Bakano Bridge, with an estimated 15 feet height and 30 feet width is situated at the point where the Essei lagoon exits to the sea. Both Bakano and Bakaekyir comprise predominantly hilly areas with some flat landscapes.

Demographics and Settlement Patterns

There are approximately 400 people living in Bakano and Bakaekyir. Bakano has two main areas of population concentration. Close to the main highway is a flat landscape with approximately 100 settlements – this area is often referred to as Bakano. Backing these settlements are hilly areas with approximately 300 houses known as Asamensedo. On the other hand, the settlements at Bakaekyir are about 200. The settlements in both communities are nucleated and cement constructed one or two storey buildings roofed with corrugated aluminium. While most households in Bakano lack flush toilet facilities, there is presence of such facilities in most Bakaekyir households. Bakano has relatively well developed road network comprising paved streets running parallel and perpendicular to each other. On the other hand, a principal road with some portion tarred and other areas untarred, links low lying and hilly areas in the main settlement area in Bakaekyir. Towards the North-east of the Essei lagoon is the stadium – Gyandu park- and a mosque. There are 3 schools in these areas. The nearest market is in Sekondi, about 5 minutes drive from these communities. Houses in Bakano and Bakaekyir are connected to the national electricity grid. Regarding ethnicity, both communities are diverse with Fantes, Ewes, Hausas and Ahantas representing different proportions of the population. However, the Ahantas are the dominant ethnic group. About 15% of the population in Bakano are fishers while nearly 4% farm on lands located at Apowa and Ewusiejoe- about 5 km away. Bakano is also a destination for an estimated 300 migrant fishers from the Central region, particularly during high fishing seasons at Sekondi –European Town.

Economy

There is a commercial bank located few metres away from Bakano. There is also a Forex bureau close to Bakaekyir. Small scale businesses line the streets in these communities and

trade in all sorts of goods and services. Some residents in these communities are employed as officers at the Metropolitan Assembly (MA) and regional administration in Sekondi. Most are also fisher folk that operate their businesses at Bosomtwi-Sam fishing harbour. Centrality of the fishing harbour to the economy of these communities and Sekondi in general was often referred to by some opinion leaders. They even recommended the expansion of the fishing harbour to further boost the local economy.

Farming

Farming is practiced by relatively few residents on lands located approximately 5 kilometres from these communities. Crops cultivated include oil palm, cassava, plantain, pepper etc. at both subsistence and commercial levels.

Tourism

The Lagoonside Hotel is located on the Northwest of the Essei lagoon. There are approximately 20 rooms in this hotel with rates between GHS 20 – 35. Close to the embankment of Essei lagoon is a rest stop and a drinking spot – Essei Gardens and Lagoon Spot respectively. While the latter is operating, the former has temporarily halted operations. The Chief of Bakaekyir and the youth leader in Bakano indicated the existence of a documented plan at the Metropolitan Assembly (MA), regarding the development of the lagoon into a tourist attraction site. Although these opinion leaders shared the same vision, they expressed lack of a potential investor as the only barrier hindering such development.

Fisheries

There are no significant fishing activities in Bakano due to the presence of the sea defence wall. It was indicated that most fishermen in the community operate in Sekondi and other fishing communities in the Ahanta West district. Given time constraints, the research team did not organise focus groups for crewmen and vessel owners in this community. However, some key informants contacted mentioned the fact that about 300 canoes operated on the lagoon before construction of the sea defence wall commenced. It was also indicated that some fishing activities, albeit on a limited scale, currently occur on the lagoon. This involves the use of cast net to harvest tilapia and mudfish. Perinkle is also collected from the lagoon. Despite the low fishing activities at the coastline, fish processing is undertaken on a relatively large scale at Ekuase by residents of Bakano, Bakaekyir and surrounding communities. Fishmongers purchase fish from the Fishing Harbour and usually smoke herrings and mackerels. Some species are also fried. They market their fish at Swedru, Kasoa and Kumasi.

Fishmongers also indicated that fish supply is relatively the same as some 10 years ago and that their quality of life is relatively high. They also mentioned how the Chokor Smoker- an improved technology for fish smoking- has enhanced their operations. However, they complained of the absence of a *Konkohene* to negotiate fish prices at the Fishing Harbour

Environment

The Essei Lagoon obtains its source from upstream communities including Bakado and beyond. The part of the lagoon that drains the upstream communities is heavily polluted with

human faeces and plastic wastes. The water colour along these areas is also relatively dark. There are fitting and carpentry workshops operating very close to the banks of the lagoon in these areas. Their activities like churning out sawdust and oil from automobiles contribute significantly to the pollution observed along these portions of the lagoon. On the other hand, the part of the lagoon that drains Bakaekyir and Bakano is less polluted and usually fished. Approximately 3 acres of mangrove forest surround the lagoon. The mangrove forest is slightly fragmented by footpaths. It was indicated that some portions of the mangrove was cleared few years ago to prevent its use as shelter for criminals and drug peddlers.

Local institutions and governance

There is a Chief in Bakano and Bakaekyir owing allegiance to the Omanhene of Sekondi. Each community has an Assemblyman. However, there is no Chief fisherman or *Konkohene* in these areas. Zoomlion Company is tasked with waste collection and management in these areas including cleaning of the banks of Essei Lagoon. Friends of the Nation (FoN) was often mentioned as the major NGO facilitating awareness raising on environmental issues in these communities. There is also a grass cutter rearing association in Bakano.

Key coastal and fisheries issues

Youth unemployment: It was mentioned that majority of the youth are unemployed. Hence they prefer to travel abroad to seek greener pastures, usually through illegal means.

Lack of tourism investment: Some opinion leaders mentioned the lack of investment towards realizing the tourism potential of the Essei Lagoon.

Coastal erosion: the shorefront eroded between 20 – 60 metres in a space of 10 years and this necessitated the construction of the sea defence wall. Yet, at high tides, sea water overflows the defence wall and spills on the main highway.

Sand winning: Sand winning occurs at the embankment of the Essei Lagoon. Although this was mentioned as an illegal practice, the research team witnessed this activity during the appraisal.

Inadequate human waste disposal: Particularly in Bakano, few households have flush toilets. Measured against the population without household toilet facilities, the existence of one public toilet facility was considered inadequate.

Inadequate fish processing facilities: the fishmongers expressed that their processing sheds, both at Ekuasi and the fishing harbour are in deplorable conditions and this affects the quality of fish processed.

Lack of operating capital: Fishmongers indicated the general lack of financial assistance for operating their businesses. They indicated that financial services are not provided them by any institution.

Inadequate solid waste disposal: One skip is available for solid waste collection in Bakano. Referring to their location relative to distances that residents commute to dispose their garbage, it was expressed that more waste collection bins will be required for the community.

Recommendations

Some recommendations by community members regarding addressing the above issues include;

- Providing financial assistance to fishmongers and women traders.

- Expansion of the fishing harbour.
- Provision of waste disposal facilities.
- Installation of Chief fishmonger (*Konkohene*) at Sekondi to negotiate prices of fish landed.

Additional opportunity for the ICFG Initiative is wetland conservation – Essei Lagoon.

NGYERESIA

Physical Characteristics

Ngyeresia is a vibrant fishing town in the Sekondi-Takoradi Metropolitan Area (STMA). The landscape is a combination of hilly and low lying areas. Farmlands are located beyond the settlement areas on the Northern part of the town. The main highway passing through the community separates the major settlement areas towards the North from the coastline. Over the last few decades, there has been accretion of the shoreline up to an estimated 30 yards. The coastline is marked by an open sandy beach interspersed with near shore rocky bottom areas. An abandoned oil rig is visible offshore.

Demography and Settlement Patterns

As of the last census in the year 2000, the population of Ngyeresia was an estimated 4,752. There are about 712 houses in the town. Unofficially, the town is geographically divided into two areas: Ngyeresia Panyin lies on the hilly areas while Ngyeresia Kakra is located below the hills, encompassing settlements close to the main highway and along the coastline. While Ngyeresia Panyin is characterised by scattered houses, mostly built from cement and roofed with corrugated aluminium, the settlements in Ngyeresia Kakra are mainly clustered, with nearly equal mix of cement and mud built houses roofed with corrugated aluminium sheets. The settlements in Ngyeresia Kakra are interspersed with several fish smoking ovens and kiosks. Fronting the shoreline are several dozens of clustered fish processing facilities interspersed with few housing units with cement walls and corrugated asbestos-cement roofing. The only access road in the community terminates at the borders since the paths between settlements in Ngyeresia Kakra are not wide enough to allow vehicular passage. A water kiosk is situated few yards away from the main highway. There are also few hand-dug wells in the community and stand-pipes in the households.

The people in Ngyeresia are of Ahanta and Fante ethnicity. The Fantes, mainly from Moree and Srafa in the Central region migrated to the town around the 1940s to engage in fishing. Over the years, the Fantes- now the dominant ethnic group- have peacefully co-existed with the indigenous Ahanta people. There is seasonal migration of most Fante fisherfolk between Ngyeresia and their ancestral villages in the Central region.

Economy

The only major industry within the vicinity of Ngyeresia is a stone quarry. However, this is a source of employment for few inhabitants of this town. The main livelihood activities in Ngyeresia are fishing and farming. Nearby, is the Bosomtwi-Sam fishing harbour where some fish mongers from this town purchase fish for processing. There are no banks or credit unions in the town.

Farming

Farming is practiced at the subsistence and commercial levels. The main crops cultivated include cassava, maize, oil palm, coconut etc.

Tourism

There is a hotel in Ngyeresia called Esenam Hotel. It has approximately 8 bedrooms costing between GHS 20.00-35.00.

Fisheries

The coastline of Ngyeresia is dominated by the fishing industry. Approximately 140 small and medium sized canoes and 26 large canoes line the beach at the time of the appraisal. The large canoes range between 18 – 22 yards in length and deploy between 16-20 crewmen. Also, the medium sized canoes operate the ring net, range between 17-18 yards in length and deploy between 12-16 crewmen. Both large and medium sized canoes use 40 HP outboards. On the other hand, small sized canoes use 25 HP outboards, range between 9-10 yards in length and deploy between 4-5 crewmen. The small canoes mainly operate *Tenga* (bottom set net).

Generally, specific gears are operated at different seasons. While both the drift gill and ring nets are operated during the major upwelling season (July - September), the latter is mainly operated during the minor upwelling season (December – February). Between these seasons they operate bottom set net. Nevertheless, the fishers indicated that recently, the use of light facilitates harvesting of all fish species all year round. Consequently they no more follow seasonal patterns in their operations. Species caught include sardinellas, *nkanfuna* (long finned herring/ West African Illisha), red fish, cassava fish etc. Processing is done in the fishing settlement areas by smoking the sardinellas, frying the *nkanfuna* (long finned herring/ West African Illisha), and salting. The major marketing centres for fish caught in this town include Kumasi, Mankessim, Agona Nkwanta, Kasoa, Sefwi, Obuasi, Bekwai, Techiman and sometimes Burkina Faso.

Regarding the sharing system, proceeds from fish sold are divided into two parts. One part is reserved for maintenance and repair of gear while the other part is shared among the crewmembers including the vessel owner. The *Konkohene* in this town is solely responsible for bargaining the prices of fish landed by the canoes.

Environment

Parts of the hilly areas are covered by bushes and palm trees. The coastline is polluted with plastic waste and faecal matter. The human waste disposal site for the entire STMA lies towards the Eastern part of the coastline. There are two skips for refuse collection in the town. One is in a deplorable state and as a result, refuse is dumped on the ground at this collection point. There are no drainage systems for household liquid wastes and run-off water. There are few household toilets. However, there are two public toilets – a 12-seater and 8-seater- which are in a deplorable condition. Nearby bushes and the coastline are defecation sites. There is no river mouth at the shoreline. Turtles lay eggs along the beach but they are trapped and consumed.

Local institutions and governance

There is a Chief fisherman, *Konkohene* and Assemblywoman in Ngyeresia. There is also a landing beach committee that oversees pre-mix marketing. There is no substantive Chief, however, a regent resides in the town. The five key CBOs in Ngyeresia include Fish Processors Association of Ghana (FIPAG); 31st December women's association, landowners / landlords and tenants associations. Friends of the Nation (FoN) and CHF international are providing sanitation services in the community.

Key coastal and Fisheries Issues

Declining fish catches: In this town, there was consensus regarding the fact that fish catches have declined over the years. Fisher folk expressed that the quantity of fish landed recently is one quarter of the quantity they harvested 10 years ago. They attributed this to the use of light, carbide, dynamite and DDT for fishing as well as the activities of pair trawlers. They indicated that vessels engaged in pair trawling usually switch off lights thus becoming invisible even in near shore areas. Some fishermen indicated their frustration by expressing the need for government to intervene on issues of stock depletion lest they resort to criminal acts to make ends meet.

Black marketing of fishing inputs: It was expressed that people outside the fishing industry are able to obtain subsidized fishing inputs like outboard motors and later resell to fisher folks at high prices.

Lack of Transparency in pre-mix management: Fisher folks hailed the colouring of pre-mix as an effective mechanism for preventing diversion. However, there were conflicting views regarding the proper management of pre-mix revenues. It was expressed that, under the post-paid pre-mix supply regime, accounts were rendered to the community after the sale of every 1000 gallons of pre-mix fuel. At that time, the profits generated from pre-mix sale were shared as follows; the person who made the order received GHS 30.00, pump attendant obtained GHS 20.00, GHS 45.00 was reserved for community development and Chief fisherman received GHS 20.00. However, in the current pre-paid system, the Chief fisherman receives GHS 20.00 and the rest goes to the landing beach committee. No accounts are currently being rendered to the community. On the other hand, it was indicated that some levies on pre-mix sales have been used to procure street lights for the community.

Lack of capital for fishing activities: Both fishmongers and fishermen expressed the lack of loan capital for their businesses. Particularly, fishermen mentioned the need for subsidies on all fishing inputs.

Scarcity of timber for fishing vessel construction: They also indicated the difficulties in obtaining timber for building canoes in recent times.

Inappropriate fishing methods: Fishers in this town admitted to the use of light, carbide, dynamite and DDT for fishing. Usually, DDT is used in conjunction with carbide. The chemical is sprayed at the site of application of carbide with the intention of maximizing fish catch at a particularly time. They indicated that it is the only strategy for survival in the current fishery regime in Ghana. However, they expressed their willingness to stop the use of these methods **only if** pair trawling by industrial vessels and light fishing by semi-industrial vessels is completely outlawed by the government.

Non compliance with fishery laws: One problem expressed was the failure of most fishers to comply with existing laws regarding capturing of juvenile fishes.

Recommendations

Key recommendations made by the community residents to address the above issues include;

- Controlling the use of unsustainable fishing methods through enactment and enforcement of laws.
- Introduction of equipment to detect fish harvest using unsustainable methods.
- Enacting and enforcing laws that restrain large vessels from fishing around near shore areas.
- Need to adapt fishery laws and regulations in Cote d'Ivoire to the Ghanaian context.
- Capacity building of fisher folks on savings and investment.

- Formation and strengthening of CBFMCs in the community to address fishery issues.

Additional opportunities for ICFG initiative include;

- Awareness raising on the conservation of marine turtles.
- Provision of refuse disposal containers.

SEKONDI –EUROPEAN TOWN

Brief History

The recorded history of Sekondi dates back to the 15th century, during which period European traders arrived at the shores of West Africa. Around that time, the area which covers present day Sekondi (including European town) was a scene of immense trade between the settlers and Europeans. An important landmark in the history of this area was the construction of a wharf in Sekondi at the beginning of the 20th century. This resulted in the emergence of a commercial centre near the wharf which later became European town (Agovi, 2002). Around the same time, the railway terminus was built in European town to link Sekondi with gold mining centres and other commercial areas in colonial Ghana. Sekondi lost its significance as a major commercial centre after the construction of the Takoradi harbour in 1928. The completion of the Bosomtwi-Sam fishing harbour in the late 1990s has to some extent revived economic activities in the area.

Physical Characteristics

European Town

European Town is part of the predominantly hilly landscapes in Sekondi which rise sharply from the edge of the Atlantic seaboard. Towards the east of the town is a low lying area wherein the Bosomtwi-Sam fishing harbour and erstwhile state fisheries are situated. Several square metres extending from the South-western to Eastern direction of European town are relatively low lying areas occupied by the quarters and administrative offices of Naval Base. European town is bordered to the West by Sekondi and the north by the hilly areas of the Western regional administration and Essikadu town. The coastline is dominated by several metres of sea defence. There is an abandoned oil rig in the marine areas. Fishing activities in European town are confined to the Bosomtwi Sam fishing harbour area.

Bosomtwi-Sam Harbour

This is a man-made harbour with three main landing sites and several modern landing facilities. At the mouth (from the North) of the harbour is the main gate. At the central part of the harbour yard is located the main landing shed where fish caught by industrial and semi-industrial vessels are landed and subsequently transported by vehicles. Towards the Western side of this landing shed is the canoe jetty or wharf, where most canoes land their catch and also berth. Close to the Naval base is another canoe landing site popularly known as Nana Kokobo fish landing ground. To the east of the main landing shed is a strip of sandy beach where damaged vessels are repaired and new ones constructed. Extending from the main landing shed into the marine areas are approximately 120 and 150 metres of stone breakwaters. The perimeter of the harbour is also surrounded by breakwaters. An abandoned oil rig is situated in the marine areas.

Other facilities at the harbour include toilets, bathroom, a pump house, power house, pre-mix and diesel storage tanks as well as facilities for ice making and storage. There is a cement constructed fish processing shed in the harbour yard which is not functional. There are two steel built gates – located North and West of the harbour yard- that enable access to the fish processing sheds and marketplace. The North gate is wide enough to permit vehicular access. However, it is untarred and treacherous especially during rainy seasons.

The West gate can only allow pedestrian access to the harbour yard. The fish smoking sheds are located mostly on hilly areas along the North-western side of the harbour yard. On top of the hills are open spaces utilized mainly for fish salting and drying. Some key informants indicated that in the past few decades, the sites occupied by the processing sheds and marketplace was utilized for building new boats. There are no cold storage facilities for fish landed at the harbour.

Demographics and Settlement Patterns

Sekondi is the largest fishing town in STMA. It is also the administrative capital of STMA. It had a population of approximately 29,247 persons as of the last census in 2000. Of this population, approximately 3,500 live in European town. Nonetheless, the population of inhabitants in this town increase markedly during high fishing seasons and stabilize during the low seasons. According to statistics from STMA, the estimated population of Sekondi-European Town at present time is 50,772. There are approximately 400 houses in European town. Most of which are cement constructed two storey buildings interspersed with some wooden houses. Predominantly of Victorian style architecture, with spaces between houses situated along the streets, these buildings reveal the long history of European settlement in the area since the seventeenth century. The settlements in European town extend into the harbour yard where some cement buildings with corrugated aluminium roofing as well as houses built from wood provide temporary shelter for most fisher folk. It is noteworthy that most fishers and traders sleep on the floors and verandas of houses in the town, especially during the night. There are three public toilet facilities, of which two are situated in the harbour yard and operated by the Ghana Ports and harbours Authority (GPHA) and one located in the major settlement area. There is also a public stand pipe, a second cycle school and clinic. The nearest hospital in Essikadu is located approximately 700 metres from European town. The streets in European town are tarred and networked.

Commercial businesses in European town are mainly small scale and are located along the streets and within the market in the harbour yard. There are two Forts- George and Orange- which are inhabited by mostly naval officers. The Western regional administration and the Sekondi-Takoradi Metropolitan Assembly (STMA) are located within approximately 400 metres from European Town.

The major ethnic groups in European town comprise Fante, Ga and Ahanta. First migration of the Fantes to European town occurred some 200 years ago. Currently, the Fantes – particularly the Dwamas- from Apam in the Central region constitute the majority in European town. The Fantes occasionally move to their ancestral homes to celebrate festivals.

Economy

The fishing harbour is central to the local economy in European town. Boom and bust cycles experienced by most enterprises in the area are invariably linked to fishing activities. Commercial activities are confined to the manifold small and medium scale enterprises dotting European town. These enterprises trade in some fishing inputs as well as general goods and services. It was indicated that between 5,000 – 6,000 people visit the harbour per day to undertake commercial activities. Inhabitants of the town constitute a large majority. They are mostly engaged as crewmen, cleaners, porters, service boys, watchmen, fishmongers etc. It was also indicated that a form of barter trade- exchange of fish for staple food crops occur in the marketplace. People in European town buy and sell in either the

Sekondi market which is about 15 minutes walk from the centre of the community or the Takoradi market which is about 30 minutes drive from the center of the community. There is a bank at the fishing harbour. Some women, locally referred to as “*maamefo*” were often mentioned as main creditors for fishermen, particularly before they go on expedition. Fishers usually pay back on return with cash or fish.

Farming

There are no significant farming activities undertaken in European town and surrounding areas.

Tourism

Tourism in European town revolves around the fishing harbour as well as Forts George and Orange. Fort Orange is currently being used as a lighthouse by the Ghana Navy. These are occasionally visited by Europeans and some African diasporans. On such occasions, especially in the case of the Forts, the Omanhene of Essikadu deploys his tour guides to provide the necessary assistance. There are no hotels or guesthouses in European town.

Fisheries

Fishing activities in European town is concentrated at the fishing harbour where all the major fishing industries in Ghana are represented. Fishing activities occur all year round without major and minor fishing seasons. The **artisanal sector** comprises the canoe fishery and hook and line. There are approximately 5 variations in the sizes of canoes. Each type has different crew sizes and shows variation in fishing nets operated. The large canoes are 25 yards in length and deploy between 25-30 crewmembers. These canoes operate the “*ali/poli/watsa*” nets and catch both pelagic and demersal species. The second category are canoes with 10-yard length deploying 12 crewmen and operating the drift gill net. These catch herrings, *nkafuna* (long finned herring/ West African Illisha), *eboe* (Burrito, Bigeye grant) etc. The drift and bottom gill nets are operated by the third category of canoes with 6-yard length. These deploy 6 crewmen and catch both pelagic and demersals including herrings, shrimps, sole, *abranwa* (guinea sole) *ekan* (cassava croaker, long-neck croaker, small mouth croaker) etc. The canoes operating hook and line are also 6 yards in length and deploy 6 crewmen on the average. However, species caught by hook and line include red Pandora, dentas, grappers, tunas etc. The fourth category is canoes with 4-yard length operating *Tenga* (bottom set net) nets. These catch mainly demersals like *nkafuna* (long finned herring/ West African Illisha), *eboe* (Burrito, Bigeye grant), *sukue* (lesser African treadfin, shine-nose, common threadfin) etc. The fifth category is the service canoes. These are 3 feet long and 12 inches wide canoes deploying a maximum of 2 crewmen. Service canoes are mainly involved in purchasing fish from boats on sea. Approximately 260 canoes operate at the fishing harbour. Of this number, 50 are considered as small and the remaining are large. The numbers of canoes also increase and decrease significantly depending on fish availability in the waters around the area. The canoes use outboards of 25 and 40 HP depending on their sizes. Fishing is done all year round.

The **semi-industrial** sector is the inshore boats. As in the canoe fishery, the crew size and gear operated in this sector vary with vessel size. The large wooden boats are between 60-90 feet in length and up to 22 feet in width. These operate mainly ring nets and deploy between 25- 30 crewmen. The small boats are 30 feet in length and 15 feet in width. These

deploy 10 crewmen when operating the trawl net and 15 crewmen when using ring net. There are also medium-sized boats of 50 feet length that deploy up to 16 crewmen and operate trawl nets. It was also expressed that most inshore vessels combine nets with one and half, one sixteenth, and 3 quarters mesh sizes for fishing. Increasingly, these boats employ modern technologies such as echo sounders/ fish finders and Global Positioning Systems (GPS) for fishing. All boat sizes use DAF 21 and 23 engines. The ring nets mostly capture round and flat sardines while the trawl nets harvest shrimps, sole, cassava fish, squid, long finned herrings, ribbon fish, burrito etc. There are 70 inshore vessels registered and operating at the fishing harbour.

There are similarities in the sharing systems in the semi-industrial and industrial sectors. Generally, catch landed is sold and proceeds are divided into three parts. The vessel owner receives two parts for repair and maintenance of gear. The remaining part is shared equally among the crewmen including the vessel owner. On the other hand, there are occasions where catch landed is not sold but fish is shared among crewmen and vessel owner. In this case the same sharing system is used. Sharing also takes into account boat watchmen (their responsibilities include boat cleaning and prevention of theft in the boat).

Increasingly, the traditional role of the *Konkohene* as bargainer of fish landed is being eroded. The *maamefo* (fish mammies) and wives of vessel owners are taking over this role, especially on occasions where the latter have pre-financed fishing expedition.

The **industrial sector** comprise steel and wooden vessels popularly referred to as “China China”. There are approximately 15 “China China” boats at the fishing harbour, of which 2 are wooden and the rest are steel built. These utilize trawl nets with 60mm x 60mm mesh size and deploy 8 crewmen. And purse seines with 40mm x 40mm mesh sizes with 30-40 crew size. Although the purse seines catch pelagics and trawl nets target demersal species, both nets are able to catch either species. Industrial vessels utilize 120 HP marine engines. Crewmen on industrial vessels are salaried workers. While each local crewman receives approximately GHS 800 per month, their Chinese counterparts are remunerated at GHS 1,500 monthly. In addition, each crewmember receives fish worth approximately GHS 60 after catch is landed. It was indicated that due to banning of pair trawling, all steel built “China China” boats designed for pair trawling are being reconstructed as single trawlers.

Processing is done in the harbour yard at the processing sheds by smoking, frying and salting. Sardenellas are smoked. *Nkafuna* (long finned herring/ West African Illisha), *eboe* (Burrito, Bigeye grant), *sukue* (lesser African threadfin, shine-nose, common threadfin) redfish are fried while tuna, *kooko*, *ekan* (cassava croaker, long-neck croaker, small mouth croaker) and *tantre* (spotted skate, daisy sting ray) are salted. Some red fish are also cold stored. Fish is marketed in Kumasi, Tarkwa, Kasoa, Techiman, Agona Nkwanta and Takoradi. Also, traders from Benin, Ivory Coast and Togo buy fish from the harbour.

Environment

The landscape in European town and surrounding areas is mainly hilly, except the fishing harbour which is a low lying area. There are no forested areas or wetlands within the vicinity of the town. The built environment dominates, as evidenced by the harbour infrastructure and human settlements within the town and surrounding areas. There is heavy presence of canoes, boats and other marine vessels in the ocean areas. An abandoned oil rig is visible offshore. The water close to the settlement areas and processing sheds located at the Western side of the harbour yard is heavily polluted with liquid and plastic waste.

Local institutions and governance

There are two substantive Chiefs – Omanhene of Essikadu and Omanhene of Sekondi – with slightly overlapping jurisdictions over certain territories of European town and the adjoining fishing harbour. While Omanhene of Essikadu takes royalties from landings at the fishing harbour and fines, royalties from Nana Kokobu fish landing grounds (located within the harbour yard) are paid to Omanhene of Sekondi. Also, there are two assemblymen with jurisdictions over the same areas. There is a landing beach committee for managing pre-mix and a community-based fisheries management committee (CBFMC) which is relatively well organised. There is also a Chief fisherman and a very well organised fishmongers association – the Kwantua Fishmongers association. There is no NGO involved in programming at the community level except Friends of the Nation (FoN). Ghana Ports and Harbours Authority (GPHA) provides some assistance to fishers on as-and-when needed basis. For instance they provide equipment for cleaning the harbour.

Key coastal and fisheries issues

Declining fish catch: Most artisanal fishers indicated that there has been a decline in fish catch over the years. They exemplified decline in catch with the fact that fishing grounds are now 50 yards as compared to 15 yards few decades ago. They also spend up to 8 days on expedition instead of a maximum of 3 days in the past. On the other hand, operators of semi-industrial vessels indicated that fish catch has increased compared to some decades past. They attributed this to the application of modern fishing technology such as fish finders/echo sounders as well as use of light.

Changes in fish catch composition: Fishers indicated that the size of Congo Dentas has decreased and species like *ewura efua* (blue spotted trigger fish) *Kokotei* (smooth-mouth sea cat fish) *efim* (meagre) *kwesire* (spotted eagle ray, whip ray) and *sumanfo* are hardly captured in recent years. They attributed these to the use of bad fishing methods such as dynamite, carbide and light as well as increased number of fishing vessels. Decline in catch was also linked to high levels of by-catch in the case of pair trawling.

Inadequate human waste disposal: There are no household latrines in most houses in European town. While there are two public toilets in the harbour yard, these are closed to the public at 10pm. Consequently, nearly 4,000 persons visit the remaining toilet (7-seater) per day, particularly during high fishing seasons.

Inadequate shelter for fisher folks: It was observed and also indicated that most migrant crewmembers and fishmongers use verandas and bare floors in the town as sleeping grounds.

Poor Fisheries governance: Some key informants indicated that the absence of a sub-committee on fisheries at the Assembly constrains effective fisheries governance in the area.

Use of children in fishing activities: The number of children – under 13 years - involved in fishing activities in European town is very high. They are engaged as watchmen, porters and crewmembers in some vessels.

Lack of operating capital: Fishmongers complained of lack of capital for operating their business and unreliability of local “*susu*” banking system – bankers usually abscond with their monies. Boat owners also indicated the unwillingness of most banks to provide loans for their business.

Incidence of storm surge: It was expressed that a storm surge occurred in 2003 resulting in sinking of 5 boats and destruction of many more.

High cost of fishing inputs: Both artisanal and semi-industrial fishers expressed concerns regarding high cost of fishing inputs. For instance it was indicated that prices of fishing nets have quadrupled within a space of two years.

Destruction of fish processing sheds and ovens: This problem occurs, particularly during rainy seasons due to the force of water running against fish smoking oven located down the hills.

Lack of cold storage facilities: While there is a cold store at the fishing harbour, this is only used for making ice blocks for fishing expeditions. There is no cold storage facility for fish landed at the harbour.

Infringement on fishing rights: Some fishermen expressed that the exclusive fishing zone around the oil rig is too wide. They indicated that tunas are difficult to capture these days since they tend to aggregate around the rig.

Lack of transparency in pre-mix management: There were concerns regarding the lack of transparency in the use of revenues derived from pre-mix sales. It was expressed that although some unspecified percentage of the profits realized from pre-mix sales is earmarked for community development, it has not been utilized for such purpose. In addition, the Chief fisherman has consistently not received his legitimate share of profits generated from pre-mix sales. However, some landing beach committee members indicated their so-called "plans" for utilizing profits from sale of pre-mix to build a community clinic or nursery school. They indicated that decisions regarding the type of community projects to implement with profits from pre-mix sales are made at the landing beach committee level and submitted to the Metropolitan Chief Executive (MCE) for approval.

Recommendations

Key recommendations made by residents of European town to address the above issues include;

- Building of hostel to accommodate migrant fishers
- Construction of concrete walls that protect processing sheds from the impact of water running down hilly areas.
- Construction of public and or household latrines.
- Implementation of seasonal closures in the fishery to stimulate stock replenishment

Additional opportunities for the ICFG initiative include;

- Awareness raising on child labour in fisheries.
- Strengthening capacity for co-management in all fishery sectors.
- Training programmes on fish handling and sanitation issues.

ESSIPON

Physical Characteristics

Essipon is a large community in STMA with a mix of hilly and low lying landscape. Small farmlands occupy the Northern parts of the community. Few metres away from the main settlement areas (old town) is located a quarry site that has recently halted operations. The shoreline is curved in most areas and forms a contiguous pattern of sandy and rocky beaches. The near shore marine areas are characterised by rocky bottoms and promontories.

Demographics and Settlement Patterns

Essipon is a rapidly expanding peri-urban area. According to population records from the SAEMA medium term development plan (2006-2009), Essipon is inhabited by 1,124 persons. Settlement in the community are characterised by three distinct features. Essipon "old town" occupies the central part of the community, approximately 10 yards from the main highway. These are clustered settlements located on approximately 250 acres of land. However, the spaces between some houses are wide enough to allow the passage of vehicles. The houses in this area are a mix of mud and cement constructed houses with corrugated aluminium roofing sheets and some wooden structures. Fronting most of these houses are kiosks and small shops. Close to the Essipon stadium and on the South-eastern side of Essipon "old town" are the GHA-NOR and Regimanuel estates which comprise buildings with modern architectural designs and mainly two storey houses. The hilly lands that overlook the ocean have been extensively developed.

At approximately 100 metres away from the "old town" are also several housing units under construction. There is a newly built clinic about to be commissioned. There are 2 boreholes and 2 public stand-pipes. There is a vocational school and a Junior high school in the community. The major ethnic groups are Fante, Ewe, Ga and Ahanta.

Economy

In the recent past, the major industry in Essipon was the quarry. This employed majority of the youth within the community. Folding up of this industry since the past four months has resulted in job losses and significant youth unemployment in the community. Most households own small shops and businesses dealing in all sorts of goods and services. Some livelihood activities include subsistence farming and to a lesser extent, some fishing activities. Others are public sector workers with offices located in Sekondi-Takoradi.

Farming

Both livestock and crop farming are practised in Essipon. In addition to one commercial poultry farmer, there are several subsistence livestock and crop farmers. The crops mostly cultivated include plantain, cassava and maize, tomato, pepper etc.

Tourism

Hotels, guesthouses, restaurants and private residences are located on the hilly lands that overlook the ocean. These are occupied by expatriates working in the oil and gas sector.

Fisheries

There is no marine fishing activities practised in Essipon. However, significant fishing activities are undertaken in the Anankwar lagoon, particularly during periods where it is connected to the sea. The cast net is mainly used for fishing. One and half inch mesh sizes are utilized to capture juvenile tilapias while two and half and three inches are used to capture mature tilapia and mudfish. Other species captured are *mamai*, crabs and mullidae. There are no small canoes and crab traps operated on this lagoon. At high fishing periods (rainy seasons), approximately 300 people undertake fishing at a time in the lagoon and fishmongers from surrounding communities travel to the lagoon area to purchase fish. Fishing is prohibited in this lagoon on Tuesdays. It is believed that the "god" of the lagoon takes a bath on such days.

Fish harvested from the lagoon and purchased from other markets by the community's fishmongers are smoked and fried and mainly sold in the community.

Environment

The Anankwar lagoon lies to the East of Essipon 'old town'. This lagoon extends up to about 2 acres in size at the point where it meets the sea. It is seasonally closed to the sea by a barrier of sand of approximately 30 yards. It serves as a source of drinking water for the Sekondi- Takoradi Metropolis and the Shama District. It was indicated that marine turtles frequently visit the sandy areas along Essipon shoreline to lay eggs. Marine turtles are mostly trapped and consumed within this community. There are no forested areas within the vicinity of Essipon.

Local Institutions and Governance

There is an assembly man and a divisional Chief of Essipon including several community elders. There is no chief fisherman or chief fishmonger. There is a community radio for providing information to the entire community.

Key Coastal and Fisheries Issues

Poor drainage. Due to poor drainage, rain water from hilly areas collects on low lying areas resulting in flooding.

Lack of market and community centre. Although the size of the community is rapidly expanding, there is no market and community centre in Essipon.

Dilapidated school buildings. The building housing lower primary pupils in Essipon need refurbishment.

High unemployment. The fold-up of the quarry has led to high unemployment of particularly the youth in this community

Coastal erosion. The coastline has been severally eroded. It was expressed that sand wining at the shore and construction of the Takoradi harbour triggered coastal erosion. It was also indicated that erosion had thwarted the operations of a hotel that was formally situated very close to the shoreline.

Recommendations

Key recommendations made by the community residents to address the above issues include;

- Construction of drains.
- Construction of market and community centre.
- Refurbishment of junior high school buildings.

Additional opportunities for the ICFG initiative include;

- Awareness raising on and conservation of marine turtles.
- Wetland conservation- Anankwar lagoon.

5.0 Rapid Assessment of Coastal Communities in the Western Region: Summary of Findings for Ahanta West District

Background

A rapid appraisal was conducted in 16 coastal communities in Ahanta West District of the Western Region of Ghana from February 24 to March 15, 2010. The communities covered were: New Amanful, Funkoe, Adjoa, Pupuni, Asemkow, Butre, Busua, Dixcove, Achowa, Akwidaa, Cape-Three Points, Aketeki, Princess town, Awonakrom, Egyambra and Miemie.

The purpose of this assessment was to generate primary information that will ultimately contribute to establishing the overall baseline coastal conditions for characterization of the coastal communities. This appraisal collected mostly qualitative information and some quantitative data on issues relative to fisheries, community infrastructure, governance and institutions, local habitats and perceptions of resource management. The research team comprised six members and spent a day on the average, in each community. Data was collected through focus group discussions, participatory mapping, direct observations and key informant interviews. Information was also gleaned from secondary sources, particularly the Ahanta West District Assembly Development plan. A district validation workshop was conducted to collect additional information and validate data gathered during the rapid assessment.

This report provides a brief overview of the Ahanta West District as well as a synthesis of key fisheries, coastal and other coastal community development issues that were revealed during the field assessment. The Annex provides profile information and specific issues for each of the coastal villages within the District.

Profile of Ahanta West District: Brief History

The Ahanta West District was formerly under the jurisdiction of the now Sekondi-Takoradi Metropolitan Assembly (STMA) but was carved out of the authority in 1988 as a result of its large size and became an autonomous district.

Physical Characteristics

The district is located at the southern-most part of the country and the entire West African Sub-Region with its capital Agona Nkwanta, also known as Agona Ahanta. It has a total land area of 591 square kilometers and occupied by 95,140 people according to the 2000 Population and Housing Census report. The District is bounded on the East by STMA, on the West by the Nzema East District, and the North by the Mpohor Wassa East and Wassa West Districts with the Gulf of Guinea at the South. The District is about 15 minutes drive from the commercial capital of Western Region, Takoradi and about 25 minutes drive from the administrative capital, Sekondi. In terms of distance, it is approximately 25 kilometers

from the central business district of Takoradi. This proximity to the central business district of Takoradi enhances business and trade in particular. (Ahanta West District- Draft MTDP).

Governance

Local

The development process is directly linked with the institutional and administrative set up in the district. The District Assembly is the highest administrative and political authority in the district. Under Section 10 of the Local Government Act, 1993 (Act 462) the Assembly exercises deliberative, administrative and executive functions in the district. It is responsible for the overall development of the district.

The political and executive head of the Assembly is the District Chief Executive. Under section 20(2) of the Local Government Act, 1993 (Act 462), he is the Chairman of the Executive Committee of the District Assembly. He is responsible for the day-to-day performance of the executive and administrative functions of the Assembly and the supervision of its various departments.

Administratively, In Ahanta West District, there are 26 decentralized departments, 6 Area Councils namely: Abura, Agona, Dixcove, Busua, Apowa and Ewusiejoe Area Councils. The total sum of the Assembly Members is 46; 30 of them are elected and 15 of them, appointed including and also the District Chief Executive. The Member of Parliament is also an Ex-officio member. The District form one constituency and thirty (30) electoral areas. There are also 95 Unit Committees which form the base structure of the Local Government system. They are expected to play important roles in education and organizing communal labour, revenue mobilization and ensuring environmental cleanliness and implementation and monitoring of self-help projects. (Ahanta West District- Draft MTDP).

Traditional

In Ahanta West District, there are three paramountcies namely, Busua, Upper Dixcove and Lower Dixcove with the Ahantahene (Omanhene) at Busua. Under each of these paramountcies has Divisional Chiefs. The Traditional Authorities are land owners and are dedicated to the development of their traditional areas. Without their support no development project can be carried out. They have a part to play in facilitating government policies and mobilizing their people for development, of particular importance is the role of the traditional authorities in support of land administration reform, a key factor in economic growth and in the protection of the vulnerable and excluded. This offers positive contribution to economic and social transformation. Traditional Authority can therefore be regarded as part of the decentralization process. (Ahanta West District- Draft MTDP).

Demographic Characteristics

There are 123 communities in the district and out of which 16 are coastal. According to the Population and Housing Census report, the District had a population of 39,957 and 58,181 in 1970 and 1984 respectively. In 2000, the total population of the district was 95,140 made up of 49,116 females and 46,024 males. This increasing rate of population has been attributed but not limited to high immigration of fisher folks, uncontrolled births and teenage pregnancy. The average household size is about 5.9 and the population density is about 161 persons per square kilometer.

The current population growth rate is 3.2% which is the same as the regional growth rate but higher than the national growth rate of 2.7 percent. According to the current census statistics, children less than 15 years account for 42.6% of the population compared with the national figure of 41.3%. The economically active population (15-64 years) accounts for 52.3% as against the national figure of 53.4% and the elderly or the aged (65 years and above) accounts for 5.1 % of the total population compared to 5.3% of the national figure. The analysis of the population structure reveals a high economically active population of 52.3%, which indicates an immense human resource potential for development. This may be attributed to in-migration of labour to seek employment in the district's agricultural and timber industries. (Ahanta West District- Draft MTDP).

The bulk of the population is Christians with Traditionalists and Muslims making up a smaller proportion. About 65% of the total population is employed in the agricultural sector. The remaining is engaged in small-scale trading, fishing and the formal sectors. Migration is a common practice in the fishing industry, with the coastal communities experiencing influx of fishermen, particularly during the high fishing seasons between July and September.

Ahanta is the main ethnic group as well as the major language spoken in the district. Other languages spoken are Nzema, Ewe, Nzema dialect and Fanti. Relative to the chieftaincy, the paramount Chief of Ahanta traditional area is seated at Busua. Other key traditional rulers are seated at Upper Dixcove and Lower Dixcove. The main festival in the District is Kundum which is celebrated in August every year. The Kundum festival is a major unifying force because it brings together families and people from in and outside the District. During this festive occasion, citizens contribute financial and material other resources towards development projects.

The most populated areas in the District are Apowa, Agona, Abura and Dixcove. Other settlements are sparsely populated. The populated areas have access to infrastructure and other services such as schools, health centres, potable water, electricity and telephone. There are 276 basic schools and three second cycle institutions in the district. (Ahanta West District- Draft Medium Term Development Plan (MTDP)).

The district has 13 health facilities comprising a hospital at Dixcove, 3 health Centers located at Agona Nkwanta, Apowa and Abura and 9 Community health posts at Akwidaa, Princess town, Ewusiejoe, Kejabile, Asemase, Butre, Egyambra, Egyam and New Amanful. The top three diseases prevalent in the District are malaria, typhoid and pregnancy related complications (Administrator, Dixcove hospital, March 3, 2010).

Economic Activities

Farming is by far the major economic activity undertaken in the District. It is estimated that about 65% of the active population is directly involved in agricultural production. In earlier times, the major cash crop cultivated was coconut but in 1964 the Cape St. Paul Wilt Disease which was first seen at Cape Three Points destroyed and wiped out thousands of coconut palms. This brought untold hardship to the people particularly those at the coastline which resulted in most coconut farmers diverting into rubber plantation. Oil palm and rubber are now the major cash crops. The Norwegian Palm Limited (NORPALM) and the Ghana Rubber Estates Limited (GREL) are two major agro-based factories that produce edible and industrial oil palm and industrial rubber respectively in the District. Large tracts of land in the district are under cultivation for both oil palm and rubber by these two companies. From

1964 to 2010, GREL has acquired large plots of rubber plantation and has employed about 2,500 people in the District (Ahanta West District- Draft MTDP).

Akpeteshie distilling is also an important agro-based activity in the district.

The fishing industry employs about 25% of the population and mostly immigrant fishermen. The participation of local people in fishing activities has gone down from about 30% to 25%. This downward trend is a result of increase in acquisition of formal education by the people and decline in fish catch and other fisheries issues. Dixcove, a coastal community in the district, is one of the oldest and well-known fishing communities in the country and noted for its catch in sharks, tuna and lobsters. Other important fishing communities in the District include Funkoe, Butre, Aketekyi, Akwidaa, Adjua, Egyambra and Cape Three Points. Currently, about 70% of the fishermen have shifted from the use of paddles to outboard motors after the latter was introduced in the 1960s in the district.

Many timber and sawmills are located in the district. Notable among them are GDC Limited, Western Veneer Lumber Company, Mondial, Metro-Star, Farouk Industries and Primewood Ltd. These companies and few financial institutions (rural banks and micro-finance) are other major sources of employment.

Tourism Development in the District has not been given the needed impetus even though the District has great potential for cultural, historical attractions such as the old slaving forts, as well as good beaches. Among its finest beaches are Monica Beach at Pupuni⁵, Adjoa Beach, Victoria Beach at New Amanful, Busua Beach, Miemia Beach, Princess town Beach and Cape Three Point. Other tourist sites are Fort Metal Cross at Upper Dixcove, Fort Batenstein at Butre and Fort Fredericksburg at Princess town. Others are canoe paddling, crocodile pond, monkey sanctuary and the light house at Axim among others.

Environment

The District is generally flat land with a few isolated hills at Butre and Bansa with height ranging between 20 to 40 metres above sea level between Cape Three Points and Princess Akatekyi. Some of these hills are the sources of some rivers in the District. In the coastal communities except New Amanful, Funko, Busua and Princess town, the rest have some hilly areas towards the eastern and western part of the communities

The coastline has features such as capes and bays especially at Cape Three Points. As a result of the sandy nature of the coast, it has attracted beach resorts along the coastlines. The shorefront of most communities in Ahanta West District has been eroded between 50-200 meters in the last 4-5 decades due to sand winning. The construction sector in the coastal areas relies heavily on coastal sand and pebbles in the building of houses, bridges and roads. However the process of sand winning has accelerated coastal erosion in many areas. .

Major rivers in the district include Butre⁶, Whin, Suoni, Nyila and Yani whilst Ehonle, Mabowodindo, Akpluho, Mfuma and Nana Pete are the main lagoons. Over the years,

⁵ where a major oil refinery will soon be constructed

⁶ largest river in the District

these rivers and lagoons have been negatively impacted by human activities, particular felling of mangroves for fuel wood and improper solid waste disposal.

The only forest reserve in Ahanta West District is that of Cape Three Points and doubles as the only primary forest in Ghana that is closest to the sea. It has maintained traces of natural environment and occupies a total area of 51,102 square kilometers. The forest reserve has a wide variety of tree species, butterflies, monkeys and birds. (Ahanta West District- Draft MTDP).

Land Use

High population growth rate and population density is increasing pressures on land and contributing to settlement expansion resulting in rapid diminishing of farmlands.

Prior to Cape St. Paul Wilt disease⁷, coconut plantation occupied vast areas of land as it was the main cash crop cultivated by farmers. However, rubber plantation which started around 1960 took a greater portion of land and continues to do so. GREL have acquired large tracts of land for rubber plantation. From the 1990s, interest in rubber plantation by individuals was intensified as a way to increasing their income levels; giving room for expansion in rubber plantation and use of land. (www.ghanadistrict.com)

Oil palm plantation is another key land use in the district. NORPLAM is a major owner of vast land for oil palm plantation. With the decline in fish catch, some fishermen are shifting to farming and those used to combining the two (fishing and farming) are keen to acquire large acres of land for oil palm and rubber plantation.

Another major land use is the construction of hotels and resorts along the beaches since 1990. Shoreline construction is now on the increase. It is however believed more coastal lands will be used to develop hospitality businesses associated with the oil find. Some residents alleged traditional chiefs have already sold/leased and still selling/leasing large tracts of land to both foreign and local individuals/companies for various uses yet to be seen. Also, various places have been earmarked for major oil/gas works including refinery factories.

Key Coastal and Fisheries Issues in the Ahanta West District

Discovery of the oil in Ahanta West District, which with its proximity to the capital of the Western Region has increased the potential for industrial and other related development. There is therefore a mass rush for lands by prospective investors and speculators as well as pressure on the coastline for development of hospitality industry in the future. During the rapid assessment, it was reveal that shoreline of Busua community has all been sold out for hospitality business and in the future fishermen in this community will have no space to put their vessels and mend their net. This issue has been of a great concern to fisherfolks in that area. In view of this, the District Assembly is positioning itself strategically to ensure the orderly development of the District to avoid haphard development. The Assembly has therefore sought the Assistance of the Korean Embassy for the development of a Strategic

⁷ the disease attacked and destroyed coconut plantations in 1964

land use planning scheme, to build a modern city in the District. (www.modernghana.com/news2/214531/1.)

Again, there are several issues posed by human activities and environmental conditions in the District. This was revealed during the field assessment. Most of these issues are challenges that need to be addressed; some provide opportunities for promoting governance and socio-economic development in these communities. The following issues were gleaned from field interviews in 16 fishing communities as well as the district validation workshop

Fisheries Issues

Declining fish catches. There has been a decline in fish catch in the last decade. This has been an issue of major concern to people living along the coast. To them the decline in fish catch is gradually reducing their quality of life because fishing is the major source of livelihood in their communities. The decline in fish catch was mostly attributed to increased canoe numbers due to increasing population.

Unsustainable fishing methods – Most fishermen interviewed hinted on the use of light, carbide, dynamite and pair trawling as highly unsustainable but were quick to add that the less fish stock in recent years is a major contributing factor to the employment of those methods. According to most fishermen, light fishing started in the district in 1980.

Poor fish quality and consequently poor life span of processed fish- Fishmongers and processors in particular expressed greater worry about the short shelf-life of processed fish. Fish brought in from sea perishes in no time due to the use of chemicals fishing (carbide, dynamite etc) and this make smoking of fish very difficult and negatively affect the fish quality.

Inadequate supply and black marketing of premix fuel— Supply of the fuel that powers outboard motors are woefully inadequate in many coastal communities. In other cases, the fuel is sold to non-fishermen who later sell at higher prices to fishermen. These middlemen undoubtedly create artificial shortages of the premix fuel in addition to the natural shortage that occurs during the major season when migrant fishermen add up to the numbers of local fishermen.

Negative community perception about premix issues : Most residents expressed their concern about funds that accrue from premix sales especially the share of the profit to the community and lack of transparency in constituting landing beach committees thereby reducing their legitimacy.

Conflicts between artisanal and semi-industrial fishers/boat--- This usually occurs when nets of canoe fishermen get entangled with that of bigger vessels (industrialized and semi-industrialized trawlers) and the net of the former is destroyed. This result in heated confrontation between the two parties and sadly one led to the death of a crew member at New Amanful.

Non existence /weak local institutions for managing the fishery – In all the coastal communities in the District, there is no Community Based Fisheries Management Committee. Notwithstanding, the influence of demographic and market pressures have weaken the roles of the chief fishermen and their council of elders including the chief fishmonger.

Coastal Management Issues

Incidence of sand winning and sea erosion—Most coastal communities in the district has in the last few years seen massive sea erosion where most coconuts and buildings close to the shore have been eroded. Some key informants attributed the incidence to high rate of sand winning in the communities and believed a sea defense wall will be a major help.

Destruction of mangroves (*nrateke*) ---cutting of mangroves has been on the ascendency in most part of the district particularly in Butre and other neighbouring communities. Fishermen use it for nets dying and as fuel wood for the fishmongers and processors. According to some fishmongers, it adds good taste to the smoked fish.

Other Issues of Concern in Coastal Communities

Community perception of inadequate government representation and attention. Communities with no assembly members feel neglected as they have nobody to forward their challenges to the District Assembly and complain of a big gap between the community and the District Assembly. Even communities with assembly members who reside in other communities claim they hardly pay visits and only see them during general elections.

Chieftaincy disputes-- In some communities development in almost all sectors has slowed down because of the persistent chieftaincy problems.

Poor road access/infrastructure--Most of the roads leading to the coastal communities are feeder roads except Dixcove, Busua, New Amanful, Adjoa, Funko. It is therefore difficult to travel on these roads during raining season. Due to the nature of the road, it is very difficult to get public transport to the communities

Rising social problems due to emerging oil and gas sector—these problems include likely forced resettlement due to oil and gas development, restricted fishing areas around oil rigs and negative community perceptions concerning oil and gas benefits. Inhabitants of Pupuni will soon be resettled. According to them, government has bought vast plots of land for oil activities and has promised to resettle the community, because of this, developmental activities has ceased.

Poor sanitary facilities and lack of basic amenities —Sanitation in most parts of the district is very appalling; solid wastes are dumped at the beachfront and into lagoons .Efforts made by the Zoomlion and Zoil has produced no significant change in the sanitation condition. Also, there is general lack of infrastructure including primary and Junior High school, electricity, pipe-borne water, public toilet, health post and refuse containers.

References

Ahanta West District, forthcoming. Draft Medium Term Development Plan (2010-2013). 129 pages

Modern Ghana News, www.modernghana.com/news2/214531/1, Tuesday May 5, 2010

Tullow Ghana, 2009. Draft environmental impact statement. Ghana Jubilee Field phase 1 Development.

Amador, K. Bannerman, P. Quartey, R and Ashong R. 2006. Ghana canoe frame survey 2004. Information report number 34. Marine Fisheries Research Division, Ministry of Fisheries. Ghana 43pages.

Kwei E.A, Ofori-Adu D.W(2005). Fishes in the coastal waters of Ghana. Ronna Publishers-Ghana.
Ghana Districts, 2006. http://www.ghanadistricts.com/districts/?r=5&_id=132&sa=2877
(assessed on May 14 2010)

Appendix 1:
List of Key Contacts

Name Of Community	Contact Person	Position	Telephone Number
Adjoa	John Kobina	Fisheries Officer	0277896687
Asemko	Fanta's folly	Owner	0243213677
Butre	Robert Yankey	Teacher / Ahanta Youth Association	0242609074 /0272210917
	Hon. Florence Abeka	Assembly member	0245522915
	Tourist center	Officer	0207473134
	Nana Ekow Eshun		0207794864
Busua	African Rainbow Resort		031-91357 /0206559899
	Nathaniel Ansah	Fisherman	0241308598
	Aba Miana	Fishmonger	0241308598
	Nana Kwakuno	Fisherman	0241308598
Dixcove	James Abeka Atta	Teacher (Upper Dixcove)	0278596264
	Mr. Johnson	Technical Officer	0242439621
	The Administrator	Dixcove hospital	0203688400
Akwidaa	John Ranford Atta	Secretary –Chief Fishermen	0245858684
	Thomas Cudjoe		0246220559
Cape Three Point	Albert Cudjoe	Fisheries Officer	0241108605
Princess	Samuel Darko	Tour guide	0541743369/ 0209894084
	Nana Kwesi Olando	Opinion leader	0246399743
	Joseph Mensah	Fort Guide	0243269469
Aketekyi	John Kwame Saakyi	Assemblyman	0246865012 0201935722
Miemia	Mr Allotey	Gen. Mgr KEDAS Lodge	0543431788
Agona-District Assembly	Seth Ankoma Sey	Planning Officer	0242718312
	Albert Bonney	MOFA	0208361417
Funkoe	Kofi Nyesua	Fisherman	0285334863
	Papa Job		0275973052
Pupuni	Anthony Awotwe	Secretary to Chief fisherman	0203104475
	Francis Takyi	Fisherman	0272037879

Appendix 2: Landing Beach Committee Issues

Landing Beach Committee –Dixcove

From 1993-1999, there used to be a committee called Fishermen Service Centre which was selling premix to the fishermen. From 2000-2008, the chief fisherman and some NPP faithful (ruling party at the time) who were in charge of the distribution activity. Now the distribution and sale of premix are done by the Landing Beach Committee (LBC). There are two landing beach committees in Dixcove; the Upper and Lower. The supply has not been regular as expected. Now, (the time of our visit) supplies for the 2nd and 3rd weeks of February have not arrived. In situations like that, we go to nearby towns such as Busua to buy premix. Membership of the landing beach committee is made up of the following:

The Chief Fisherman (Chairman)

- Konkohene
- A member of the Canoe Owners' Association
- A representative from the Ministry of Food and Agriculture
- A representative from the office of the District Chief Executive
- Pump attendant
- A secretary to the group

Source: Interview with a canoe owner (LBC member)

Landing Beach Committee – Butre

Before the year 2000, fishermen used to buy premix from Dixcove. Assistance from ‘Nana Alex Asamoah’ (a community leader) ensured the supply of premix once every three months—four times in a year. After the year 2000, things changed; there was supply every 6 weeks. Currently, that is after the formation of the Landing Beach Committee, there is supply every two-three weeks of sixty drums (3000 litres) which is sold at GHC2.60 per litre. Constitution of the Landing Beach Committee is as follows;

- The Chief Fisherman serving as the Chairman
- Chief Monger (Konkohene, a woman)
- A member of the Canoe Owners’ Association
- A representative from the Ministry of Food and Agriculture (MOFA)
- A representative from the office of the District Chief Executive
- Pump attendant
- A secretary to the group

Proceeds of the premix are shared as follows

- Community 53%
- Chief fisherman 12%
- Secretary 10%
- Pump attendant 7%
- Reps from MOFA / DCE office/ Canoe owners 18%

The committee meets on emergency situations, especially when there is no supply of premix. The chief fisherman, canoe owner and secretary are the signatories to the committee’s bank account. Canoes from Dixcove, Asemko and other communities rely on Butre for premix fuel when their various communities are short of supplies. Fishermen at Butre in turn go to these communities to purchase premix when there is shortage. Supply is woefully inadequate during the major season. It is usually shared as follows:

- Mpatano-3 drums,
- Wokye -2.5 drums and
- One drum for the others.

The size of an outboard motor (big/medium) is factored in the sharing of the fuel. Conflicts mostly occur during the major season when supply is inadequate. It is however resolved through dialogue with the canoe owners.

Source: Interview with LBC Pump attendant

Appendix 3: Description of Fishing Gears

Gear Name (English)	Gear Name (Local Fanti)	General Description	Species Caught
Ring Net/small purse seine	Wokye	This type of net is usually used by large canoes in the major season. The net is made of thread and is about 20mm with the size of 400-450 yards. These canoes usually have a small canoe which carries generators for light fishing. They take on board 18-23 crew members and set off at 5pm and land at 8am the next day. They usually target pelagic species but are able to catch demersal species too.	All species of fish Round\flat sardines
Drift Gill Net (surface)	Ahyekon	The difference between the Ahyekon canoes and the Wokye canoes is not much. The net is made of thread and twine is used to mend the net. It is used in the major season (July-October)	Tuna, marlin, Congo dentex etc
Hook and line	Asosow	Hook and line can be categorized into two. One – man canoe and medium size canoe. The one-man canoes do not go far (about 10-15meter zone) but the medium size canoes fish around 60 meter zone and above. It targets big demersal fishes as well as large pelagics but are able to catch demersal species too. They employ 5-10 crewmen and spend about 4-6 days on sea. They take on board ice blocks and food stuffs. Hook and line is used all year-round without any major and minor seasons.	Red fish, tuna, sea bream snapper, grouper, yellow fin, Doctor fish
Bottom set net	Tenga	This gear is operated by 3-7 crew members. The smallest mesh size is 10mm ² . There are also 20mm ² mesh sizes of these nets. These nets target both demersal and pelagic species. It is made from fibre / polyethylene material which could be about 200 yard long and 1.5 yards wide. It is operated from small and medium-sized vessels. They set off at about 3.00 a.m. and land at 2.00 p.m. the same day. This gear is set for about 3-4 hours before it is hauled. They are employed in the minor season.	All species of fish like Cassava croaker, Guinea sole, Pink dentex / sea bream long finned herring, ribbon fish etc

Appendix 4: Description of Fishing Vessels

Canoe Type	Local Name(s)	General Description	Gears Used
<i>The marine artisanal fishing canoes are categorized and named after the types of gear used</i>			
One-man canoe (Small canoe using paddle)	One-man canoe / Dokuwa/ Nkoba	One man canoes are normally used by one-person. The preferable wood is wawa and operate bottom set net, small drift net and hook and line. The size range is about 4-6m long and 0.40-1.20m wide with 5-6 seats. This type of canoe is usually used paddle.	Bottom set net, small drift net, hook and line
Small Canoe (motorized)	Tenga / Karadze / Esema hyen Twuwii	The small motorised has a length of about 8-9m with 9seat, taking on board 3-7crew members. It is mostly made of Wawa <i>Triplochiton scheroxyyton</i> and propelled by 15-25hp outboard motor which is mounted on the read right (starboard) side of the canoe. It uses pre-mix fuel.	Bottom set net / Drag net
Medium size Canoes (motorized)	Ahyekon / Nifa-Nifa / Mpataku / Adado Asosow	The length of about 10-15m with 11-13 seats. These types of canoe normally employ a crew of 4-7members. It uses 25-40hp outboard motor.	Drift Gill net (DGN) / Hook and Line
Large Canoe (motorized)	Wakye canoe	The large canoes are normally used to operate 'Watse'net. The size normally range from 19.5-20m long and a wide of about 2.4m with 15 seats and take on board 18-26 crew members. This type of boat is built with Wawa boards. They are always propelled by 25-40hp outboard motor.	Ali / Poli / Watsa or Ring net

Appendix 5: Output from District validation workshop

Variable	Timeline	Events	Response	Impact
FOREST Deforestation Reduction of forest size Bad farming practice	1980-2010	Rubber planting Bad farming practices	National tree planting in 2000	Poor rainfall Wildlife threatened Reduction in wildlife No wind breaks
FARMLANDS Long distance farming	1995-2010	Rubber plantations occupying lands Settlement/sale of lands	No response	Extra cost of transportation Low food production Food spoilage Low income Poverty
SETTLEMENT Increased number of houses High cost of lands Block building roofed with iron sheets	1985-2010	High population Teenage pregnancy Migration No family planning Resettlement of fishmongers shed	Family planning education Worker wants new work places	High cost of lands Improved sales and income Enhanced social amenities. Increase in crime rate. Poor attendance of pupils to school.
SHORE FRONT CONSTRUCTION Sea erosion due to sand wining, construction of resorts and reduced sizes of shore fronts Sale of beach	1980-2010	Sand wining Indiscriminate sale of land	Sea deference construction in certain communities.	Improper landing beach site
DEMOGRAPHY EDUCATION AND LITERACY Reduction in literacy and quality of education	Since 1990 Commencement of private basic schools-1995	Lack of trained teaches Bad attitude of children Poor parental control. Educational reforms.	Upgrading courses for teachers Construction of teachers bungalow FCUBE Free supply of exercise books and test books.	Regulations by communities Assembly bye laws lacks enforcement Obedient pupils progress in academic work. Increase in teacher training education.
POVERTY AND INCOME Increase in poverty due to low harvesting of fish.	1980-2010	Pair trawling Use of chemicals Light fishing	Swearing of oaths by fishermen	Low education Poor health Poor clothing
HEALTH Major diseases Guinea worm Measles Hernia	Before 1980s	Lack of portable water Mosquito breeding site due to poor sanitation	Supply of mosquito nets to pregnant mothers and children by health authorities De-silting of streams Expanded health facilities	Reduction in death rate Low output of work (poor production).

Elephantiasis Chicken poles			Free immunization Health insurance(NHIS) Introduction of zoom lion, zoil etc.	
Malaria Cholera	After 80s to 2010			
POPULATION	1980 -2010	Migration of fisher folks Uncontrolled births Increase teenage pregnancy	Education by PPAG and Ministry of health on family planning Media Education High moral training	Improved sales Increased poverty Increase in production

Cont'd Appendix 5: Output from District validation workshop

Variable	Timeline	Events	Response	Impact
Forest: Shortage of trees	2000-2010	Deforestation	RC and creamer have helped in Educating the community.	Shortage of fish, global warming, destroying of lodes migration of animals.
Beach: Unhealthy environment	2010	Dumping of refuse. Defecation	Through the help of zoil, our beach /environment is now clean.	Erosion
	1994	Sanding wining		
	1990-2010	Foreign nationals enjoy the beaches		Development Clean environment at the beaches. Boasting of Education/Tourism
Establishing of hotels along the beaches				
Rives; Dumping of refuse	1970-2010	Getting land Lack of dustbins in our various homes	Zoil	Sickness Floods Destroying of tourist attractions
Mangroves		Fire wood Poverty	Fines, Community guards RC/Creamer and care international	Reducing population of the fishes in our rivers
Wetland: Dry lands		Cutting of trees		Poverty
Fishery: Lighting	1980-2010	Fishermen learnt from the foreign national	Government has done nothing about it.	Sickness Increasing rate of death The rich getting more money
Rapid diminishing of lands.	1960-2010	Rubber plantation		Increasing rate of employment Building of school, toilet.etc.
Individual Rubber plantation	1990-2010	Income generation	No response from government	Good living, Chiefs giving out lands Disputes, Farming
Destroying of coconut trees	1981	Saint Paul white disease	Government gave new seeds	Poverty Increasing of death
Farming: Using of chemicals	1989-90	Getting more food and money		Sickness Increasing fruits or produce
Hunting:	1985 -2010	Use of chains-saw	Wildlife initiative Creamer initiative	Not getting bush meat Poverty

Trading:	2000-2010	Reducing rate of fish.	These has been government interest	Poverty
Formal Sector	1990-2010	Government Ghana Rubber Estate		Increasing income, Employment Increasing population

Annex C:Coastal Village Summaries for the Ahanta West District



Women buying fish at Miemia landing site
Photo credit: Nana Efua Ewur



Shoreline of Adjoa
Photo credit: Nana Efua Ewur

NEW AMANFUL

Brief History

The people of New Amanful migrated originally from Gomoa Brofoyedur in the Central Region of Ghana and settled at areas around present time Takoradi Harbour. Due to the construction of the Takoradi Harbour, which commenced in 1926, they were resettled at Amanful East in Takoradi town and at their present location in the Ahanta West District. .

Physical Characteristics

New Amanful is a fishing community in the Ahanta West District. It shares boundaries with Adakope (a community in the Sekondi-Takoradi Metropolis) in the east and Funko in the west. The land is relatively flat with minor valleys at the northern part of the community. The shoreline is characterized by a long sandy open beach front with pounding surf. There is no natural harbor, but there is a river called Whin which serves as a boundary between the Ahanta West District and the Sekondi Takoradi Metropolis.

Demographics/Settlement Patterns

New Amanful is the first coastal (fishing) community in the eastern part of the Ahanta West District. The community is a composition of Fantis and Ahantas. According to the 2000 Population and Housing Census, the community has a population of about 1,691. It currently has a projected population of about 2402 with an average of five per household. The town is divided into two; the Old and New sites. Most of the buildings at the new site are made of cement blocks and aluminum roofing sheets whilst structures at the shore are mostly made of wood or bamboo. Houses are tightly clustered at the old site and have no access routes making it difficult for vehicles to pass through. There is a government school with a kindergarten, primary and junior high school facilities as well as a community health post. The community has plans of putting up its own clinic for which land has been demarcated. There are five churches in the community but no mosque. There are several waste dumping sites in the community located close to public toilets. However, there are no refuse containers and refuse is poured on the ground. Residents at New Amanful anticipate that in 10 years time, city authorities will provide refuse containers for these dump sites.

Education

Enrolment for the Junior High School of the New Amanful government school as at the 2009/ 2010 academic year was 90 with five trained teachers and three national service personnel. 23 students sat for the 2009 B.E.C.E. Out of this number, 56.6% passed and 43.4% failed. The situation has been attributed to the decline in fish catch which residents say is affecting the quality of life and living standards thereby affecting the standards of education of their children.

Economy

New Amanful is a fishing community but most people are engage in business in Takoradi as well. Almost all these people with the exception of the fishermen move to Takoradi everyday to transact business. There is no commercial market in the town, the women who process the fish (smoking) either send their goods to Takoradi or the Agona Market. There are a few small scale shops like

drinking spots, chop bars, hair dressing saloons, etc. At the outskirts of the town is a wood processing company called MONDEL and about 60% of the workers are from New Amanful.

Tourism

The New Amanful Beach Resort is located at the western part of the community. It currently has no lodging facility but has plans of putting up one. It started operating about five months ago (October 2009) and is mostly patronized by residents of the Sekondi Takoradi Metropolis and others. Another popular spot is the B.B.K (drinking spot) which is highly patronized on Sunday evenings by residents in Takoradi and nearby towns. The patronage has been attributed to the strategic location of the spot close to the beach and people usually prefer walking there from the coast of Takoradi rather than using vehicles.

Farming

Few people in the community are engaged in subsistence farming; they cultivate cassava, tomatoes and pepper. The months of August and September are regarded as good for farming as well as for fishing because it is the fish bumper season.

Fisheries

Few people in New Amanful are into fishing. Along the beach front lie a sizeable number of canoes. In the past twenty years, there were about ten canoes all of which used paddles. Presently, there are about 35 canoes most of which are motorized. There are two main seasons; the major season 'Mawura' which starts from July to October while the minor season "Harmattan" is from January to June. Fishermen in New Amanful are basically artisanal fisher folks. There are approximately four variations in the size of canoes. Each type has a different crew size and fishing gears. The large canoes are 20 yards in length with 15 seats and take on board between 18-23 crew members. They use bottom set net. The second category uses gill net, (*Ahyekon*) and is 10-14 yards in length with 13 seats and takes on board 4-7 crew members. The third category also uses bottom set net "Adado" with a length of 15-17 yards and employ between 6-7 crew members.

Fishing sharing system: Proceeds from the sale of fish are shared among the fishing crew based on laid down agreements. It is shared equally (50:50) between the crew members and the canoe owner after expenses are deducted.

Fishing holiday: Tuesday is regarded as non-fishing day.

Processing/Marketing: Fishmongers in New Amanful buy fish directly from the fishermen either on cash or on credit. Most at times, when the fishermen are not able to go to sea due to lack of premix fuel, the fish mongers go to Sekondi to buy fish which they sell either fresh or smoked. The smoked fish is marketed at the Agona Market or Takoradi Market because there is no commercial market in the community. Below is a table showing the canoe / gear used and the respective various fish species catch.

Table: Summary of Gear Types Utilized and Fish Species Harvested at New Amanful

GEAR USED		No. OF CREW	FISH SPECIES			SEASON
Local Name	English Name		Local name (Fanti)	English name	Scientific name	
Ahyekon	Drill Gill net	5-10	Wiriwinwa	Congo dentex	Dentex Congoensis	Major season
			Kokodudu	Red Mullet	Pseudupeneus prayensis	
			Apoku	Atlantic little tunny / Tuna	Euthynnus alletteratus	
Tenga	Bottom set net	2-4	Aberewanhon	Guinea sole	Synaptura cadenati	All seasons
			Ekan	Cassava croaker	Pseudolithus typus	
			Isire	Pink dentex / sea bream	Dentex gibbosus	

Local Institutions and Governance

The Chief of this community is called Nana Yale-Kwaw Asamoah. The Yale Kwaw is the stool name but they pay homage to Nana Baidoo Bonsoe XV, the Paramount Chief of Ahanta Traditional Area. The community has a Chief fisherman, an Assemblyman and a Chief Monger “Konkohene” but sadly, the Chief Monger is not recognized by the fish mongers neither the fishermen. Also, there is no organized women group and no CBFMC but an active LBC.

Key Coastal and Fisheries Issues

Declining fish catches - All individuals and groups interviewed at New Amanful (the chief fisherman, canoe owners and crew, fish mongers/ processors among others) said there has been a decline in fish catch in the last decade. They attributed the decline to the following:

Pair trawling- The pair trawlers which are expected to fish beyond a prescribed 30 meter zone now operate below the zone. The trawlers normally throw the unwanted fish species (smaller fish) they catch back into the sea which pollute the sea and force remaining fish species to move further away into deep sea where the canoes (artisanal fishermen) are unable to operate.

Light Fishing- Light fishing began among canoe fishermen a few years ago. During that time they were fishing below a 30 meter zone. They normally used purse seines and drift gill nets. The light fishing has now been adopted by many fishermen further east including canoe fishermen and inshore fishermen in Sekondi, Axim, etc. Many of these fishermen now go beyond the 30 meters depth contour.

Conflicts at Sea - Conflicts sometimes occur at sea when the nets of canoe fishermen get entangled with the nets of industrialized and semi-industrialized trawlers. This results in confrontations between crew members of the two parties. One of such confrontations at New Amanful resulted in the death of a crew member at sea and his body has since not been found.

Inadequate supply of premix - One major problem facing fishermen in New Amanful is the adequate supply of premix fuel. The LBC is supposed to get 3000 litres of premix fuel every month. This consignment is sometimes less than the requirement. The committee received its last

consignment of the year 2009 in September and the first supply this year on 23rd February 2010. The inadequate supply has led to reduced fishing expeditions.

Poor organization and empowerment of women fish mongers and processors –The chief monger of New Amanful is not recognized. The women fish mongers and processors do not have association. Below are some challenges facing the fish mongers:

Lack of Capital: Many complain about lack of start-up capital or loans to expand their business. Few are able to obtain loans from banks and other financial institutions because they have collateral.

High prices of fish: According to the fishmongers, fish is now expensive because of the decline in fish catch. The fishermen spend more money to go to sea especially when they have to buy premix fuel from other premix outlets and fuel stations and catch less fish. They are as such obliged to increase prices of the fish.

Poor quality of Fish: The unsustainable methods of fishing (use of chemicals like dynamite, carbide etc and light fishing) employed by some fishermen have contributed to the poor quality of fish in recent times. This has reduced preservation after processing and causes fish to discolour a few hours after arrival at the landing site.

Difficulty marketing fish: Marketing of smoked fish is a major concern to many women in the community. The communities do not have a commercial market and as such fish processors send their smoked fish to Agona Nkwanta or Takoradi Market Circle. The women complain of harassment by city guards even after paying tolls.

Community Concerns

At the focus group discussion it was revealed that the following are concerns of the people.

- Provision of a commercial market
- Regular flow of pipe borne water
- Provision of refuse containers for the community's dump sites
- Training the youth on alternative livelihood activities
- Facilitating access to credit facilities for the fisherfolks.

FUNKO

Brief History

The people of Funko migrated originally from Apane, a community in the Komenda Edina Eguafu Abriem District in the Central Region in 1875. The first person to settle in the community was Nana Nkani I who became the first chief of the community. The Chief of Funko pays homage to the Chief of Apowa because it is believed that the Apowa chief was the first to see Nana Nkani. The people of Funko are purely Fantis but there are a few Ahantas as well living amongst them who speak Fanti. They celebrate Nyenyi, a festival celebrated by the people in Apane.

Physical Characteristics

Funko is a small fishing community in the Ahanta West District. The community shares boundaries with New Amanful to the East and Adjoa to the west. The coastline is relatively flat with the northern part of the community hilly.

Demographic /Settlement Patterns

Funko has a projected population of 3,567 and an average of six per household. The figure as at the 2000 population census stood at 2,430. Intermarriages are very minimal. According to the Fantis, the Ahantas do not allow under-aged daughters and sons to bury their father when he dies, unlike the Fantis who no matter the age of the child will contribute as a family to bury the father. The houses along the shoreline are either made of mud or bamboo and palm roofing. Houses at the centre of the community are built with cement blocks and iron sheet. The main road that leads to the community is a by-pass opposite the St. Mary's Boys Senior high school, off the Takoradi-Tarkwa road. There is a government school comprising of kindergarten, Primary and Junior high school with a park in between the Junior high school and the primary school. Towards the south-western part of the community is the Chief's Palace. At the south-eastern part of the community is a KVIP/public toilet, and about 100 meters from the public toilet is the main lorry station. Other landmarks are the Catholic, Methodist and the 12 Apostle churches. At the south-eastern part is the Funko Beach Resort.

Education

There is a government nursery, primary and junior high school. Enrolment in the JHS for the 2009 / 2010 academic year stands at 109 with six trained teachers. Out of 46 schools in the District, the school placed 7th in the 2009 B.E.C.E.

Bad fishing seasons are said to be affecting the performance of pupils with parents inability to purchase recommended text books for their wards due to lack of money resulting from low fish catch. Though many parents are illiterate, they are willing to support education of their children to a higher level. It is scarce to see a child (school going age) at the shore during school hours due to disciplinary measures put in place by community leaders. The only problem is the orphaned pupils living with other relatives. They are normally faced with financial constraints and have to sell kerosene, charcoal, catch crabs and sell after school.

Economy

The community is purely a fishing community. Most of the people at Funko are directly or indirectly engaged in fishing and farming activities. The men go to sea while the women buy the fish and either smoke or sell it fresh. Many people in the fishing sector also have farm lands. They usually go to farm during the minor fishing season when fish catch is low. Indirectly, the decline in fish species tends to affect everybody especially petty traders and the school children.

Tourism

Approximately 200 meters from the eastern part of the community is the Funko Beach Resort. It has about six family bungalows and several summer-hats. People all over Sekondi-Takoradi, Agona Nkwanta and the surrounding communities do visit the place for leisure, to have fun and on special occasions and on holidays.

Farming

There are vast farm lands at the western part of the community which stretch to Adjoa, the adjoining fishing community. Almost every citizen is into both farming and fishing but relies more on farming during lean fishing seasons. Farm produce include cassava, onions and tomatoes. Farming is basically subsistence and as such only a small portion of farm produce is sold in the community.

Fisheries

Along the beach front of Funko lie a significant number of canoes. In the past twenty to forty years, all canoes in the community were using paddles and sails and were not motorized. They were about 20. Presently there are 200 canoes. Out of this number 110 use outboard motors and 90 are still using paddles. The motorized canoes use Drift Gill net "Ahyekon" with varied mesh size ($1^{7/8}$ no 4, $1^{3/4}$ no 4, $1^{3/4}$ no 3) and deploy between 4-7 crew members with the length of the canoe to be 9-13 yards. The canoes which use paddles are unable to go farther distances. They operate bottom set net "Tenga" with varied mesh size $1^{5/8}$, $1^{1/2}$. There are two main season: major season "Mawura" which occurs between July-October whiles the minor season "Harmattan" is between January to June. Generally, specific gears are operated at different seasons. The Drift gill net is operated during the major upwelling season (July - October) whiles bottom set net is operated between January to June. According to the crew interviewed, the fishing industry has changed over time; the fish used to be closer to the shore and as such fishermen were not going far but these days they have to go far before they can make little but good fish catches. They again indicated that in the past 10 years, many fishermen migrated from their original towns and homes to the community during fish bumper seasons and left around December-January but were quick to add that the trend has now halted due to the decline in fish catch.

Fish sharing systems: The proceeds from fishing expedition are shared equally between the crew members and the canoe owner after expenses are deducted. It should also be noted that the canoe owner after getting his 50% share is given something extra because he is recognized as part of the crew and therefore has another share in the other 50% profit that goes to the crew.

Fishing holidays: In Funko, fishing on Tuesdays is seen as a taboo and as such is observed by all fishermen in the community. Apart from Tuesdays, the fishermen do not go to sea when they believe through observation that the sea is rough and those with motorized canoes avoid fishing expeditions when there is shortage of premix fuel.

Processing and Marketing: The fish is processed either fresh or smoked by the fishmongers. Only a small portion of the fish processed by the women is sold in the community. Majority is sold at Agona, Tarkwa, Takoradi and Kumasi.

Table 1: Summary of Gear Types Utilized and Fish Species Harvested at Funko

CANOE/GEAR USED		No. OF CREW	FISH SPECIES			SEASON
Local Name	English Name		Local name (Fanti)	English name	Scientific name	
Ahyekon	Drill gill net	5-10	Wiwiruw	Congo dentex	Dentex Congoensis	Major season July-October (Fish Bumper season)
			Kokodudu	Red Mullet	Pseudupeneus prayensis	
			Apoku,	Atlantic little tunny / Tuna	Euthynnus alletteratus	
			Safor	Plain bonito	Orcynopsis unicolor	
			nkankama /ntar	Round Sardinella/ Flat Sardinella	Sardinella aurita/ Sardinella eba	
Tenga	Bottom set net	4	Ibrum/ Esor pae	Cotton-mouth jack	Utaspis cadenati	Minor /lean/Harmattan season (January-June)
			Sukue	Lesser African threadfin	Galeoides decadactyles	

Local Institutions and Governance

Canoe fishermen association: Fishermen in Funko belong to the Ghana National Canoe Fishermen Council (GNCFC) being represented by their Chief Fisherman.

Fish mongers / processors - Among the fishmongers/ processors are six different groups. The formation of the groups aims at providing support for one another in times of need. Apart from the groups, all the women (mongers / processors) are headed by the Chief Monger whether they belong to a group or not.

The chief monger negotiates the price of the fish with the fishermen when they come back from sea before the women buy the fish. Each fisherman sells the fish to his wife mostly on credit and they in turn add their profit margin and resell to other women. Even in situations where women buy directly from the men, the wife still takes a certain amount from such a buyer.

Landing Beach Committee – There is a landing beach committee which was instituted by the current government in power (NDC) in August 2009 to deal with bottlenecks in the premix sector and also to see to the acquisition and supply of premix to fishermen.

There is no CBFMC, CBO neither an NGO operating in the community.

Key Coastal and Fisheries Issues

Decline in fish catch - There has been a drastic decline in fish catch. About ten 10 years ago, fishermen used to get 15-20 head pans of fish from every trip. Currently however, fishermen are hardly able to get one head pan from a trip. The decline has been attributed to:

Increased number of canoe/vessels - It is believed that with the ever increasing population, more people at the coast are entering the fishing industry because it is to them the only readily available and lucrative livelihood in the community.

Poor/ unauthorized fishing methods - Gone are the days when fishermen only used the net for fishing and even observed days seen as fishing taboos. Now, many fishermen have resorted to the use of unsustainable methods like dynamite, carbide, DDT, light and pair trawling.

Irregular supply of premix fuel - Due to some problems at the Tema Oil Refinery, there has been irregular supply of premix fuel in recent times. The last consignment for last year arrived on 10th November 2009 and the 1st consignment this year was received on 14th February 2010.

Shoreline erosion from sand wining - A close look at the beach indicates that sand wining activities are carried out there and are gradually affecting the shoreline. This has resulted in sea erosion as the sea waves find their way often into homes.

Challenges facing the fish mongers

Less fish and more expensive fish - There is a decline in fish catch and the few fish caught attracts high prices due to the high expenses incurred by fishermen during fishing expedition.

Lack of credit facility -the fishmongers complain of lack of credit to buy the now expensive fish brought by the fishermen.

Poor fish quality - The fish perishes few hours after arriving at the landing site and this has been attributed to the unsustainable fishing methods like the use of chemicals. Another factor is the hot weather that affects aqua-marine lives.

Community Concerns

The community members interviewed were of the view that the following could help in addressing the challenges in the community:

- Provision of pipe born water
- Access to credit facility for the women.
- Construction of a new primary school

ADJOA

Physical characteristics

Adjoa is one of the oldest communities in the Ahanta West District founded by the Dutch in 1889. The community shares boundaries with Funko to the east, Pupuni to the west and Apowa to the north. At the south-western part of the community is a lagoon called Adjoa which joins the sea during raining season.

Sanitation

Sanitation in the community is very poor especially on the beach. It has been attributed to the fact that there is no toilet facility in the community and residents attend to nature's call on rocks at the beaches. In the eastern part of the community is a lagoon called Adjoa, which is full of rubbish. The Adjoa Lagoon serves as a dump site for residents living at that area.

Demographic/Settlement Patterns

Adjoa has an estimated population of 2665. The figure as at the 2000 population census stood at about 1874. The community is mixed Fanti and Ahanta ethnic tribes. The Fantis dominates by 60% and the Ahantas 40%. There are about 220 houses in the community; some are made of mud and others cement blocks with electricity. Houses are tightly clustered leaving no spaces as access routes for vehicles. There is a principal road from Apowa to the community and this road divides the community into two. There are two private basic schools (Abundance grace and Amazing grace) and a government school comprising of nursery, primary and junior high school. Located at the south-western part of the community and behind the Chief's palace is a stream called Baakonsaw. About 200meters from the shore, is a community center located along the principal road. Other major landmarks in the community are Catholic, Pentecost, Assemblies of God and Methodist church, the mosque and the lorry station.

Education

Adjoa has a school with a nursery, primary and junior high but the primary school building is in a deplorable condition and some pupils even sit on verandas to learn. The Junior High School serves two other communities (Pupuni and Aniho). Average enrolment is 90 as most students frequently play truancy. In the last Basic Education Certificate Examinations (BECE 2009) only five students passed out of a total number of 38. There are nine teachers in the Junior High School; six trained teachers and three national service personnel.

Fishing affects the pupils negatively during the lean season in the sense that some parents are unable to purchase recommended text books for their children. Some school children even go to school on empty stomach and without money for food. During such times, attendance is very poor and pupils sometimes run away during school hours to watch video games with the excuse of going home for lunch. Many pupils catch crabs and sell and carry out other commercial to support their parents. Morality amongst the pupils is very low. This has been attributed to broken homes, poor parental care and peer pressure. To buttress the point, the last BECE, 2009, recorded four pregnancies of candidates in the Adjoa JHS.

Economy

The community is purely a fishing one but many of the inhabitants, especially the women, combine fishing and farming. During the lean season, the fishermen join the women on the farms. Almost 90% are into farming and fishing but the rest do petty trading like selling of oranges, sachet water, etc.

Farming

The farmers cultivate cassava, tiger nut and groundnut but on small scale. There is no commercial market in the community and as such all farm produce are sent to the Takoradi and Agona markets for sale.

Fisheries

The mainstay of Adjoa is fishing. Along the beach front lie a significant number of canoes. There are about 50-60 canoes in the community but the number of canoes some 40years ago was only 20.

Fish sharing systems: Proceeds are shared equally at the end of the year between the crew members and the canoe owner after deduction of expenses. The canoe owner is however part of the percentage that goes to the crew.

Fishing holidays: Tuesdays are observed as non fishing days by all fishermen in the community.

Processing and Marketing: Small fish species are normally sold fresh and the bigger ones are smoked. Only a small portion of the fish processed by the women is sold in the community. The rest is sent to Agona Nkwanta, Apowa and Takoradi market.

Below is a table indicating the various fish species, gear types and seasons at Adjoa:

GEAR USED		No. OF CREW	FISH SPECIES			SEASON
Local Name	English Name		Local name (Fanti)	English name	Scientific name	
Twuwii	beach seine net		Abobondwirba	Common dolphin fish	Coryphaena hippurus	Major Fish season (July-October)
Ahyekon	Drill Gill Net	5-10	nkankama /ntar	Round Sardinella/ Flat Sardinella	Sardinella aurita/ Sardinella eba	
Tenga	Bottom set net	3-4	Ekan	Cassava croaker	Pseudotolithus typus	Minor fish/Harmattan season (January-June)
			Nkanfona	Long finned Herrings	– Ilisha Africana	

Local Institutions and Governance

Currently, there are two traditional chiefs in the community and have all elected their Chief fisherman; implying two chief fishermen for the relatively small community. Both claim to be the Chief fisherman for Adjoa community. Fishermen in Adjoa do not have a well structured association, due to a chieftaincy issue between two factions.

The fish monger / processors in Adjoa do not have an association; they however have a Chief Fishmonger known in Akan as Konkohene. She is responsible for the negotiation of fish prices on behalf of the women.

There is no CBO or NGO working directly with fisherfolks or others in the community.

Key Coastal and Fisheries Issues

Conflict over the position of the Chief fisherman - There are two Chief fishermen in the community and each claim to be the recognized one. This came about as a result of a Chieftaincy problem in the community. The fisher folks have decided not to recognize any of them.

Decline in fish catch - All the people interviewed said there has been a decline in fish catch which has been attributed to increased number of outboard motors.

The use of unauthorized fishing methods - The use of FADs like light, carbide and dynamite have according to fishermen resulted in the declined stocks. After using the FADs to fish, the fishermen throw the unwanted fish species (probably dead) back into the sea driving the rest of the stock into deep seas.

Conflicts over traditional Chieftaincy representation - Development in the community has slowed down because of the chieftaincy problems. According to an Opinion leader and all those interviewed, there are currently two chiefs just like the two chief fishermen.

Poor water supply and sanitary facilities -Adjoa has no pipe borne water or a borehole and have to rely on private water supply which costs GH¢0.20p a bucket. The community has no toilet facility and the residents attend to nature's call on the beach destroying the beauty of the environment.

Poor access to health services - There is also no health post in the community and residents have to move to a neighbouring Apowa clinic for treatment.

Challenge facing the fish mongers

Poor fish quality – Fish caught some 20 years ago was of more quality than in recent times. This is due to the poor fishing methods like the use of light and chemicals which according to fish processors discolour the fish few hours after arrival at the landing and also cause the fish to perish few weeks after processing (smoked).

Community concerns

The following are concerns of community members interviewed

- Provision of pipe born water
- Facilitating access to credit facility for the fishmongers / processors to expand their business.
- Provision of public toilet.

PUPUNI

PHYSICAL CHARACTERISTICS

Pupuni is a fishing community in the Ahanta West District. It is about 5km away from the popular Egyam community that has a grotto by the Roman Catholics. The community shares boundaries with Adjoa in the east and Asemko in the west. Few houses in the community are situated on a hill and some on relatively flat land around the shore. Towards the Eastern part of the community is a lagoon called "Dadewa" which stretches to the sea.

BIODIVERSITY

According to the people, Pupuni has spawning grounds for turtles and they usually come around during the Christmas season to lay eggs. Initially, residents used to kill them for meals or for commercial purposes. They claim they no longer do so following a directive from some white foreigners at the area who now give out a cash reward for any resident who sees a turtle and does not kill it but rather hands it over to them. The eggs of the turtle are also handed over to the whites who keep and hatch them until the young turtles are ready to hit their aquamarine habitat

DEMOGRAPHIC/SETTLEMENT PATTERNS

Pupuni has a projected population of about 708 which as at the 2000 population census was 480. Houses in the community are over 80 with an average of seven people per household. These are mainly mud houses roofed with either bamboo or palm fronds. About eight houses are built with cement blocks. There is no toilet facility in the community and the people either use the rocks on the beaches or the bushes as places of convenience. Pupuni is a mixed Fanti and Ahanta tribes with the Fantis dominating. The Fantis are said to have migrated from Ampane in the Central Region of Ghana. Marriages between Fantis and Ahantas at Pupuni are common making it difficult to distinguish between the two southern tribes. There is the Pentecost and 12 Apostle Churches in the community. At the north-eastern part of the community is the cemetery and a refuse dumping site

EDUCATION

Pupuni has only a nursery school which uses the premises of the Pentecost church. There is no other single basic school in the community. The pupils are either enrolled in schools at neighbouring Egyam or Adjoa communities.

ECONOMY

Residents do both fishing and farming. During the fish bumper season, almost all the men go to sea while the women process the fish. It is during the minor season that many in the fishing industry, especially the women diversify to farming. According to inhabitants, the fishing industry is more lucrative than farming.

Tourism

There is no tourist site at Pupuni apart from the beach which is mostly used by residents. According to them, however, the location of the town to the seashore attracts visits from foreigners.

Farming

The farmers cultivate cassava, plantain, pepper, tomatoes and groundnuts. They are normally for household consumption and only a few are sold out in the community.

Fisheries

There has been a decline in fish catch as compared to 40 years ago. In the past, one canoe could catch as much as 15-20 head pans of fish which in recent times has reduced to barely a head pan. There are about 30 canoes, six use outboard motors, and the rest, of smaller sizes use paddles. All the canoes use bottom set net with different net sizes. Fishermen in Pupuni fish all year round; they do not have a major / minor season.

Fish sharing system: Proceeds from the sale of the fish are shared amongst the fishing crew based on agreed procedures. It is shared equally between the crew members and the canoe owner after expenses are deducted.

Fishing holiday: Just like in other neighboring fishing communities, fishing on Tuesdays are regarded as a taboo and observed as such by all fishermen in the community.

Processing/marketing: Most of the women buy the fish on credit from the fishermen whether he is the husband to the woman or not and repay after selling. All the fish is smoked and sent to the Agona Nkwanta market. It is only on few occasions that the smoked fish is sent to the Takoradi market; where they are allowed to sell only on weekends. Also, the fishmongers find it difficult getting vehicles from the community to the various marketing centres because vehicles do not ply the community regularly.

Table 1: Types of fish caught, Seasons and Gear Utilized at Pupuni

CANOE/GEAR USED		No. OF CREW	FISH SPECIES			SEASON
Local Name	English Name		Local name (Fanti)	English name	Scientific name	
Tenga	Bottom set net	3-4	Eboe	Burrito	Brachydeuterus auritus	All Seasons
			Sukue	Lesser African threadfin	Galeoides decadactylus	

Local Institutions and Governance

Canoe fishermen association -All fishermen in the community have one head who is the Chief fisherman and his council of elders. There is however no fishermen association in the community. Together with the chief fisherman, they all belong to the Ghana National Canoe Fishermen Council.

Fishmonger/processor association: The fish mongers or processors have neither an association nor a head.

Landing Beach Committee – There is no landing beach committee in the community because most of the canoes use paddle. The few which use outboard motors buy the premix fuel from neighboring communities like Adjoa and New Amanful.

Key Coastal and Fisheries Issues

Decline in fish catch and Conflicts between trawlers and artisanal fishermen - According to the people interviewed, the industrial and semi industrial trawlers do fish below the 30 meter zone where the artisanal fishermen are supposed to fish driving the fish stock farther away where these canoe fishermen cannot reach.

Increased canoe numbers - The major livelihood source is fishing and with the ever increasing numbers in the population, many are venturing into fishing thereby causing an increase in number of canoes.

Destruction of spawning habitats by trawlers. - Activities of trawlers have destroyed all fish spawning grounds as the trawlers are dragged over the spawns in the sea.

Poor fishing methods – The use of light, carbide and dynamite have according to fishermen resulted in the declined stocks. After using the methods (light, carbide etc) to fish, the fishermen throw the unwanted fish species (probably dead) back into the sea driving the rest of the stock into deep seas.

High rate of coastal erosion – Sea erosion at Pupuni in the last 30 years is now taking its toll. There used to be a lot of coconut trees along the coast which have all been eroded into the sea. It is believed that sand wining which is still ongoing has exacerbated this problem but the community has not put in place any measures to check it.

Forced resettlement due to Oil and Gas development – Inhabitants of Pupuni will soon be resettled. According to them, government has bought vast plots of land for oil activities and has promised to resettle the community.

No potable water or public sanitary facility - There are no sources of potable drinking water in the community. They buy from a private water supplier at a cost of Twenty Ghana Pesewas (GH¢0.20) per bucket which to them is expensive. Residents experience regular water shortages especially when the supplier fails to bring them water. They sometimes have to walk some 5-10km to get water from neighbouring towns.

There is no public sanitary facility and residents either resort to the bush or the beach for places of convenience, others preferably package the faeces in black polythene bags which they throw into the bush or the sea afterwards.

No Electricity – There is no electricity in the community.

Poor transportation links - This is a major challenge to residents as commercial vehicles do not ply the area often. It is during market days at the Agona District Capital (Wednesdays) when traders send commodities to Agona that the vehicles usually ply the area.

Community concerns

During the focus group discussion, the following were revealed as the major community concerns.

- Provision of Pipe born water
- Connecting the community to the national electricity grid.
- Reconstruction of the main road to the community.

ASEMKO

Brief History

The name Asemko came about as a result of a misunderstanding that ensued between two brothers of the chief of Ahanta Akatekyi. After the matter was peacefully resolved, the two brothers were asked to move away from Akatekyi and the chief demarcated some portions of land for them. Upon settling on the land, one of the brothers named Abakuro exclaimed 'Asem asa!' This is a Fanti phrase which literally means 'Case Finish!' This means that now the case is settled and all are at peace, hence the name of the Asemasa community which it shares boundaries with in the north. The other brother named Kwabena Krokro preceded to the coast and settled at 'Asemko' which also literally means 'Case Gone!' People in Asemko are believed to be from the Central Region because they migrated from Ahanta Akatekyi, a coastal community in Ahantalands whose history also dates back to migration from British Komenda, in the Central Region.

Physical Characteristics

The community shares boundaries with Asemasa in the north, Pupuni in the east, Butre in the west and in the south lies the Atlantic Ocean. The land is relatively flat and slightly hilly towards the northern part of the community.

Biodiversity and Habitats

Turtles are often seen on the shores of Asemko in December where they have their spawning grounds. According to them, it takes about three months and three weeks for the eggs to hatch. Members of the community say they used to kill the turtles but have in recent times received education on the need to conserve these endangered species. They as such let the turtles go when they see them around.

Demographic/Settlement and Patterns

The population of Asemko currently stands at an estimated number of 947 and out of this, 134 are children and 803 are adult. The population was 637 during the 2000 population census. The community is a mixture of both Fantis (60%) and Ahantas (40%). There have been intermarriages between the two ethnic groups. In the community, there are about 117 houses and the average household size is about eight. The houses are mostly built with mud and roofed with raffia. There is only a nursery school; which uses the Pentecost church as school premises but no primary /Junior high schools. There is also a Methodist and 12 Apostle Churches located at the south western part of the community, about 200 meters behind the Chief's palace. Other major land-marks in the community are the community centre and the market. Asemko community has three bole holes. It however lack basic social amenities such as pipe-borne water, toilet facilities, properly managed dump sites with refuse containers and electricity.

Education

The community has a nursery school. Children of primary and JHS going age are enrolled at Asemasa which is about a kilometer away.

Economy

The major occupation of Asemko is fishing but in the lean season some of them do farming. Apart from this, few people (about 1%) in the community are into petty trading, such as selling of oranges, consumable etc.

Tourism

About half a kilometer after the new cemetery at Asemko is a beach resort called Fanta's Folly. It has a sea turtle nursery and buys the turtles from the community members to prevent them from killing it. The owner often pays the children of Asemko to engage in cultural activities for his guests. It currently has a six guest-room facility while new rooms are being constructed. A family room costs GH¢50 a night whilst a single room costs GH¢30 a night. Local people who patronize the place are mostly from Accra and Takoradi. Since the owner is from France (the husband whilst the wife is from Nigeria) the facility is usually patronized by the French in Ghana as well as some Ivoirians (nationals of Cote D'Ivoire) and mostly into French exotic cooking. Residents of Asemko do not patronize the place. They attribute it to the high cost and type of drinks and food as well as the lodging. There were seven guests from France at the time of our visit who had spent three days and intend staying for a week.

Farming

Farmers at Asemko cultivate cassava, plantain, groundnut, pepper and oil palm. Most of them have vast palm plantations. Currently when fish catch has declined, attention has shifted from fishing to farming.

Fisheries

The main source of livelihood at Asemko is fishing. Along the beach front lie a significant number of canoes. There are about 45 canoes, out of the number, 15 use outboard motors and 30 use paddles. These canoes are normally classified by the type of gear used. The large canoes are called 'Ahyekon' because they use that type of net (DGN) while the small canoes are named after the bottom set net (*Tenga*) used. The length of the large canoes is between 10-12 yards with 13 seats and they take on board between 9-12 crew members. The number of the large canoes is only three which are all motorized. The small canoes have a length of 8-9 yards, nine seats and 2-4 crew members. This canoe uses either paddle or outboard motors.

Fish sharing systems: Proceeds are shared according to agreed principles between the canoe owner and the crew. After expenses are deducted, the rest is shared equally between the crew members and the canoe owner.

Fishing holidays - Tuesdays are observed as fishing holidays in this community.

Processing and Marketing: All the fish are smoked. The fishmongers usually buy the fish on credit from their husbands- fishermen. However, when other canoes from Aboadze, Shama and Akatekyi land at the shores of Asemko, the fish mongers pay upfront. The Chief monger negotiates the price of the fish before the women buy. If she is unable to arrive at an agreed price with the fishermen from the other fishing communities, the Chief fisherman of the area intervenes. When both attempts prove futile, the canoe is asked to go back to its origin. The smoked fish is sold at the Agona Nkwanta market. In the past, the smoked fish were sent to Kumasi when the rail system was functioning.

Table 1: **Gears Utilized and Fish Species Harvested at Asemko**

CANOE/GEAR USED		FISH SPECIES			SEASON
Local Name	English Name	Local name (Fanti)	English name	Scientific name	
Tenga	Bottom set net	Ibue	Burrito	Brachydeuterus auritus	All Seasons
		Posna	Cuttlefish	Sepia officials	
		Sukue	Lesser African threadfin	Galeoides decadacyctlus	
Ahyekon	Gill net	Eban/ Kankama	Round Sardinella/ Flat Sardinella	Sardinella aurita	Major season

Local Institutions and Governance

Canoe Fishermen Council: Fishermen in the community do not have an association but they have a Chief Fisherman and seven-member council of elders. The fishermen belong to the umbrella body, GNCFC.

Fish mongers/processors: The fish mongers have a leader; Chief Monger (*Konkohene*). The role of the *Konkohene* is to negotiate the price of fish and also settle any disputes between the women. Cases that supersede the powers of the Chief Monger are settled by the Chief fisherman.

LBC: There is no landing beach committee at Asemko. The motorized canoes go to neighbouring Busua, Dixcove, and Butre communities to procure premix fuel.

There is a traditional Chief and an Assembly man in this community.

There is no CBFMC but Non governmental organization like World Vision operates in the community.

Key Coastal and Fisheries Issues

Pair trawling – The activities of the pair trawlers have been identified as a major factor in the decline of fish stock. Many of the fishermen were of the view that the use of FADs by fishermen in other communities, where fishermen after their catches let go dead species which they have no use for, pollutes the sea, driving the remaining aquamarine lives farther away.

Incidence of elephantiasis – an observation made at Asemko was that, some residents had contracted and were suffering from elephantiasis.

Lack of basic social amenities : Among the amenities residents lack are primary and junior high school, electricity, pipe-born water, public toilet and refuse container.

Community Concerns

These are the concerns of community members interviewed

Provision of the lacking social amenities mentioned above.

Provision of outboard motors - the fishermen believed they can make good catches if they are given outboard motors with which to operate.

BUTRE

Brief History

The ancestors, three siblings, namely Egya Butua, Nana Kow Essuon and Tontoful Yaaba, hailed from Edina Eguafo in the Central Region. They set off in a canoe with sail in search of a place to settle in the west. When they reached an area, (now called Butre) their canoe capsized, due to the estuary. Fortunately, they survived and decided to settle there where they named the lagoon 'Butua', after their leader. As generations evolved the name corrupted into Butre.

Physical Characteristics

Butre is a small fishing community. It is located on a sheltered bay within the forests of Ahanta. It forms part of the early historical communities generated from the 17th century inter-European and African conflicts. Butre shares boundaries with Asemko in the east, Busua in the west, and Asemasa in the north. There is a big lagoon to the west of the coast called 'Nana Butre' which enters the sea. Located on the north hilly side of the town is another lagoon, 'Nana Pete'. To the east of the coast is a hilly area called 'Nana I'm Aware'

Demographics and Settlement Patterns

Butre has an estimated population of about 1356, out of which about 1000 operates in the fisheries sector. The figure stood at 924 during the 2000 population census. Fanti is the main language spoken. Most of the houses are made of mud and raffia roofing. The community has a nursery and primary school. Major landmarks include Fort Batenstein, teachers' bungalow, health post, chief's palace and tourist center. There is also the Methodist, Pentecost, 2 Apostle and Christ Believers Church.

Education

There is a nursery and primary school located in the northern part of the community while the JHS is located at the outskirts of the community. The JHS serves two communities (Ahuntumano and Butre). Apart from the government basic schools, there is also a private nursery and primary school called 'Hide-Out'. Enrolment in the government primary school for the 2009/ 2010 academic year is 278. The decline in fish catch has had effect on the academic performance of the school children. Parents are unable to buy learning materials for their wards and even common foot wear for school. Truancy is especially on the ascendancy during fish bumper seasons, these children can be found mostly at the shore helping the fishermen. Challenges at the school include truancy, inadequate teaching and learning materials and teachers suffering physical assaults from parents.

Economy

The major occupation of the people is fishing, but in the lean season some of them do farming. An insignificant number of residents engage in petty trading such as oranges selling and other supplies.

Tourism

There is a community based tourist centre just at the lorry terminal (GPRTU). The centre offers services in:

- Canoe paddling on the Butua Lagoon
- Trips to the Beggar rock
- Trips to Fort Batenstein Rock Bed
- Trips to Coconut Beach
- Traditional livelihood

Fees charged for the services provided by the tourist centre range between GH¢1 - GH¢10 for a duration of 1-5 hours. The centre receives an average of four tourists per day who are mostly Germans and Americans. Few Ghanaians from Takoradi, Accra and Kumasi occasionally visit the place. Students from the Takoradi Polytechnic patronize the centre but no Senior High School has visited any of the tourist sites.

Fort Batenstein - The Fort (built by the Dutch in 1656) is located on a hill overlooking the coast and Butre community. It is the most visited place. The benefits/profits are shared as follows;

Tour guide - 30%

Town Tourism Development Committee - 20%

The community - 20%

Chief/traditional rulers - 10%

Town Tourism Development Project - 20%

The tour guide is paid monthly whilst the rest of the monies collected is deposited at the bank and shared every six months amongst the above mentioned institutions. Tourists usually patronise the Fanta's Folly Resort at Asemko and sometimes other hotels in the Butre community like Ghana's Spirit and Hyde Out to the west of the community.

Farming

Though the main occupation is fishing, others engage in full time farming and few on part time (during the lean fishing season). Some people shifted attention to farming when fish stock started declining. Crops mostly cultivated are oil palm and coconut. Others include cassava, tomatoes and groundnut. The palm fruits are sold at GH¢8.00 per 100 kilos and mostly purchased by oil palm companies—Norplam, Benso Oil Palm Plantation(BOPP) and other small scale companies in the district.

Fisheries

About 30 years ago, there were only 10 canoes; all of which used paddles. Currently, the number has increased to 90 comprising 50 motorized and 40 non-motorized. These canoes are classified into three using the type of gear used, *Ahyekwan net*, *Wokye net* and *Tenga net* with 12-15, 30-40 and 3-5 crew respectively. Species caught by these canoes are herrings-*eban*, salmon- *akowona* (*ashekwan*); tuna and shark (*wakye*); *nkafena*, *eboe*, *sukue*, *sesew*, *abrawa*, *ekan* (tenga)

Fish sharing system - Proceeds are shared weekly, quarterly or yearly based on the decision of the canoe owner. In all cases, the expenses incurred are deducted from the income and the remainder shared equally between two groups. The first is made up of the canoe owner, owner of the outboard motor and the net owner; the other comprises of the crew and the canoe owner. However, an amount (unspecified) is set aside for the most senior crew.

Fishing holidays - In Butre, Tuesday is regarded as a non-fishing day and is observed by all fishermen in the community. Apart from Tuesday, there are other days they sometimes do not go to sea. An example is when the sea is rough, shortage of premix, etc.

Fish Marketing and processing - Fish is mostly purchased at expensive prices from canoes that come in from Axim, Sekondi, Elmina and Cape Coast and strictly not on credit (cash and carry). This is because the native fishermen get little or no fish when they go out to fish. The fishermen move back to their various communities when they refuse to reach a price deal on the fish with the chief monger and chief fisherman. Fishmongers at Butre smoke all fish species they buy from the fishermen. The Agona Nkwanta market is the most preferred and most utilized centre. The fishmongers used to trade at the Kumasi market in the past when fish catch was abundant.

Table 1: Gear Utilized and Fish Species Harvested at Butre

Fishing season			Gear type (local name)	Gear type (English name)	Fish Species		
English name	Local name	Time period			Local name	English name	Scientific name
Major season (Bumper catch)	Mawura	July-August	Wakye	Ring net	Apoku	Frigate tuna/ Atlantic little tunny	Auxis thazard/ Euthynnus alletteratus
					Safor	Plain bonito	Orcynopsis unicolor
			Ahyekon	gill net	Eban / Kankama	Round Sardinella	Sardinella aurita
Minor season (lean)	Harmattan	Jan.-- June	Tenga	Bottom set net	Sukue	Lesser African threadfin	Galeoides decadacyctus
					Kanfena	Long finned Herrings	Illisha Africana

LOCAL INSTITUTIONS AND GOVERNANCE

Fish mongers / processors- Most women are into fishing activities but have no organized association. There is however a Chief Monger whose main duty is to negotiate with the fishermen on a fixed price for the women when the fish arrives at the landing beach.

Assembly member-The community has an Assembly member who is the liaison between the community and the District Assembly.

There is no Community Based Fisheries Management Committee.

Landing Beach Committee: There is a landing beach committee that supervises the distribution and sale of premix fuel in the community.

Key Coastal and Fisheries Issues

Decline in fish catch - In the past, fishermen were getting more than 30 head pans of fish per canoe but it is now difficult to get even a medium-size blue band margarine container. This has been

attributed to the use of unauthorized/unsustainable fishing methods - The use of FADs like light, carbide and dynamite have according to fishermen resulted in the declined stocks. Chief fishermen at Butre and neighbouring communities swore an oath not to use the FADs to fish again during which period the practice reduced. Some of these fishermen have however overturned the oath and have started using the FADs.

The use of smaller net sizes – Due to the decline in fish catch, some fishermen are now using smaller nets which enable them to make more catches, especially smaller fish species.

Inadequate supplies of premix fuel - During the major fishing season, there is pressure on premix as migrant fishermen from Komenda, Moree and Shama join the local fishermen for fishing trips.

Conflicts between artisanal and semi-industrial fishers – Conflicts at sea usually arise between canoe fishermen and bigger vessels whose trawlers destroy the nets of the canoe fishermen who are often intimidated as the bigger vessels spray them with water for complaining.

Coastal erosion- Butre has in the last few years seen massive sea erosion where most coconuts at the shore have been eroded.

Major challenges faced by fish mongers and processors:

Expensive pricing of fish – Since fishmongers in Butre buys fish frequently from canoes of other communities that land at the area, the fish that come in are very expensive and are also not offered on credit.

Poor fish quality – Fish brought in from sea perishes in no time due to the use of chemicals (carbide, dynamite etc) used in fishing and this make smoking of fish very difficult.

Community concerns

Most of the key informants and those with which the focus group discussions were held called for a ban on the light fishing and other unsustainable fishing methods.

BUSUA

Physical Characteristics

Busua is the most popular coastal tourist community situated in the heart of the Ahanta West District. It is a flat land without any major hills. Busua shares boundaries with Butre to the east and Dixcove to the West. The shoreline stretches eastwards towards Butre. It has one of the relatively clean beaches in the district. It is an ideal by-the-sea settlement, 30 kilometers from Takoradi, the regional capital.

Demographics and Settlement Patterns

As at the 2000 Population and Housing Census (PHC 2000), the community's population was around 1,580. Currently, the estimated population is over 2000. It has average of 9 persons per household. The people of Busua are Ahantas. During the major fishing season, people from Moree in the Central Region migrate to Busua for fishing activities. Busua is the paramount seat of the Ahanta Traditional Area whose chief is Otumfuo Nana Baidoo Bonsoe XV. There are about 180 houses in Busua. Almost 90% are built with cement blocks and galvanized steel roofing. The houses are well structured with well planned streets. The community boasts of a variety of hotels and guest houses along the beach. Popular among them are the Busua Beach Resort and African Rainbow Resort. The community has a number of churches and mini drinking spots. There is a basic school (Primary and JHS) in the town.

Economy

The community is recognized as a tourist centre where the Busua Beach Resort is highly patronized. Many of the community's youth do not have any source of livelihood other than serving as tour guides to the many foreigners who troop into the community daily. The mainstay of the people is fishing and farming but only few people are engaged in it. The rest are petty traders who operate at the Agona market. There are a number of guest houses, hotels, restaurants and drinking spot at Busua and most of their workers are natives of the area.

Tourism

There are about five beach resorts at Busua. They are the Busua Beach Resort, Alaska Beach Resort, Africa Rainbow Beach Resort, Busua Inn and Duckson Lodge. The Busua Beach Resort (BBR) which is the most patronized is government owned. The resort has sixty-two rooms and a big conference room where various workshops and conferences are held. BBR has staff strength of 124. About 80% of this number is indigenes of Busua. People from the community fetch water from the resort free of charge which the later sees as a corporate social responsibility. BBR is also renovating the children's ward of the Dixcove hospital.

African Rainbow Resort is located next to BBR. It is owned by a couple (Ghanaian woman and Canadian man). It was established about eight years ago and is patronized mostly by foreign nationals and a few Ghanaians .It has twelve rooms whose prices range from GH¢95- GH¢150 per room per night .The resort has no conference room. There is a live band/jazz service every Friday and Saturday which takes place on their newly constructed roof top .On such occasions, a few of the town's youth patronize the place and aside that, the indigenes do not make any use of the resort.

Fisheries

Fishing is a major occupation. There used to be about 50 canoes at Busua which have now increased to 70. These boats are classified into four; Ahyekon, Mpataku, Wokye and Ntere with 8-10; 10-12; 20-22; 5-6 crew respectively. Species caught by these canoes are herrings and can be found in a table below.

Fish sharing: The sharing system in Busua community follows a laid down ratio. The proceeds are divided into three parts, one goes to the boat owner, another part goes into maintenance of gear and the crewmembers take the final portion.

Fishing holiday: Tuesdays are observed as fishing holidays in this community. This day is used for maintenance and repair of fishing gears.

Processing and Marketing: According to the fishmongers/processors, fish is mostly purchased from canoes that land from other communities such as Axim, Sekondi, Elmina and Cape Coast and strictly on cash basis (cash and carry). Fish is processed smoked. Fishmongers sell their fish at the Agona Nkwanta market.

Table 1: Gears Utilized and Fish Species Harvested at Busua

Fishing season			Canoe used	Fish species			
English name	Local name	Time period		Gear type	Local Name	English name	Scientific name
Major season	Mawure	July-August	Ahyekon	Gill net	eposor Safor	Wahoo	Acanthocybium
					Apoku	Frigate tuna	Auxis thazard
Minor season (lean)	Harmattan	January -- June	Mpataku	Bottom set net	Semin	Milk shark	Rhizoprionodon acutus
			Ntere	Bottom set net	Anful	Skipjack	Katsuwonus pelamis

Local Institutions and Governance

Fishmongers/processors: Though many of the women at Busua are fishmongers and processors, they have no association but have only a Chief fishmonger whose main duty is to negotiate the price of the fish with the fishermen in the interest of the women. After a successful negotiation, the women buy from the fishermen at that negotiated fixed price.

Landing Beach Committee: There is a Landing Beach Committee that sees to the supply and marketing of premix fuel.

Key Coastal and Fisheries Issues

Decline in fish catch/ stock: A decline in fish catch at Busua has been attributed to:

Unauthorized/ unsustainable fishing methods - The use of light, carbide and dynamite have according to fishermen resulted in the declined stocks.

Unauthorized net size - As a result of the decline in fish catch, some fishermen used small nets in order to catch more fish. This has resulted in a decline in fish stocks as the smaller ones that can reproduce and multiply are also taken out.

Increase pressure on premix fuel – This occurs during the fish bumper season when about 50 canoes from Moree (Central region) join the local ones.

Incidence of sea erosion - Sea erosion has taken its toll in the community within the last few years and many coconut trees on the shore have all been eroded. Due to the high rate of sea erosion, the community is of the view that a sea defence wall will help check the situation.

Loss of boat landing site and desire to dredge the Nana Busua lagoon : There is the fear of having no landing site in the next few years as the small landing space has also been sold out to investors awaiting construction works. The only alternative left is for fishermen to dredge the lagoon to make way for landing space.

High frequency of coastal flooding - Busua is relatively a low land which is challenged with frequent flooding during heavy rainfall.

Education issues – Children in the community take high interest in funerals and prefer keeping wake at funeral grounds to sitting behind their books. The community's leaders have as such instituted some measures to help curb the trend:

Wake-keeping during funerals should not travel beyond 12:00midnight

Funeral activities on Saturdays and Sundays funerals are expected not to travel beyond 8:00pm.

School children are expected not to loiter in the streets after 8:00pm each day.

Video operators are not expected to show movies for school children in the evening.

Inadequate water supply and sanitary facilities - There is no pipe borne water and residents rely on well water. The Busua community has two public toilets which residents say is not enough.

Lack of a local Market - The community does not have a market and people sell in front of their houses

COMMUNITY CONCERN

Key community concerns or needs raised by the residents interviewed included:

- Provision of pipe borne water
- Dredging of the Nana Busua lagoon
- Construction of sea defense wall

DIXCOVE

Brief History

The people of Dixcove migrated from Edina Eguafo in the Central Region of Ghana when a war broke out between the Fantis and the Ashantis. The Fantis were then led by Nana Dekyi who later became the chief of the area, that is, Nana Dekyi I. The first chief migrated from Ntwea ebusua (name of a Fanti clan) of Edina (Elmina), so the royal family at Dixcove is also ntwea who have a dog as their emblem. When Nana Dekyi and his people reached the coast, they first went to Busua and met the Paramount Chief, Nana Baidoo Bonsoe who directed them to cross the Busua lagoon and settle there (now Dixcove). Nana Baidoo Bonsoe took the most beautiful woman among Nana Dekyi's people as his wife before offering them the land to settle in. History also revealed that during the reign of Nana Dekyi IV, a man by name Agyeman together with his people from Wassa Benso in the Western Region visited him and pleaded that he settles them at a place far away from the coast because they were afraid of the sea waves. Nana Dekyi made Nana Agyeman a sub chief. During that same period, war broke out between the people of Dixcove and Busua over where the Fort at Dixcove should be sited. Nana Agyeman and his people supported Dixcove to defeat Busua. Because of the assistance from Nana Agyeman, Nana Dekyi gave the lower part of Dixcove to him and his people to settle there, hence the Lower and Upper Dixcoves. Nana Agyeman's men chanced on a river which they found to be of help in their salt production, so they named it 'mfrima' (literally meaning: we have chanced on a river) but with time, the name corrupted into 'mfuma'. Eurponeans named the place where Nana Dekyi gave them as Dekyi's Cove which has also over the years corrupted to Dixcove which is usually referred to in Akan as Mfuma. The people of Dixcove celebrate the Kundum festival.

Physical Characteristics

Dixcove is a fishing community that shares boundaries to the East with Busua, west with Achowa and Sunkoe to the north. Dixcove is relatively a hilly area with rocks in every part of the town. The beach of Dixcove is covered with rocks without any sand. There is a stream at Upper Dixcove called 'Nana Pia' and 'mfuma etsifi' stream at Lower Dixcove.

Demographics and Settlement Patterns

Dixcove has an estimated population of 30,000 with an average household size of seven. The population stood at around 5762 as at 2000 population census. Marriages between different tribes (especially Fantis and Ahantas) are very common and permissible. Most of the houses are made of mud houses and a few of cement blocks with aluminum roofing sheets. The community is divided into two: Upper Dixcove and Lower Dixcove. The main road that leads into the community divides the two. Each has its own traditional rulers (Chief fisherman, Chief and his elders). Lower Dixcove is to the east of the community whiles the Upper is to the west. Most of the houses can be located at Lower Dixcove which is hilly. Only a few houses are located at Upper Dixcove. They are all clustered at the centre of the community with narrow roads in between them.

There are a number of facilities which make life comfortable for the people in the community including a number of basic schools (both government and private), electricity, pipe-borne water, boreholes, toilet facilities, police station, hospital, post office etc. The Dixcove hospital (Nana Hima Dekyi Hospital) is the only hospital in the Ahanta West District. There are a number of Churches in the community including Methodist, Catholic, Jehovah Witness, Pentecost, Salvation Army, Christ Healing and 12 Apostle. Fort Metal Cross, nurses' bungalow, medical doctor's residence, police staff bungalow, community center are other major landmarks in the town.

There is another small settlement located at the eastern part of Lower Dixcove called Turem. Lower Dixcove and Turem are separated by Nana Fuma Lagoon but Turem is still part of Lower Dixcove

Education

The community has both public and private basic schools. They include the Methodist Primary and Junior High School, Catholic Nursery/Primary, Salvation Army Schools and Nana Hima Dekyi Preparatory school. The Methodist Junior High School has a current enrolment of 254 which in the previous academic year (2008/2009) was 215. The school has six trained teachers and a national service person. In 2009, 70.5% of 44 candidates passed the B.E.C.E. Some pupils are repeated based on poor performance and attendance.

According to the teachers interviewed, the decline in fish catch has resulted in challenges of truancy, inability to purchase learning materials and even buy food. These challenges coupled with poor parental care and lack of community discipline, negatively affect the performance of pupils.

Some pupils engage in fishing activities (expedition and selling) during school hours and weekends to earn some money. Teaching and learning is quite unfriendly as classrooms are overcrowded. The JHS 1 classroom for instance hosts 116 pupils. These classes are therefore divided (on paper) into A and B for easy marking of register.

Health

The Nana Hima Dekyi Hospital, which is the only hospital in the District, was built in 1972 and commissioned in 1988. Sources indicate that malaria tops the list of disease recorded at the facility. Others are hypertension and diarrhoea. The hospital is challenged with non payment of hospital bills by patients especially when the disease is not covered by the NHIS.

Economy

The major source of livelihood is fishing and about 90% of people in the community are into fishing. The men go to sea and the women process the fish. Dixcove is a commercial town with so many people moving from nearby communities either to do petty trading or to buy fresh / smoked fish.

Tourism

Fort Metal Cross is located at the west end of Upper Dixcove. It was built by the British in 1692, has three slave rooms (2 for males and 1 for females) and seven rooms for the junior ranks in the military. It has one main door. Slaves were kept and later sent to the Cape Coast Castle. The Fort is currently leased to a British man. He has renovated the place and resettled those who lived close to the fort, though few refused to move. Foreigners and few Ghanaians occasional visit the place at a fee of GH¢3.00 per head, irrespective of nationality. Schools from far and around the community do not visit the place, though it is free for them. There were three tourists at the time of this visit (a foreign national and two Ghanaians). Guests at the Busua Beach originally used to visit the Fort but have stopped. This is due to the influx of tourist sites at Busua and tourists attention to the Cape Coast and Elmina Castles.

Fisheries

Fishing is the main occupation. In the past there were about 40 canoes all of which used paddles and sails. Presently, there are 125 canoes at Lower Dixcove and 75 at Upper Dixcove all of which use Drift Gill Nets (DGN). The community is noted for catching big fish species and this has been attributed to the DGN, the water depth at the area and how far they go on fishing expeditions. There are two types of canoes: Ashekwan and Mpataku but the latter out-number the former. Species caught are herrings (ashekwan), tuna and shark (mpataku). Almost all tuna species are caught at Dixcove. These include frigate mackerel, yellow fin, metal rail, skip jack tuna, salt fish and Blue marine.

Fish sharing systems: Proceeds are shared at an agreed time; weekly, quarterly or yearly and based on the decision of the canoe owner. Regardless of the sharing date/time, the expenses incurred are deducted from the income and the remainder shared equally between two parties. The first is made up of the canoe owner, owner of the outboard motor and the net owner; the other comprises of the crew and the canoe owner. However, the most senior crew members receive an unspecified amount aside their shares crew members.

Fishing holiday: Tuesday is observed as a fishing holiday. Fishermen in this community used Tuesdays to mend their nets and share their proceeds. This day is also used to settle conflict issues among themselves.

Processing and Marketing: Women mostly buy fish from their fishermen husbands and pay later. Others who are not married do not enjoy any credit facility (strictly cash and carry). The fish is smoked, salted or sold fresh. The Agona Nkwanta market is the preferred and most utilized centre. The Takoradi, Asankrangwa and Kumasi markets are used when there is abundant fish catch. Below is a table showing the local and scientific names of the fish species.

Table 1: Gears Utilized and Fish Species Harvested at Dixcove

Fishing season			Fish species			
English name	Local name	Time period	Gear type	Local Name	English name	Scientific name
			English name			
Major season	Mawure	July-August	DGN	Edae	Yellow fin tuna	Thunnus albacares
				Apoku	Frigate tuna	Auxis thazard
Minor season (lean)	Harmattan	January -- June		Semin	Milk shark	Rhizoprionodon acutus
				Anful	Skipjack tuna	Katsuwonus pelamis

Local Institutions and Governance

Fishmongers/processors: There is no organized fishmongers/processors association. However, there is Chief fishmonger whose main duty is to negotiate the price of the fish with the fishermen on behalf of all the fishmongers.

Landing Beach Committees: There are two landing beach committees in Dixcove; the Upper and Lower LBCs.

There are traditional chiefs and chief fishermen in both Lower and Upper Dixcove. The Chief Fishermen belongs to the Ghana National Canoe Fishermen Council (GNCF).

Key Coastal and Fisheries Issues

Decline in fish catch/ stocks - Fishermen at Dixcove believe fish stocks have declined compared to some 50 years ago due to:

Unauthorized/unsustainable fishing methods - The use of light, carbide and dynamite have according to fishermen resulted in the declined stocks. The use of pair trawlers have also been attributed to the decline in fish stocks.

Increased numbers of canoe/vessels – With the ever increasing numbers in population, many people are also entering the fishing industry for their livelihood.

Unauthorized net mesh size - As a result of the depleted fish stocks, some fishermen are now using nets of very small sizes (1inch) in order to catch more fish.

Inadequate supply of premix fuel- It is a great challenge to the industry. Fishermen have to go to other coastal communities where they hear of the availability of the fuel. They also sometimes buy fuel from fuel station outlets at an expensive price.

Lack of fishing inputs - outboard motor and gears are often scarce on the market raising demand and attracting high prices that are not affordable to the fishermen. This is also due to lack of access to credit facilities that could enable them purchase the inputs

Restricted fishing areas around oil rigs – Fishing expeditions in the past were carried out wherever the fishermen at Dixcove chose to but with the discovery of oil in the country's territorial waters, fishermen are now restricted from fishing beyond a circumference around the oil rig which to them is cutting down on their livelihood.

High rate of sand winning– Cars used to travel along the coast to the other end of the community but sand wining activities have now made it unsafe for vehicles to ply the route.

Gender issue: Interestingly, a woman must be the wife or girlfriend of the fisherman before getting fish to buy on credit. Thus, special favors are requested by the fishermen from the women-e.g. sex for fish.

Community Concerns

Most people interviewed believed the following could facilitate development in the area.

- Market facility
- Cold Storage facility.
- Pipe- borne water.

ACHOWA

Brief history

Some people of Achowa were originally from Techiman in the Brong Ahafo Region who migrated to Saltpond in the Central Region. Together with some others from Elmina all in the Central Region, they travelled by boat and got to a cape in Ahanta West called Ebuom which is currently near Achowa. At Ebuom, access to water and food was very difficult because the place was rocky. According to an elder of the town, Nana Kweku Essuon, there was a belief at the time that gods around the place did not like noise and people who fell foul to this were killed by these gods. Many of them did die and the trend continued for some time until residents decided to 'distance' themselves from the area in order not to die from the hands of the merciless gods. They relocated to Achowa and because these migrant settlers were Fanti they named their new town 'Ma twe meho' literally meaning 'I've distanced myself' and this name gradually corrupted to Achowa.

Physical Characteristics

Achowa is a small coastal community in Ahanta West that shares boundaries with Dixcove to the East, Akwidaa to the West and Doahorodo to the North. The community is relatively hilly with some buildings situated on hills. The community is also characterized by big rocks which can be seen in every nook and cranny. At the far west is a river called 'Achowa' and to the east is another river, 'Achowatia'.

Biodiversity

Turtles are often seen on the shores of Achowa but residents say they send them to the owner of the Green Turtle Beach in neighbouring Akwidaa. Spawning grounds for the turtles can be located at Ebuom, an area close to Achowa.

Demographics and Settlement Patterns

The population of Achowa stands at an estimated 626. The figure was around 485 during the 2000 Population and Housing Census. There are about 70 houses and an average household size of seven at Achowa. Most of the houses are made of mud and raffia roofing. The people of Achowa are Ahantas who pay homage to the Paramount Chief of Ahanta Traditional Area (Nana Badioo Bonsoe). There is a government basic school and a teachers' bungalow. Churches include Pentecost and two 12 Apostles. Other landmarks are the Chiefs' palace, community center and football field. The market is located under a big tree close to the main road.

Education

The community has a school with a kindergarten, primary and junior high but enrolment in the school is not encouraging. Out of 14 (12 boys and 2 girls) candidates who sat for the 2009 B.E.C.E, only 21.4% passed while 78.6% failed. The school also recorded a 0% in the 2008 B.E.C.E. The poor performance of the school has been attributed to lack of teachers and inefficient leadership coupled with truancy on the part of pupils who miss school to carve pestles for a living. The school has a teacher's bungalow.

Economy

Achowa was strictly a fishing community some 40 years ago but now about 65% of the people are into farming. The few who are into fishing do farming as well. There is a lagoon at Achowa called the 'Achowa Lagoon' and residents' fish for tilapia and 'Efui' from the lagoon. There is no other economic activity in the community.

Farming

Farmers at Achowa are both men and women who grow oil palm, corn and tomatoes⁸. All farm produce are sold at the area. The women also process cassava into gari which they sell at Dixcove and Agona. It is a taboo for farmers to go to their farms on Wednesdays.

Fisheries

Along the beach front currently lies about 25 canoes. There were about 35-40 canoes in the community some 40 years ago but the decline in fish catch has compelled many of the fishermen to diversify into farming. All canoes in the community use paddles with the exception of one that uses outboard motor. According to the fisherman interviewed, the canoes are one-man canoes but the motorized one takes a capacity of 4-5 crew members.

Fish sharing system-Proceeds are shared after fishmongers pay back debts owed to the fishermen. All expenses are deducted and the rest is shared equally between canoe owner and the crew. The elderly amongst the crew are given a greater portion of the profits. It should be noted that the fish sharing system happens with bigger canoes that take about a crew of 5. These canoes are about only 3 in the community.

Fishing holiday- Fishermen in the community do not go to sea on Tuesdays

Processing and Marketing- The women sell fresh fish especially during bumper seasons. They also smoke fish and send them to market centers (Agona and Dixcove) the next day. Some buyers also come to the community to buy fresh fish from the women. The fishmongers buy fish from the fishermen on credit and repay after sale. The table below focuses on fishing seasons and associated gear/canoe used as well as species catch.

⁸ mostly grown by women

Table 1: Gears Utilized and Fish Species Harvested at Achowa

Fishing season			Gear type English name	FISH species		
English name	Local name	Time period		Local Name	English name	Scientific name
Major / Minor seasons	Mawura / Harmattan	January – December	Bottom set net	Ibue	Burrito	Brachydeute rus auritus
				Aberewa nhon	Guinea sole	Synaptura cadenati
				Sukue	Lesser African threadfin	Galeoides decadacyctl us
			Hook and line	Epae	Jack Mackerel	Caranx hippos
				Safor	Wahoo	Acanthocybi um

Local Institutions and Governance

Fish mongers/processors: Achowa has no women fish processors or mongers group and do not have a *konkohene* as well.

Achowa has an Assemblywoman who lives at Dixcove.

Landing Beach Committee: There is no Landing Beach Committee at Achowa.

Chief fisherman: There is no chief fisherman in this community.

Key Coastal and Fisheries Issues

Decline in fish catch - There's been a decline in fish catch at Achowa as compared to some 40 years ago as a result of

Increased number of canoes and fishermen -With the ever increasing population, many people at Achowa is joining the fishing industry because it is the major source of livelihood in the area.

The use of unsustainable fishing methods—this factor has in a long way contributed to the declined stocks and consequently low catches.

Community perceptions of inadequate government representation and attention Achowa has an Assemblywoman who lives at Dixcove but, according to residents, she hardly pays a visit. The community members feel neglected as they have nobody to forward their challenges to the assembly and complain of a big gap between the community and the District Assembly

Poor water supply, sanitation and health facilities - The community has only one well and a bore-hole. There is no properly managed dump site but residents have created about 3 refuse dumps themselves. They burn the refuse when it heaps. There is no public toilet facility and residents attend to nature's call on the beach which has given the place an untidy look. Though almost all coastal communities in the district have the waste management personnel of Zoil to clean the beaches, Achowa has none. There is no health post and residents travel to Dixcove for treatment when sick.

Community CONCERNS

According to the people interviewed, the following are the concerns of the community.

- Market center
- Electricity
- Refuse containers

AKWIDAA

Physical Characteristics

Akwidaa is a coastal community in the Ahanta West District of the Western Region which shares boundaries with two other coastal communities, Achowa to the west and Cape Three Points to the east. The community is characterized by hills and valleys and could be described as a twin community; 'Old Town' and 'New Town' separated by a lagoon called Nana Ezile.

Demographics and Settlement Patterns

The community has been divided into two; the old town and the new town. There are two main roads that lead to the centre of the town (Dixcove – Cape Three Points and Dixcove –Achowa). Akwidaa has a dispersed settlement with most of the houses clustered around the old town. The old and the new towns are separated by a lagoon called Nana Ezile. The houses at the old town are mud houses but few are built with Bamboo and roofed with raffia or bamboo. In the olden days (30 years ago), all the houses were at the old site but the sea has eroded many of them. As a result of this, people in the community are now acquiring land at the New town to put up structures. Most of the buildings at the New Town are built with cement blocks and aluminum roofing sheets and are situated on a hill. There is no electricity in the community and the roads that lead to the community are untarred. The community as at the 2000 population census had a population of about 1344 with a projected population of 1736. The major language spoken is Ahanta.

Landmarks in the New Town/Site include the health post, market, Palace, teachers' bungalow. There is also the SDA and MDCC church as well as the Primary and Junior High Schools. Located at the old site/town are the community center, Methodist and Pentecost Church.

The Green Turtle Lodge and Exile Bay are located west and east of the coast respective. The shoreline is very neat due to the activities of Zoil⁹.

Education

Akwidaa has only one primary and junior high school situated at the New town. Junior High School candidates who sat for the 2009 Basic Education Certificate Examination were 46, 13% passed and 87% failed. This was attributed to the fact that many parents could not provide learning materials coupled with a high rate of truancy by students.

Economy

Inhabitants of Akwidaa are mostly fishermen who diversified into farming during lean fishing seasons. The trend however seems to have changed, as fishermen complain of low fish catch and often seen on their farms. Fishmongers at Akwidaa just like other coastal communities nationwide are females who smoke fish and farm as well during lean fish seasons. The decline in the fish season has affected them greatly as they find fishing more lucrative than farming. Some of their women who personally owned canoes powered by outboard motors and could go far to sea during lean seasons can no longer do so as their machines are spoilt with no money for servicing them. This has affected their income generation activities greatly.

⁹ a waste management company in Ghana contracted to maintain sanity and manage oil spills at the beaches

Farming

Farming and fishing are mostly combined by many people. Those with large acres of land prefer oil palm and rubber plantation. Rubber seedlings and fertilizer are mostly supplied by the Ghana Rubber Estate Limited (GREL). Others cultivate pineapples, tomatoes, plantain, cassava which they sell mostly in the community. Pineapple cultivation in Akwidaa is gaining much popularity and grounds due to the non-application of chemical fertilizers.

Located west of the community is the Green Turtle Beach Resort. It was established in 1st October 2004 by a British couple-Thomas and Joan. It is regarded as the best community friendly beach resort in the area. Since September 2009, the resort has raised 110 turtles. It is worth mentioning that the Wildlife and Forestry Division has employed five natives of Akwidaa to monitor turtles around the area. Residents have been educated by the institution not to kill the turtles or face 10 years imprisonment. At the resort, leather backs also benefit from their friendliness—often laying about 800 eggs on gradual basis. The resort is mostly patronized by foreign nationals from the Netherlands, Germany and America. Few Ghanaians (mostly the VIPs) also visit the place. A flat fee of GH¢2.00 is charged per head, irrespective of nationality to see the turtles. The resort has nine rooms and charges GH¢20.00 and GH¢30.00 for its single and family rooms respectively. It hosts an average of 15 visitors per day. There were over 10 guests (all foreigners) at the time of our visit. The resort has employed over 25 people from Akwidaa and has donated GH¢2000 towards the renovation of their borehole. It has also built a toilet facility for the residents and sends the children of Akwidaa to various tourist sites, e.g. Cape Coast and Elmina Castles. It also assisted (financially) the community in getting electricity poles and plans to build a library for the school. The management of the resort has offered some form of scholarship to students from the town to various tertiary institutions in Ghana.

Fort Doratia- The fort was built by the Dutch in 1683 but construction works were first started by the British. It was destroyed by the British in 1844 during the Second World War. Part of the structure still remains.

Other beach resorts in the community are the Ezile Bay and Safari Beach. Taco Pako Beach also exists though partially operational.

Fisheries

Akwidaa is dominated by the fishing industry. Fishermen in the community are basically artisanal. There are about a 100 canoes with 65 motorized and 35 using paddles. The large canoes have a length of 19 yards each while the small ones are of 14 yards in length. The bigger canoes take a capacity of 15-20 crew members and the smaller ones 6- 15 crew. The various individuals and groups in the area noted that fish catch has declined and the quality of fish has also gone down. Furthermore, fishermen indicated that, fishing grounds have changed considerably over the years. They stated that while they landed catches from near shore waters some 10 years ago, offshore areas up to 80 yards (from shore) the current fishing grounds.

In terms of sustainability, it is clear that fishermen in Akwidaa do not use light and neither do they do chemical fishing.

Fishing sharing system- Fishermen share proceeds based on an agreement between the canoe owner and the crew. It is usually done monthly or seasonal. In both cases, the proceeds are shared after expenses have been deducted. The rest is shared equally between two groups. The first is made up of the canoe owner, owner of the outboard motor and the net owner; the other comprises of the crew and the canoe owner. However, an amount (unspecified) is set aside for the most senior crew. All sales are kept by the canoe owner and recorded by both the secretary of the crew and that

of the canoe owner's. The canoe owner sometimes saves the money at the Ahantaman Rural Bank in Takoradi or at home.

Fishing holiday- Tuesdays are no fishing days at Akwidaa and it is observed by all the fishermen.

Processing and marketing - The women buy directly from the fishermen but on credit and later repay after processing and sale. This is because there is no money to pay the fishermen upfront coupled with lack of access to loans and difficulty in accessing capital. They also do not save with any financial institution because the little proceeds from the sale of fish are used as daily bread. During the lean season, fish is not offered on credit and fishermen sometimes send their fish catch to adjoining communities to sell rather to the fishmongers there as they are assured of instant payment at those places.

The major fish processing type is smoking with a few venturing into frying. According to the fishmongers, the only market channel for the smoked fish is the District capital, Agona Nkwanta.

Table 1: Gears Utilized and Fish Species Harvested at Akwidaa

Fishing season			Gear type		Fish Species		
English name	Local Name	Time period	Local name	English name	Local name	English name	Scientific name
Major season (Bumper season)	Mawura	July-October	Mpataku	Beach seines net	Abonbond wireba,	Common dolphin fish	Coryphaena hippurus.
			Ahyekon	Gill net	Eban / Kankama	Round Sardinella	Sardinella aurita
Minor season (lean)	Harmattan	January-June	Adado	Bottom trawl net	Ekan,	Cassaca croaker	Pseudotolithus typus
			Tenga	Bottom trawl net	Kanfena	Long finned Herrings	Illisha Africana

Local Institutions and Governance

Fishmongers/processors: The fishmongers and processors are all women who have no organized association but have a chief monger as their head.

The community has no assemblyman.

Landing Beach Committee : The NDC government introduced the Landing Beach Committees in most fish landing sites along the country's coasts with Akwidaa not an exception.

Key Coastal and Fisheries Issues

Decline in fish caught - Akwidaa has registered no proper fish catch for the past one month which according to them is the result of:

The use of unauthorized/unsustainable fishing methods —Residents of Akwidaa have attributed the low fish catch to bad fishing practices such as light, dynamite and carbide fishing which according to them are not sustainable and drive as well the rest of the fish stock into deep seas.

Expensive fish - the decline in fish catch has affected prices of the few that the fishermen bring back from sea. A head pan of herrings which used to sell around GHc 30.00 last year is now sold at GHc100.00.

Incidence of sea erosion - Over the last ten years, about a hundred houses have been eroded into the sea including the Chief's palace which has now been rebuilt at the New Site. The erosion has compelled many residents to acquire building sites at the newly developing site even though these residents have no money yet to start putting up new buildings.

Lack of access to electricity – this affects fish processing as the women during nightfall do not get any light for direction or kerosene to light their ovens.

Poor representation - The community also has no assemblyman who could push their agenda forward.

Poor water supply and sanitation - There is also only one toilet facility in the community which is a 6-seater shared equally between the two sexes. Residents as such resort to the beaches as places of convenience. The community also has just a bore-hole.

Challenges of Zoil- Though the beach is clean due to activities of Zoil, lack of logistics is a great challenge to the Zoil personnel and they always have to borrow wheelbarrows and shovels from residents. They started operation in November 2009 and have employed twenty natives.

Relocation- Most residents projected that the entire community (old town) would very soon move to the new town as a result of perceived sea erosion.

Community Concerns

Of great concern to the people interviewed were:

Provision of pipe borne water

Connection to the national grid

Improved sanitary conditions

CAPE THREE POINTS

Brief History

Cape Three Points is known as Andenle Nzema and Akyenkyin in Fanti. History has it that, a man by name Nana Akye-Kese I who migrated from 'Tondu', a village near Ahuntumano in the Ahanta West District was the first to reside in the town. He was a hunter, and in one of his hunting escapades, he got to the coast of Cape Three Points and was very pleased with the scene and decided to settle there.

Physical Characteristics

Cape Three Points is the southernmost part of the country. It is bordered to the east by Akwidaa and to the west by Aketekyi. It is surrounded with thick forest. Part of the town is on flat land and others on hills towards the north. There is a very big mangrove which stretches about 1km to the eastern part of the town. There are two main streams at the eastern and western parts of the community called 'Adwokwa' and the "Andenle –Lualu" respectively and used by the people as source of drinking water.

Demographics and Settlement Patterns

The community has a population of an estimated 900 made up of 200 adult males, 430 adult females and 270 children. The figure in the 2000 Population and Housing Census was 861. The people of Cape Three Points are Nzemas and speak the Nzema language. There are about 100 houses in the town with an average of seven people per household. There are three main streets in the town. Two of the streets lead to the Light House and one to the community centre. Churches in the town include the Catholic, SDA and 12 Apostle. Major landmarks are the Community center, Chief's Palace, Primary and Junior High Schools, and the market.

Education

There is one primary and JHS in the town. They have a teachers' bungalow that accommodates visiting teachers. There are only three teachers at the primary and seven at the JHS.

Economy

The people of Cape Three Points are mostly farmers. Few of the men do fishing. With the decline in fish catch, farming has taken centre stage.

Tourism

Ghana Ports and Harbours Authority has a light house at the town to navigate incoming ships. This is because, the rocks penetrate deep into the sea such that, incoming ships might hit the rocks and wreck if the light house is not there to give direction. Many people visit the community just to look at the nature of the rocks and also the cape. The recent discovery of oil in the territorial waters of the community brings many people from all over the country to the place.

Farming

The main crop cultivated is cassava. The cassava is processed into gari and marketed at Agona Nkwanta. Few people are into cultivation of rubber these days.

Fisheries

According to some fishermen interviewed, fish catch has declined due to the ban on dynamite fishing. To them, the chemical used to get them a lot of fish. Canoes in the community some 40 years ago were about 30, all of which used paddles. Now the number of canoes has increased to 65 and only five are motorized, the rest still use paddles. The motorized canoes use the bottom set net while the rest use hook and line for fishing. Although fishermen in the community have been banned from dynamite fishing some still practice it. The main fish species caught with the dynamite was Epae (Jack Mackerel). The main season starts in August and ends in April.

The table below shows the type of fish species caught presently with the various fishing gears.

Fish sharing system-The proceed is shared equally between the crew and the canoe owner after all expenses incurred during an expedition are deducted.

Fishing holidays-Fishermen in this community fish throughout the year. They do not have a fishing holiday.

Processing and marketing- The fish processors smoke all their fish and send it to the Agona Market.

Fishing season			Gear type English name	FISH species		
English name	Local name	Time period		Local Name	English name	Scientific name
Major / Minor seasons	Mawura / Harmattan	January – December	Bottom set net	Ebue	Burrito	Brachydeuterus auritus
				Aberewahon	Guinea sole	Synaptura cadenati
				Sukue	Lesser African threadfin	Galeoides decadacyctlus
			Hook and line	Epae / Opa	Jack Mackerel	Caranx hippos
				Saful	Wahoo	Acanthocybium

Local Institutions and Governance

Landing Beach Committee: There is no landing beach committee in the community. The canoes that use outboard motors do purchase their pre-mix from Akwidaa.

Fishermen in this community do not have a chief fisherman but there is an Assembly man who represents the community at the District Assembly. There is no Community Based Fisheries Management Committee (CBFMC).

Key Coastal and Fisheries Issues

Negative community perceptions concerning tourism and oil and gas benefits - Influx of tourists to the community in recent times has increased due to the discovery of oil offshore the Cape Three Points. These visits as well as the oil discovery according to residents are having no positive impact on the community. Though they've heard of the discovery; only on Radio, nothing in the community

indicates it to that effect. It is surprising to note that some people even go to the community in search of job opportunities.

Poor road access/infrastructure - The main road to Cape-Three Points is very dusty and rough making travelling by road very difficult.

There is no electricity in the community. GPHA has provided them with a plant that uses fuel to generate light for the community but due to financial constraints, the generator has become a white elephant.

Inadequate water supply and sanitation facilities - There are a few household toilets but no public toilet. The people used to go to the beach to ease themselves but with the oil discovery and the effective cleaning of beaches by the waste management Zoil personnel, residents are no longer allowed to use the beaches making life unbearable for them. There is only one borehole in the community serving about 900 people.

Community Concerns

Of prime concern to the key informants and participants of the focus group discussions were:

- Access to electricity
- Better road network

PRINCESSTOWN

Brief History

Originally called 'Pokezo', (forest) because inhabitants lived in a small forest, the Princesstown in the 14th Century was governed by a Chief Kaku Ackah. With the invasion of the German who carried out slave trade activities at Fort Fredericksburg; by shipping residents to Bahamas and Virginia, the traditional Chief, Kaku Ackah who was unhappy about the trade tried to stop them but to no avail. Later a succeeding chief, Gyane Konneh, referred to as John Conney by the Germans, also struggled with them over the slave trade but was overpowered and driven out of the town. When the governor died, the son Prince Williams took charge of the place. People therefore referred to the town as 'Prince Town' instead of 'Pokezo' whenever they come in there for business. Over the years, it has corrupted to 'Princess Town'.

Physical Characteristics

Princesstown is relatively a flat coastal land with beautiful scenery of two rivers that form a confluence and join the sea at the outskirts of the town. The community shares boundaries with two other coastal communities, Miemia to the west and Aketeki to the east.

Demographics and Settlement Patterns

The beautiful coastal community of Princess Town, a fairly large town, has an estimated population of 2483 as at the 2000 population census with a current projected population of 3207. Most of the houses can be located at the center of the community towards the shoreline and are mainly built with cement blocks and aluminum roofing sheets. It is among the few coastal communities in the district which is well planned with roads in-between the houses. The estimated number of people per household is four.

Princesstown has electricity with a few using solar energy. There are three boreholes, two of which have broken down and the other one currently in use. There are also four public wells with a few individual homes having theirs. There are eight public toilets with many individual homes having personal ones. The only refuse dump at the area is managed by Zoomlion¹⁰. The community also has a government Catholic Primary and Junior High School as well as one private school (New Life Preparatory School) and a health post. Other landmarks are the tourist information center, Princess Guest house, Ministry of Food and Agricultural staff bungalow, community center, chief's Palace and Fort Fredericksburg. Churches in the community include Catholic, Pentacost, MDCC, Church of Christ, Methodist and SDA.

Economy

Though a coastal community, the mainstay is subsistence farming as access to arable lands is increasingly becoming a major challenge. Compared to most of the coastal communities Princesstown appears to be much more developed though residents complain of low standards of living with no work to do. The few fishermen who diversify as well into farming believe the fishing industry is not lucrative at all. Many of the women are also petty traders who own retail stores and vend food.

¹⁰ a private waste management company in Ghana

Tourism

Princesstown has a fort (Fort Fredericksburg) and a monkey sanctuary. It also has a lovely view of two rivers that form a confluence and join the sea at the outskirts of the community. One of the rivers (Nyenla Lagoon) leads to the Miemia community and the other (Ezule Ehonle Lagoon) which has its estuary at Anlo Krom, (Ehonle Nwianzo). The community also has a Tour Guide Centre located at the lorry station. All records and documents of the centre are kept at a retailer's provision store at the lorry terminal since the centre has not yet established its own centre. The activities of the centre which was set up in July 15, 2009 are carried out in front of the shop. The Centre receives an average of 4 guests or visitors per week from Germany, Australia and America. Natives do not patronize the centre as they already know the tourist sites. Below is a chart of services rendered by the tour centre and fees charged.

Table 1: Costs of Key Tourism Services in Princesstown and Surrounding Areas

SERVICE	FEE CHARGED (GH¢)
Canoe trip	15
Bamboo forest	20
Trekking to Cape Three Points light house	15
Forest	30
Canoe trip to River Nyenla	15
Peninsula	10

The Tour Guide Centre has 6 guides who were sponsored by the foreign NGO; Recerca e Cooperazione to undertake a week's training session at the Cape Coast Castle. Currently, the guides are not paid any monthly salary and so get a share from the proceeds of the tour services rendered.

There are 5 guest houses including the fort. A complex, (the Angafu-Kaku Memorial Home constructed by an American-based native) made up of a post office, library, internet café, conference hall, guest house and hostel facilities.

Fort Fredericksburg- The fort was built by the Germans in 1685. According to the Fort attendant, the Germans shipped over 30,000 slaves during their stay. They sold the fort to the Dutch when they left in 1844 but the exiled chief John Conney made the fort his residence before the coming in of the Dutch. In 1990, the Fort was turned into a guest house and controlled by the GMMB. The Fort has 10 rooms with some having up to four beds. A room is GHc3.00 per night. The fort has a kitchen for personal use. Patronage is usually high in December-January and few weekends. There were six guests at the time of our visit; two each from Germany, France and America.

Farming

Almost all residents are farmers who in the past cultivated mostly oil palm and coconut. The coconut farms have all given in to the Cape St Paul Wilt disease. Now subsistence farming in the community is mostly cassava cultivation while a fairly large size serves as rubber out growers. Palm lands are gradually being pulled down for rubber cultivation. The cassava produce is sold locally in the community because it is done on small scale. Rubber is sold to the Ghana Rubber Estates Limited serving as the sole buyer. Rubber cultivation took root in 2006 for farmers who possess large acres of land.

Fishing

Fishing at Princesstown is no more lucrative as it used to be some few years back due to a halt to the dynamite fishing. According to them, the dynamite fishing fetched a lot of fish. The other reason has been attributed to the rocky nature of the landing beach which sometimes wrecks canoes. The canoes in the past used to be many (about 50) due to the use of the dynamite. All of them however used paddles. The number presently stands at about 35 canoes, four of which use outboard motors while the rest use paddles.

Fish sharing system: Proceeds are shared equally between the crew members and the canoe owner after deduction of expenses. The canoe owner is however part of the percentage that goes to the crew.

Fishing holiday: Tuesdays are observed as a fishing holiday for fishermen in this community. They do not go to sea on Tuesday.

Processing and Marketing -Fishmongers buy fish (Tuna and Plain Bonito) from neighbouring Aketeki and iced fish from Agona. Fish mongers who fry fish usually buy their fish from Anlo Krom, (Ehonle Nwianzo). The women buy from the wives of fishermen in the two communities (Aketeki and Anlo Krom) and not directly from the fishermen. The fish is usually bought on credit and payment made within 3-7 days. Fish is however sold smoked, fried or fresh. Marketing of processed fish is done at the local market and sometimes at Aketeki.

The main fish caught in the past was the Jack mackerel (epee). Below is a table of fish caught presently at Princesstown and respective gears used.

Table 2: Fish Harvested and Gears Utilized at Princesstown

Common Name (English)	Scientific name	Local Name (Fanti)	Season(s) Caught	Gear Types Used
Cassava fish/ law croaker	Pseudolithus brachygnathus	Ekan	Lean seasons (January - June)	Bottom set net / hook and line
Shine-nose/ common threadfin	Galeoides decadactyles	Sukwei	Major season (July to August)	

Local Institutions and Governance

Youth Group - The community has a youth group made up of over 50 members from both sexes. The group is currently very vibrant than it used to be some few years ago. The association members often organize communal labour in the community. They pay no dues.

The community has an Assembly man. According to him, the general relationship between him and the community members is not cordial.

Landing Beach Committee - Princesstown has no premix outlet or landing beach committee. The four canoes powered by outboard motors go to neighbouring Aketeki to procure premix fuel.

Key Coastal and Fisheries Issues

Decline in fish catch - Due to the decline in fish catch, fish mongers who used to procure fish from Aketeki and Anlo Krom now have to go to Agona to buy iced fish, which is a problem as they cannot afford to pay upfront.

Chieftaincy disputes which erupted some 26 years ago and recently resolved by the Ghana Peace Council has retarded development such as the complete tarring of the main road.

Poor fish landing site - On top of the list of priorities of fishermen in Princesstown is the desire to have the huge rocks at the landing beach blasted to make way for easy landing and attract more people into the fishing industry.

Community Concerns

A key concern raised by the people interviewed was an end to chieftaincy disputes.

AWUNA KROM (EHONLE NWIANZO)

Brief History

The Princess Awuna Krom community was founded in 1936 by ancestors. The founders Togbe Madugu and Kojo Agbari migrated from Dzita near Anloga in the Volta Region. The Awuna Krom migrant settlers speak Ewe.

Physical Characteristics

Awuna Krom also known as ***Ehonle Nwianzo*** is a small coastal fishing community in the Ahanta West District of Western Region located on a flat land between Princesstown in the west and Akatakya in the east. The community is outlined by a big lagoon (Ezule Ehonle Lagoon) in the north. The lagoon opens and closes during the raining and dry season respectively.

Demographics and Settlement Patterns

Awuna Krom has a population of about a 100 inhabitants who speak Ewe. There are about 30 houses made of raffia and coconut fronds. The community has a scattered settlement and is considered a part of neighbouring Princess Town. It is as such sometimes called Princess Awuna Krom (Prisi Awuna Krom). The houses are intertwined with coconut trees. There is a borehole and a public toilet but no school, church and electricity in the community. There is no small scale shop in the community.

Economy

The economy of the small fishing community depends entirely on fishing as residents are fishermen who fish from both the sea and the Ehonle Lagoon.

Fishing

Fishing is done both in the lagoon and the sea. Species catch in the lagoon are mostly tilapia, lobsters and shrimps using the cast net and hook and line. Fishing in the sea is mostly done using drag net and hook and line; species caught include Eban (Round Sardinella), sukwei (Shine-nose/ common threadfin) and other common species.

The number of canoes about 20-30 years ago was eight. The number has now reduced to four as most people have moved out of the community. All the canoes are small non-motorized.

Some 20-30 years ago, a canoe at Awuna Krom used to catch about 100 head pans of fish. Presently, a canoe catches less than a single head pan of fish at the lean season. During the bumper season however, a canoe can catch about 20-30 head pans of fish.

Local Institutions and Governance

Though the small fishing community has no Assembly member or traditional chief, there is strict adherence to traditional management systems. For instance, no one goes to the lagoon when someone dies in the community and this taboo is observed as such all by residents.

There is no chief fishmonger or organized group in the community; neither is there an NGO operating in the area.

Key Coastal and Fisheries Issues

Decline in fish catch - The decline in fish catch and lack of modern technology (such as use of outboard motors) in the past few years, have, according to the fishermen, reduced their quality of life and standard of living. With no alternative livelihoods, the situation seems to be worsening.

According to the people interviewed, the future population of the community could be either negative or positive but more likely to be negative i.e. fewer settlements and people. They hinted that most people have moved out of the community to neighboring towns and others back to the Volta Region and believed the practice is likely to continue. This, they attributed to lack of development in the community.

Community Concerns

Key concern by the key informant was connection to the national grid.

AKATEKYI

Brief History

The people from Akatekyi migrated from British Komenda in the Central Region in 1835. They first settled at Princesstown where some moved to the current Akatekyi area. Whenever those at Princesstown wanted to come to Akatekyi, they would say 'lets go to those at 'Akatekyi'. This means lets go to those at the other end (like a foreign land), hence the name Akatekyi. The community is however seen as a part of Princesstown and is popularly called 'Prisi Akatekyi. The people are a mixture of Fantis, Ewes, Gas and Nzema. The major language spoken is Fanti but indigenes celebrate the festival of the Ahanta and Nzemas (Kundum).

Physical Characteristics

Akatekyi is one of the coastal communities in Ahanta West District. It shares boundaries with Princesstown in the west and Cape Three Point in the east. The eastern part of the community is hilly. The community has a lagoon, the Epuho Lagoon to the very east of the community which is home to a number of crocodiles and serves as a tourist attraction site. The community also boasts of having one of the deepest seas in Ghana.

Biodiversity

Akatekyi boasts of having if not the deepest, one of the deepest seas in the country's territorial waters and often sees whales and dolphins a few meters away from the coast. The community's fishermen usually anchor their boats not on the shore but few feet away in the sea. It happened last year August, (when whales and dolphins are usually seen) that a whale that was bathing close to the shore got its mouth entangled with the rope anchoring one of the canoes. The whale took away the canoe and disentangled itself some miles away. The canoe was later washed ashore by the waves and this historic story is always foretold, never to be forgotten by indigenes. Turtles are also seen usually in March but residents claim they do not eat it.

Demographics and Settlement Patterns

The population in the community as at 2000 population census stood at 2483 while the current population is about 3000 and an average of four persons per household. Most of the houses in the community are of mud and a few are built with bamboo raffia or bamboo roofing. The community has access to electricity. As the sea moves inland, most houses along the beach have been eroded. The people believe that in the next 10 years, more houses will be destroyed by the sea. The town has a primary and Junior high school. Landmarks in the community include the lorry station, market, Churches (Catholic, Pentecost, MDCC, and Methodist) and the Mosque. There are three public toilets in the town.

Education

Akatekyi has a Roman Catholic Primary and JHS. The school's population exceeds its facilities and has resulted in overcrowding. For instance, the primary class 1 enrolled about 119 pupils this academic year, which is too much for a class. This has also led to ineffective teaching and learning with the JHS having no trained teacher.

Economy

Inhabitants of Akatekyi are mostly fishermen and farmers but with the decline in fish catch many of the fishermen have drawn their attention to farming. Fishmongers at Akatekyi just like other coastal communities nationwide are females who smoke fish and do farming in the lean fish seasons. They see fishing as more lucrative than farming but due to a decline in fish catch they no longer see the fishing industry as lucrative and claim it has affected their quality of life greatly.

Tourism

Akatekyi has the Epuho Lagoon which is a Crocodile Pond and is patronized by tourists. The crocodile pond was established and managed by a native, Opanyin Kwagya. However, after the death of the man some years back, it was believed that the sacred pond was defiled and as such the caretakers could no longer call out the crocodiles from their habitat for tourists. Currently, after some rituals were performed, other caretakers are now able to call out the crocodiles and have revived its tourism potential.

Farming

Though the mainstay is fishing, a fairly large size also does farming. These farmers grow oil palm, cassava, coconut and rubber.

Fisheries

The fishing industry dominates the coastal strip of the community. They are basically artisanal fishermen. There are about 140 canoes with 40 motorized and 100 uses paddles. These can be classified into two; large and small. The large canoes are up to 19 yards in length while the small ones are up to 14 yards in length, taking on board between 15-20 and 6- 15 crew men respectively. The people interviewed clearly indicated that there is a significant change in the fish species harvested in recently days. The quantity has reduced while the quality has also change. Furthermore, fishermen indicated that, fishing grounds have changed dramatically over the years. They used to fish just around the shoreline but currently even in deep seas, there is no fish.

Fish sharing system- Based on the agreement between the boat owner and the crew, proceeds are shared weekly. About a decade ago, proceeds were mostly shared annually but due to the current bad economic situation, the weekly system is the preferred choice. The proceeds are divided into two, half of the proceeds are for the crew members and the other half is for the canoe owner. It was noted that, if the canoe owner is part of the crew, after getting his percentage, he has a share in the crew money.

Fishing holiday- Tuesdays are seen as taboo days for fishing and are observed by all fishermen in the community. Apart from Tuesdays, fishermen do not go to sea as well during high sea tides when the sea is rough.

Processing/Marketing of fish - The fishmongers and processors usually buy directly from the fishermen but on credit and repay after sale. Most of them also buy fish from their husbands which are normally on credit. The major fish processing type is smoking with a few venturing into frying. According to the fishmongers, the only market channel for the smoked fish is at the District capital, Agona Nkwanta.

The table below analysis the fishing season and the associated gear/canoe used as well as fish species catch.

Table 1: Fish Harvested and Gears Utilized at Akatekyi

Fishing season			Gear type		Fish Species		
			Local name	English name	Local Name	English name	Scientific name
English name	Local name	Time period	Local name	English name	Local Name	English name	Scientific name
Major season (Bumper catch)	Mawura	July-October	Mpataku	Beach seines net	Abonbondwir eba,	Common dolphim fish	Coryphaena hippurus.
			Ahyekon	Gill net	Eban / Kankama	Round Sardinella	Sardinella aurita
Minor season (lean)	Harmattan	January --June	Adado	Bottom trawl net	Ekan,	Cassaca croaker	Pseudotolithus typus
			Tenga	Bottom trawl net	Kanfena	Long – finned Herrings	Ilishha Africana

Local Institutions and Governance

Fish mongers / processors- The fishmongers and processor are all women but have no organized association.

Landing Beach Committee: The community boasts of a Landing Beach Committee which heads the supply and marketing of the premix fuel.

There is an Assembly member in the community who represent them at the District Assembly.

Key Coastal and Fisheries Issues

Decline in fish catch - According to the fisher folks interviewed, the decline in fish catch is a result of the use of outboard motors. To them, the sound of the motor has made the fish move far. They believe, in deep sea, there is a lot of fish

Poor water supply, sanitary facilities and health services: There are two bore-holes in the community which the residents believe is woefully inadequate. There are 3 toilet facilities one of which is very old and has developed cracks. Akatekyi has no clinic and residents have to walk to Princesstown for treatment when sick.

Poor security, especially for tourists - The community has also no police post which makes it difficult as they have to move to a faraway inland community, Abura, to report all criminal cases. Tourists who walk through the community have to move with escorts, mostly natives or be robbed by unknown assailants. Community members believe these robbers are from neighboring communities. At the time of our visit, the team witnessed a tourist who was robbed by unknown people in the bush. The tourist was walking from Princesstown to Akwidaa.

Community Concerns

Almost all the people interviewed suggested that the sanitary conditions in the community be improved through the provision of more refuse containers.

MIEMIA

Brief history

After the establishment of Egyambra, two men were farming around the current Miemia area. After their days work, they go back to Egyambra to bath and sleep. One day, while working on their farm at Miemia, they discovered a pond full of water. The water according to them was very tasty and white. They then decided to bath there after each day's farming activity and this went on for some time. Later, they decided to build a small shelter around the pond so that they could sleep and bath without going to Egyambra everyday. The men named their cottage 'ma ye bi suazo' (**Nzema**) which means "lets bath cottage". So the name was 'ma ye bia' but when the white started coming there, they were finding it difficult to pronounce it hence the corruption to "Miemia."

Physical Characteristics

Miemia is one of the major fishing communities in Ahanta West District. The community shares boundaries with Egyambra in the east, Cape Three Points in the west with the northern part bordered by vast rubber plantations which belong to the Ghana Rubber Estate Limited. The community is characterized by hilly areas at the outskirts while the inner part of the community is a flat land. The major road is an untarred one which passes through the community and leads to the beach. It is located some 50km drive away from the district capital. The shoreline has eroded with most of the houses washed away by the ocean. There are three lagoons in the community, namely Nana Ahonvia-monle, Nana Miemia and Nana Blakpole.

Biodiversity

In the month of August, the Miemia community sees whales a few miles away from the shore. Apparently due to the busy nature of the Miemia beaches and landing site, turtles are hardly seen at the area.

Sanitation

Sanitation in the Miemia community is very poor as the community's shores are always engulfed by rubbish, mostly plastic waste and have extended to the inland where a dried-up lagoon seems to be having its share of the rubbish. With the discovery of oil offshore the Cape Three Points, sanitation along the country's coasts has become a priority. The renowned and private owned waste management company, Zoomlion, introduced the Eco Brigade or Beach Brigade to deal with sanitation at our beaches which includes oil spills when drilling of oil begins in commercial quantities. Though the Beach Brigades (Zoil) seem to be doing a good job at most of our beaches, the Miemia community is yet to overcome that challenge. Zoil personnel in Miemia are 20 who are all natives of the area. They started work in December 2010 but claim to have limited logistics to work with which may have contributed to the poor sanitation conditions at the beaches. Some of the personnel interviewed, said, though there were two refuse dumps at the area, residents still dump refuse at the shore. They however claimed majority of the rubbish that gathers at the shore were brought in by the sea. Zoil and a nearby lodge, KEDAS say they have to sweep at least 3 times daily to rid the shores of waste, mostly plastic swept onto the shore by sea waves.

Demographics and Settlement Patterns

The population of Miemia stood at about 1005 as at the 2000 population census and currently is around 2549 comprising 1176 males and 1373 females. Miemia is a mixed ethnic community comprising of Nzemas and Fantis. There are about 95 -100 houses in the town which are mostly made of mud and bamboo roofing. The few houses built with cement are also roofed with bamboo. Landmarks in the community are the Kadas bar, Chief's Palace, the premix fuel center, among others. There is also the Pentecost church and three different 12 Apostle Churches. Close to the football field is the SDA Primary school. To the west of the coast is the Kedas Hotel, followed by major buildings by some foreign nationals and local companies (Ghana Cement Works, John Bitah Ltd etc). The community has three public wells.

Economy

The mainstay of the economy is fishing. Fish catch at the area has over the years declined and the fishermen say this has affected their standards of living. The youth in the area who do not enjoy fishing are also concerned about the high unemployment rate in the community.

Tourism

Miemia has only one hotel facility: KEDAS Lodge, which was established in 2005 by a Zealander (from New Zealand) and his Ghanaian wife. The facility is known for its fishing and hunting escapades. Guests who patronize the KEDAS Lodge, mostly foreign nationals and a few newly married Ghanaians couples, either use speed boats for fishing sprees or go hunting and return with deer. The facility provides accommodation, restaurant and bar services and the workers numbering about 15, are all Ghanaians.

Tourist Service Centre: The Miemia tourist Service Centre operates in a small kiosk located few meters away from the premix centre. It is a newly established centre which was locked up during our visit. Sources say the facility has 5 guides who escort tourists to the Crocodile Pond in the neighbouring Egyambra community. The tour guides also guard and help out tourists who swim in the sea.

Fishing

Fishermen at Miemia used to get about 60 pans of fish daily but now they get only 10-15 pans and have attributed it to the light fishing. The fishermen say the light fishing has driven the fish into deeper seas and they are now compelled to go beyond the 30 meter zone before they make good catches. According to them, the fishing industry will collapse if practices such as light and pair trawling are not banned. Miemia used to have about 15 canoes which used only paddles. Now there are about 40 Canoes; 25 of the number use outboard motors and 15 use paddles and sails

Fish Sharing System: Money sharing is done in April during the Easter season. Fishermen at Miemia deduct the expenditure from whatever they've been able to save and divide the net earnings into two; one for the gears owner (outboard motor, canoe and net) and one for the crew including owner of the canoe. After the major season the 'wokye' canoes start another fishing expedition called "kelem" or 'by day'. This time they share the money on weekly basis. Migrant fishermen from Moree in the Central Region join them during the major fish season.

Fishing holiday- Tuesdays are observe as a taboo day for fishermen in this community. They do not fish on this day.

Processing and marketing: Fishmongers prefer smoking to other types of fish processing. The smoked fish is marketed at the district capital mostly on Wednesdays.

Table 1: Gears Utilized and Type of Fish Species Harvested at Miemia

Common Name (English)	Scientific name	Local Name (Fanti)	Season(s) Caught	Gear Types Used	Gear type English name
Cassava fish/ law croaker	Pseudotolithus brachygnathus	EEkan	Lean seasons (October-December-May-Harmattan)	Adado	Bottom set net
Long –finned Herrings	Illisha Africana	Nkanfona		Tenga	
Shine-nose/ common threadfin	Galeoides decadactyles	Sukwei			
Round Sardinella	Sardinella aurita	Eban	Major Season (July - Sept)	Wokye	Ring net
Flat Sardinella		Kankama		Ahyekon	Gill net
Plain bonito	Orcynopsis unicolor	Safor			
Frigate tuna/ Atlantic little tunny	Auxis thazard/ Euthynnus alletteratus	Apoku			

Local Institutions and Governance

Landing Beach Committee: There is a Premix/ Landing Beach Committee in Miemia which sees to the supply and sale of the premix fuel.

There is a chief fishermen and his council of elders as well as CBFMC

The community has an Assembly person who serves as a liaison the community and the District Assembly.

Key Coastal and Fisheries Issues

Incidence of sea erosion - The sea has washed away all houses that were at the seashore some years back and if care is not taken other houses that are close to the beach will also be eroded in the next decade or two.

Conflicts at sea- especially as to whose territory it is to lower the net for a catch. These conflicts are settled by the chief fisherman who gathers the CBFMC to sit on the case. There is also a conflict that usually ensues when trawlers destroy nets of other fishermen. Issues of this nature are usually reported to the Fisheries Commission but nothing is done about it.

Community Concern

Most of the people interviewed called for a ban on light fishing and other unsustainable fishing methods practiced by fishermen in various communities.

EGYAMBRA

Brief History

Indigenes of Egyambra are believed to have migrated from Assin Nyankomase in the Central Region. They speak the 'Evalue' Nzema dialect. It is believed that a hunter who settled in a town called 'Old Thirty-two' through his hunting one day arrived at the seashore. He saw on the shore a lot of fish and sent them to the house. The next day he went back to the shore from his home at '32'. This time however, he set fire and smoked some of the fish there on the beach. This went on for some time until the hunter and his son decided to tap palm wine at the area close to the coast. It happened one day that some men appeared at the camp of the hunter and met only his son. They asked him for a drink (Palm wine) but the boy said to wait for the father's return before he gives out a drink, which in Akan means 'ma Egya mbra ansa'. After being served a drink upon the hunter's return, the people left and the next day said to each other 'let us go again to the village where the boy said "ma Egya mbra ansa" ('let father come before...') to drink palm wine'. Hence, the name Egyambra

Physical Characteristics

The Egyambra coastal community of the Ahanta West District, with its beautiful flat outstretched coastal boundaries which gives the impression of a tourism potential not yet tapped, is situated in a plain outlined by hills and valleys. The community shares boundaries with Miemia to the east and is the last coastal community in the Ahanta West district to the west, sharing borders with the Nzema East District. There is lagoon at the extreme west of the coast, called 'Elezule', which houses crocodiles and is seen by most indigenes as sacred. There is another lagoon, 'Ehonle' located at the extreme west of the coast.

Biodiversity

Turtle spawning grounds are usually located close to the Elezule lagoon. Due to the solitary nature of the shores, turtles are often seen on the beaches at least once every week. Residents however claim they do not catch them due to a directive issued by the authorities. (Wildlife) Whales and dolphins, according to some fishermen, are seen few miles from the shore especially during the fish bumper season in August when the herrings are in abundance. It is believed that the whales feed on the herrings and follow them to shallow waters close to the shore.

Demographics/ Settlement pattern

The population of Egyambra stands at about 4265 made up of 2214 females and 2051 males. There are about 290 - 300 houses with an average of six per household. The community's major road network is a dusty and untarred that passes through the centre of town and leads to the centre of the community. The houses are made of mud and raffia and are dispersed. Egyambra has one Anglican Primary and JHS. Major landmarks in the area are Community Clinic and its staff bungalows, Teachers bungalow, Palace football field and the old and new community market. Churches in the community include the Anglican, Pentecost, Methodist, Catholic and Church of Christ. The Catholic Church and Church of Christ use the premises of the primary school for its activities. There is a KVIP /public toilet and a cemetery to the west of the coast. Egyambra has electricity and two bore holes. The community also has a clinic that according to residents operates efficiently by an out-of-town medical team.

Education

Egyambra's only primary and junior high school, the Anglican School has a current enrolment of 107 students for the JHS. Out of 46 schools in the district as at 2008, the JHS placed 15th in the B.E.C.E.

In 2009, the school progressed to the 5th position on the B.E.C.E chart of 47 schools in the district chalking a 92.1% pass.

Economy

Though a coastal community, the mainstay of the Egyambra community is farming. Many of these farmers however may double as fishermen who over the years have settled on farming with the reason that the fishing industry has lost its lucrative touch. As fishermen complain of low fish catch because of outmoded fishing technology (use of paddles) which does not allow them to go far out to sea, farmers also believe the standard of living over the last few years has dropped due to challenges of capital to extend arable lands and control pests.

Tourism

The Elezule lagoon is inhabited by about 30 crocodiles, according to residents, that serve as a tourist attraction site. The crocodile pond according to opinion leaders is one of the best nationwide and perhaps second to the popular 'Paga Crocodile Pond' in the northern part of Ghana. The pond is managed by some attendants at the chief's palace serving as tour guides who are believed to be gifted with the ability to cast some incantations used to call the crocodiles.

Farming

A greater proportion of the Egyambra population is farmers who cultivate mostly cassava and oil palm. About 140 of the farmers however grow rubber. Many of the farmers operate on small scale with some intercropping oil palm and cassava on a 2½ acre plot. The cassava is sold internally at the community while some produce-buying companies or individuals on the other hand, go to the community to buy the palm for BOPP. According to the farmers, 100 kilogrammes of palm fruits are sold at GH¢8.00 to the produce buyers. The sole buyer of the rubber is GREL. Both men and women are indulged in all farming produce grown in the community.

Fisheries

Fish catch according to residents has decreased drastically as compared to some 30 years ago because they use paddles and as such their canoes cannot go as far as those that use outboard motors.

Canoes in the Egyambra community have reduced from 100 to 50 over the years as fishermen attribute it to the nature of the landing beach (not suitable for landing). The community still uses paddles for the canoes.

The fishermen at Egyambra were in the past practicing dynamite fishing and the hook and line. They are no longer into dynamite fishing but use mostly the hook and line together with the bottom set net.

To many of the indigenes, the Elezule lagoon which houses crocodiles is sacred. Fishing in commercial quantities in the Elezule is not acceptable with the exception of a few older folks who are qualified to fish for big tilapia in the lagoon.

Fish sharing system- Canoes used at Egyambra are one man canoes, normally used by the owner. The owner does not share the fish catch with anybody.

Fishing holiday--Fishermen in Egyabram do fishing everyday. They do not have any day set aside as a fishing holiday

Processing and marketing- Fishmongers at Egyambra process smoked fish. They smoke all fish types depending on what the fishermen bring back from sea. Smoked fish is usually marketed at the Agona district capital and some sold in the community.

The table below specifies the types of fish species catch at the respective gear used as well as the seasons.

Table 1: Type of Species Harvested and Gears Utilized at Egyambra

Common Name (English)	Scientific name	Local Name (Fanti)	Season(s) Caught	Gear Types Used
Frigate tuna/ Atlantic little tunny	Auxis thazard/ Euthynnus alletteratus	Apoku	Lean season (January – June)	Line and Hook
Jack mackerel	Caranx Hippos	Epee	Fish bumper season (August-December)	
Blue-spotted sea bass	Cephalopholis taeniops	sosenkye	Lean season (January – June)	

Local Institutions and Governance

Clan system: The community has a strong traditional institution of clans where each clan collects contributions and gives some out to members during funerals and other occasions.

Chieftaincy: The long running chieftaincy conflict between two factions has prevented the community from having a united traditional chieftaincy front.

Landing Beach committee: There is no premix outlet at Egyambra as all canoes use paddles.

Fish Mongering: The community has no Chief fish monger since the death of the previous Chief fish monger some years back.

Key Coastal and Fisheries Issues

Lack of Capital: Fishermen in Egyambra complain of lack of finances to purchase outboard motors which could have erased the problem that paddled canoes face when landing. Farmers complain of abundant arable lands but no capital and technology to expand.

Low prices for farm goods : Farmers complain of not being paid enough for their palm fruits procured by the produce buyers for BOPP. They believe the poor (dusty) road network which many vehicles refuse to ply is a contributory factor hindering them from carting their palm personally to BOPP in order not to be cheated by the produce buyers.

High levels of crop pests: The farmers are also unable to control pests which attack cassava plants, blackening the leaves and causing stunted growth. Rodents like grass cutters also parasite on the tubers of cassava leaving only a little for the farmers.

Poor maternal and child care health services: The community's maternity needs are under-fulfilled as complicated pregnancies and emergencies are referred to bigger hospitals whose accessibility are hindered by the geographical distance, access to commercial vehicles especially at nights and the rough nature of the roads which sometimes affects patients.

Inadequate toilet facilities: The community has a very old single toilet facility, a six-seater, shared equally between the male and female sides. This is not enough and as such some residents attend to nature's call behind the Elezule lagoon.

Lack of refuse containers: There are two refuse dumps managed by the community itself and the rubbish is burnt when it piles up.

Community concerns

According to the people interviewed, the following are the urgent concerns of the community.

- Upgrading of the health post to cater for maternity needs
- Loans and finances for expansion of farms and the purchase of fishing inputs.
- Provision of refuse containers

6.0 Rapid Assessment of Coastal Communities in the Western Region: Summary of Findings for Nzema East Municipal Assembly

Background

A rapid appraisal was conducted in 11 coastal communities in Nzema East Municipal Assembly between March 29 – April 13, 2010. The communities covered were: Agyan, Akonu, Domunli, Apewosika, Anto Apewosika, Fanteline, Boatase (Lower Axim), Solo (Upper Axim), Amanfukuma, Brawire and Akyenim.

The purpose of this assessment was to generate primary information that will ultimately contribute to establishing the overall baseline coastal conditions for characterization of the coastal communities. This appraisal collected mostly qualitative information and some quantitative data on issues relative to fisheries, community infrastructure, governance and institutions, local habitats and perceptions of resource management. The research team comprised six members and spent about two days in each community. Data was collected through focus group discussions, participatory mapping, direct observations and key informants interviews. Information was also collected from secondary sources to complement the primary information collected. Key among them was the development plan of the Municipal Assembly.

A validation workshop was conducted after the exercise to disseminate and validate the information gathered from the municipality with key stakeholders.

This report provides a brief overview of the Nzema East Municipal Area as well as a synthesis of key fisheries, coastal and other coastal community development issues that were revealed during the field assessment. The Annex provides profile information and specific issues for each of the coastal villages within the Municipality.

Profile of nzema east municipal assembly: Brief History of the District

In 2008, the Ellembelle District was carved out from the erstwhile Nzema East District while the former was upgraded to Nzema East Municipal Assembly. The creation of new districts from larger ones was in line with government's objective to enhance decentralization processes in the country.

Physical Characteristics

The Nzema East Municipal Assembly which is one of the six coastal Districts in the Western Region of Ghana is located on the southern end of the region between longitudes 2⁰ 05' and 2⁰ 35' west and latitude 4⁰ 40' and 5⁰ 20 North.

It is bounded on the east by the Ahanta West and Wassa West Districts, on the west by Ellembelle District, on the north by Wassa Amenfi and south by the Gulf of Guinea. Nzema East is rich in vegetation covers and large plots of farmlands. It is also characterized by hilly land areas that usually envelop settlements in the area. The coastline which used to be 70km before the split-up now stretches to about a 30km. This Municipality also covers a total land area of about 20,474 (square kilometers) which also forms about 9.8% of the total area of the Western Region. The coastal landscape is a fairly large one that has a beautiful oval shoreline and beautiful scenery of a natural

bay and headland that almost passes for an island. The northern part of most of these communities is mostly hilly while the southern part is mostly flat land.

Governance system

Local

Nzema East Municipality Assembly is the highest political authority in the district under Section 10 of the Local Government Act 1993 (Act 462). The Assembly exercises deliberative, legislative and Executive functions in the district. It is empowered by Act to be responsible for the overall development of the district through the preparation of development plans and related budget and also to implement, monitor and evaluate programme, strategies and projects for effective mobilization of resources for development.

The Nzema East Municipal Assembly in consonance with the Local Government Act 1993 (Act 462) is composed of the District Chief Executive who is appointed by Government and approved by 2/3 majority of the members of the Assembly who is the head of the office of the District Assembly, the two members of Parliament from the two constituencies of the District and Assembly members. The 48 Assembly members are elected from the 48 electoral areas through universal adult suffrage and the remaining appointed by government in consultation with the Traditional Authority and other interested groups. The Presiding Member is elected by 2/3 majority of all the members of the Assembly. There are 10 Area Councils and 1 Urban Council. The district has 146 Unit Committees with an estimated membership of 1,648. Area Councils and unit committees are pivotal in local level development as they ferry the Assembly and local community and act as the supreme points of development at the local levels. There are 11 departments under the office of the assembly. The activities of these departments are co-ordinated by the District Co-ordinating Director.

Traditional

The Nzema East Municipal Area has three paramountcies under the Nzema Manle Traditional Council with its headquarters at Esiam (Ellembelle District). Under each of these paramountcies has Divisional Chiefs and below them are Odikros. Along the coastline are also Chief Fishermen and Konkohene who are the traditional Heads (Leaders) of fisherfolks. These Traditional Authorities command the respect of large numbers of their people and communities particularly in the rural areas. They are dedicated to the development of their traditional areas and the education and enlightenment of their people. They have a part to play in facilitating government policies and mobilizing their people for development, of particular importance is the role of the traditional authorities in support of land administration reform, a key factor in economic growth and in the protection of the vulnerable and excluded. (source: www.ghanadistrict.com)

Demographic Characteristics

As at 1960, the population of Nzema East Municipality which was then the Nzema District was estimated 40,000 increasing to 51,000 with a growth rate 3.9% in 1970 and to 88,000 in 1984. According to the 2000 Population and Housing Census report, the population of the then Nzema East District was 142,959 (males 71,673 and females 71,198) which comprises of Nzema East Municipal Area and Ellembelle District. The Current population of Nzema East Municipal Area according to projection is estimated at 90,000 and a growth rate of 2.7, same as the national growth rate. Averagely, there are five persons per household.

The Municipality experiences a considerable degree of movement of people (migrants) in and out. This is attributed to seasonal fishing activities as well as migrant farm labourers and the influx of small

scale mining operations in the municipal. It is estimated that 79% of the population are Christians, 8% constitute Muslims, Traditionalists 3% and others 10%.

The Municipal Assembly has about 159 basic schools. Out of this 135 are public schools which comprises of 56 Kindergarten, 52 primary schools and 27 JHS.

Axim Government hospital is the only hospital in the municipality. It has a bed capacity of 70 comprising of 19 beds for Kids ward, 21 beds for female ward, 16 beds for male ward and 14 beds for maternity. (Source: Nzema East District MTDP, 2006)

Economic Activities

It is estimated that over 65% of the economically active population are engaged in Agriculture (including fishing) and agro- processing. Before 1965, the major cash crops grown in the area was coconut and cocoa with cassava and plantain being the major food crops. In 1965, the lethal yellowing disease of coconut locally called Cape St. Paul's Wilt Disease (CSPWD) destroyed almost half of the plantation along the south-eastern coastline. This affected the economic livelihood of people in these areas leading to low income and increase unemployment. This was a major factor that shifted the attention of coconut farmers to rubber plantation.

Fishing is mostly done by people along the coast. During the major season (between July-September), there is brisk economic activities in the municipality coupled with in-migration into the area. However during off-season period, there is recession in economic activities and unemployment crisis. This also adversely affects the income level of residents as the revenue base of the municipality. (Source: Nzema East District MTDP, 2006)

Trading is usually done on small scale (petty trading) but for a few that is on wholesale. There are also a few white and blue colour jobs created by the few traditional banks (Ghana Commercial Bank and rural banks). The mid 1990s, witnessed the influx of few hotels (hospitality industries) which has created employment for some natives of the area. This has gradually reduced unemployment and increase petty trading.

Environment

The District has extensive forest resources from which extraction of timber and other non-timber forest products are exploited on a large scale. However lack of comprehensive resource extraction policy and security of land tenure coupled with bad farming and lumbering practices have resulted in deforestation and loss of vital timber and non-timber resources in many areas within the forest zones of the municipality.

The District has considerable lagoons such as Agyani Wanlea, Tonzu and Awodomla. Over the years, these lagoons have been negatively impacted by human activities, particularly discharging of human excreta and solid waste into them.

Sand and stone winning activities along the coast especially in Axim have led to considerable sea erosion and continue to threaten some communities along the coast.

The Housing environment in the District is characterized by poor and choked drains, unkempt surroundings, exposed building foundations and cracked walls and leaking roofs.

Land Use

Settlement and agriculture activities have been the main uses of land in the municipality. From 1975, most areas have been cleared for settlement as a result of increasing population. Inland communities such as Bamiango, Nuabesa, Yediyesele have witnessed massive reduction in forest size due to

farming activities, charcoal burning and lumbering. Biggest among these reasons is that these communities and many others in the municipality lost large tracts of land to rubber plantation. As noted by an Opinion leader “Nuabesa’s forest started depleting from 1965 initial rubber plantation and extension in 1995” Coconut plantation which used to occupy large acres of land has given way to rubber plantation due to the Cape St. Paul Wilt disease which destroyed the plantation in the 1960s. Hotels and resorts make an insignificant usage of available lands but there are indications of higher utilization of land for hospitality industries in view of the oil find.

Key Coastal and Fisheries Issues in the Nzema East Municipality

It was revealed during the rapid assessment that all fishing communities in this district practice artisanal marine fishing except in Axim where there is a mix of artisanal and semi-industrial fleet. It was also found that commencement of individual rubber plantation in the mid 1990 led to a significant land use change from farmlands to rubber plantation. Unlike other districts, where people in the coastal communities practice fishing and farming, in the Nzema East Municipality, coastal communities practice solely fishing. The section below provides more detail about these key fisheries issues, coastal management as well as other coastal community development issues within the Municipal. These issues were gleaned from field interviews and the district validation workshop

Fisheries Issues

Declining fish catch: This was attributed to the use of light, dynamite and small size nets as well as increased number of canoes and fishing at all seasons instead of the main fishing season.

Poor fish quality – The use of chemicals such as dynamite and carbide for fishing bring about bad fish quality as smoked fish stays for less than a week and starts perishing.

Regularization of the sector: Interesting enough, most fishers called for the fishing industry to be regularized as even farming has season for every crop type. To them, if the industry is not regularized, there will be no fish in the sea in few years to come.

Increased Price of fish –Of prime concern to women interviewed was the persistent increases in the price of fish and blamed the situation on demand and supply forces. Further, the excess demand over supply was attributed to unsustainable fishing methods practiced by most fishermen in and outside the metropolis.

Unavailability and expensive fishing inputs—most fisher folks, especially canoe owners complained bitterly about the unavailability and expensive fishing inputs with particular mention to outboard motors.

Inadequate and irregular supply of premix fuel ----Even though the supply of premix was noted to be inadequate and irregular in the communities, most premix centers have been closed for months but various political reasons were assigned for their closure.

Weak local institutions---The existence of a 15 member Community Based Fisheries Management Committee whose principal responsibility is to enforce national fisheries laws at community level, as well as to enact and enforce their own by-laws to the same end are not very effective and functional.

Coastal Management Issues

Poor sanitation---The sanitation situation in most communities in the metropolis, with Axim as an example, is very appalling. The practice of disposing solid waste materials in gutters, main drains, open spaces and the sea is very common. Indiscriminate defecation along the beaches is common among the coastal Communities like Apewosika, Brawire, Amanfokumah and Solo. Waste disposal is not very well organized. Most communities also lack drainage systems, while the few existing ones are often choked with household garbage and also faeces resulting in stagnant waters. It is however worth mentioning that Akonu is relatively clean.

Other Development Issues

Oil fears—some coastal residents in the metropolis expressed deep fears about oil spillage and deeper fears of oil production resulting in deprivation of livelihoods, particularly fishing.

Difficulty in accessing credit facility: Though the metropolis boast of a number of financial institutions, some residents hinted on the extreme difficulty in accessing credit from these institutions due to their inability to provide collateral which is key in granting of credit by the institutions. However, few women admitted to have obtained very little credit based on group guarantee from some smaller financial agencies.

Increasing teenage pregnancy—this was not uncommon in the communities visited. Some opinion leaders and other key informant were of the view that irresponsible parenthood, poverty and disobedience by the teenagers are the main contributing causes. Some predicted that the district will witness likely increase of these problems when production of oil begins in the last quarter of the year.

References

Nzema East District, Medium Term Development Plan for Poverty Reduction (2006), 129 pages.
Ghana Districts, 2006. http://www.ghanadistricts.com/districts/?r=5&_id=132&sa=2877 (assessed on May 20, 2010)

Appendix 1: List of Key Contacts

NAME OF COMMUNITY	CONTACT PERSON	POSITION	TELEPHONE NUMBER
APEWOSIKA	Opanyin Kofi Dzawoabah	Chief fisherman	
	Mike Edu-Abaka	Boat Owner and Outboard motor mechanic	0244-880174
	Margaret Quayson	Fish monger	0242126517
	Ante Bekye	Fish monger	0275522905
AMANFOKUMAH	Hon. Dorcas Adeabah	Assembly woman	024-3712827/0271117281
	Abraham Sanzah	Islamic School Headmaster (JHS)	0278127679
	Daniel Koomson	Islamic School Counselor (Primary)	0202513136
AKONU	Mr. Forson	Native Fisherman	0203884292
FANTE LINE	Aunt Ablema	Chief Fishmonger (Fante Line/ Boat Ase/ Solo)	0245858558
BOAT ASE	Kabee	Canoe Owner	0246 192059
ANTO-APEWOSIKA	Anthony Adjei Asaber	Canoe Owner	0244711514 / 0208188780
SOLO	Joseph Suanze	Elder/Gyaasehene	0275583269
	Theresa Quansah	Fishmonger (with 3 canoes)	0543532648
ZOOMLION	Pius Obosu	Zoil Coordinator (Nzema East Municipality)	0244949400
	Emmanuel Appiah Ofori	Zoomlion Operations Officer (NEMA)	0244029535

Appendix 2: Description of Fishing Gears

Gear Name (English)	Gear Name (Local-Fanti)	General Description	Species Caught
Drift Gill Net (surface)	Ahyekon	The difference between the Ahyekon canoes and the Wokye canoes is not much. The net is made of thread and twine is used to mend the net. It is used in the major season (July-October)	Tuna, marlin, Congo dentex etc
Ring Net/small purse seine	Wokye	This type of net is usually used by large canoes in the major season. The net is made of thread and is about 20mm with the size of 400-450 yards. These canoes usually have a small canoe which carries generators for light fishing. They take on board 18-23 crew members and set off at 5pm and land at 8am the next day. They usually target pelagic species but are able to catch demersal species too.	All species of fish Round\flat sardines
Bottom set net	Tenga	This gear is operated by 3-7 crew members. The smallest mesh size is 10mm ² . There are also 20mm ² mesh sizes of these nets. These nets target both demersal and pelagic species. It is made from fibre/polyethylene material which could be about 200 yard long and 1.5 yards wide. It is operated from small and medium-sized vessels. They set off at about 3.00 a.m. and land at 2.00 p.m. the same day. This gear is set for about 3-4 hours before it is hauled. They are employed in the minor season.	All species of fish like Cassava croaker, Guinea sole, Pink dentex / sea bream long finned herring, ribbon fish etc
Hook and line	Asosow	Hook and line can be categorized into two. One – man canoe and medium size canoe. The one-man canoes do not go far (about 10-15meter zone) but the medium size canoes fish around 60 meter zone and above. It targets big demersal fishes as well as large pelagics but are able to catch demersal species too. They employ 5-10 crewmen and spend about 4-6 days on sea. They take on board ice blocks and food stuffs. Hook and line is used all year-round without any major and minor sea ¹¹ sons.	Red fish, tuna, sea bream snapper, grouper, yellow fin, Doctor fish

¹¹ (Source: Amador *et al* , 2006)

Appendix 3: Description of fishing vessels

Canoe Type	Local Name(s)	General Description	Gears Used
<i>The marine artisanal fishing canoes are categorised and named after the types of gear used</i>			
One-man canoe (Small canoe using paddle)	One-man canoe / Dokuwa/ Nkoba	One man canoes are normally used by one-person. The preferable wood is wawa and operate bottom set net, small drift net and hook and line. The size range is about 4-6m long and 0.40-1.20m wide with 5-6 seats. This type of canoe is usually used paddle.	Bottom set net, small drift net, hook and line
Small Canoe (motorized)	Tenga / Karadze / Esema hyen Twuwii	The small motorised has a length of about 8-9m with 9seat, taking on board 3-7crew members. It is mostly made of Wawa <i>Triplochiton scheroxyton</i> and propelled by 15-25hp outboard motor which is mounted on the read right (starboard) side of the canoe. It uses pre-mix fuel.	Bottom set net / Drag net
Medium size Canoes (motorized)	Ahyekon / Nifa-Nifa / Mpataku / Adado Asosow	The length of about 10-15m with 11-13 seats. These types of canoe normally employ a crew of 4-7members. It uses 25-40hp outboard motor.	Drift Gill net (DGN) / Hook and Line
Large Canoe (motorized)	Wakye canoe	The large canoes are normally used to operate 'Watse'net. The size normally range from 19.5-20m long and a wide of about 2.4m with 15 seats and take on board 18-26 crew members. This type of boat is built with Wawa boards. They are always propelled by 25-40hp outboard motor.	Ali / Poli / Watsa or Ring net
Semi-industrial (wooden)		They do purse seining and employs 25-30 crew members. The nets are hauled by man power.	Purse seine nets

Appendix 4: Landing beach committee stories/issues and others

BOAT ASE-PREMIX/LANDING BEACH COMMITTEE

There is premix service center where the premix fuel is sold to the local fishermen of Boat Ase and others from Apewosika and Fante line. Initially, the supply was irregular but after the visit of the current Deputy Minister of Agriculture to the community in December 2009, the supply has been regular every week. Though, the supply has been regular, it is not sufficient since the center serves almost four communities.

Source: Interview with LBC Secretary of Boat Ase

BRAWIRE--LANDING BEACH COMMITTEE

During the regime of the NPP (2000-2008) there used to be a premix committee headed by the chief fisherman. At that time, the people of Brawire were getting supply of premix almost every week. Since the coming into power of the NDC, (2009-), there has not been any premix committee because there is the perception that the chief fisherman at Brawire belongs to the other political party (NPP) and for that matter, the town is no longer supplied with premix fuel. The canoes which use outboard motor go to the next town (Axim) for supply.

Source: Interview with chief fisherman's secretary of Brawire

SOLO-PREMIX/LANDING BEACH COMMITTEE

According to the chairman of the premix committee, the concept of premix was introduced by the President Rawlings of NDC time (1992-1999). At that time, the fishermen were using fuel called regular. During the NPP regime (2000-2008) the fuel was being sold by the various chief fishermen. It was realized that most of these people were misusing the proceeds that were supposed to be given to the community. During the coming into power of the NDC again (2009- date), came the formation of the Landing Beach Committee (LBC). This committee now sees to the delivery and supply of premix to the fisher folks. The community's share of 53% of the premix proceeds is saved at the bank. The supply of the premix fuel was initially not regular but currently, there is supply every week.

Source: Interview with LBC Chairman of Solo

HOW THE LIGHT HOUSE GOT THE NAME 'BOBO AREZI'

The island where the light house is situated was initially a very thick forest. The light house at the time had not been built. It was believed that dwarfs were in the forest, so people were not allowed to go there. One day, a certain man by name, 'Arezi' went there nicodemously to look at what was there. It is believed that he was mercilessly beaten by the dwarfs in such a way that he could not come back home that day. The next day, his people went to search for him. They found him alive but very weak because of the beatings. They said 'Bebo Arezi' (Nzema) which literally means 'they have beaten Arezi', hence the name of the island 'Bebo Arezi' which has over the years corrupted to 'Bobo Arezi'.

Source: Interview with Chief fisherman of Apewosika

APEWOSIKA - PREMIX/LANDING BEACH COMMITTEE

Before NDC part one, fishermen of Apewosika were buying fuel called "Ordinary/regular" from the shell, an oil supply company. At that time, we mixed the fuel with engine oil for our outboard motors. It came a time (around 1980) that fishermen were not getting the 'ordinary/regular oil' to buy. Around 1986, the then Chairman Rawlings heard the cry of the fishermen and introduced the premix fuel into the system. At that time, there was a body called 'Co-operative Fishermen Service Center Union' which was in charge of delivery, distribution and selling of the premix. In the year 2000, during the NPP regime, the chief fisherman at Apewosika and his council were selling the premix through a local premix committee. In the year 2009, NDC part two came with the formation of Landing Beach Committee which now sees to the sale of the premix to the fishermen. There is currently no LBC at the community. The premix is mostly bought at Lower Axim or where ever the fuel is available. On 31/03/10, however, the LBC from Lower Axim with some of its members from Upper Axim were at the community for the sale of premix.

Source: Interview with Chief fishermen of Apewosika

HOW AXIM /ESEM GOT ITS NAME

In the olden days, ships from Europe used to stop over at Axim just in front of the current GHAPOHA Light House on the sea to offload some of the goods to the then GNTC at Axim. So it happened that when the 'whites' were walking through the town and were greeting the Nzemas, the latter would respond 'edo erze meo?' which literally means 'do you know me?' So the whites who continuously heard 'erze meo, erze meo' and because they could not pronounce it very well, they corrupted it to 'Axim.' The Fantes also later corrupted the 'erze meo' into 'esem'.

Source: Interview with Chief fisherman of Apewosika

Appendix 5: Output from validation workshop

NATURAL ENVIRONMENT

Forest

1. Timelines- 1950 to 2010
2. Events- Planting of coconut or farming activities, logging, burning of charcoal or bush fires etc.
3. Government response- Law on the cutting of logs(timber), prevention of log cutting. The tradition of sacred places like grooves. Care International – Gwira Bansa afforestation programme by government.
4. Impact/Consequences
Reduction of rainfall, soil erosion, lost of wildlife

Beaches

1. Timelines: 1952-2010
2. Events: Sand winning, quarrying, construction of buildings and roads, sea erosion, defecation at beaches and population explosion.
3. Governance response: ZOIL (NGO) making it impossible for negative human activities. Law on quarrying and sand winning by the assembly. Construction of sea defence wall (1952) and dikes.
4. Impact/Consequence: Sea erosion affecting roads and destroys buildings. Low tourism rate/drive.

Lagoons.

1. Timelines: 1980-2010
2. Events: Dumping of rubbish, cutting of mangrove trees for dyeing of nets.
3. Governance response: No attempt from any group or quarters.
4. Consequences/Impacts: Flooding, breeding of mosquitoes.

Cont'd NATURAL ENVIRONMENT

Rivers

1. Timelines: 1980-2010
2. Events: Farming activities, refuse dumping, cutting of trees along the river banks
3. Governance Response: Assembly organised dredging.
4. Consequence/Impact: Fishing activities-breeding of fish and mosquitoes and flooding

Wetland

1. Timelines 1995-2010
2. Events: Filling for building purposes.

LIVELIHOOD

Trading

1. Timeline: 20 years ago
2. Events: Increase in population, increase in money supply
3. Governance Response: Given of loans, Musloc by Government, Grants (FON)
4. Consequence/Impact: Increase in petty trading, improvement in livelihood

Fishing

Timeline: 1990 – 2010

1. Events: Climate change, illegal method of fishing – use of dynamite, small size nets, DDT marine light fishing
2. Governance Response: Chief fisherman in collaboration with the Assembly to cease light fishing, Demonstration
3. Consequence/Impact: Reduction in fish catch. High cost of living (high prices of fish), Health hazards due to use of chemicals.

Formal sector

1. Timeline: 20 years ago
2. Events: low education non- existence jobs, no creation of employment of employment activities
3. Governance Response: Creation of jobs – Zoil – Zoomlion, Youth employment. Reduction of unemployment and social vices. Prostitution.

A. Farming

1. Timeline: 30 years ago
2. Events: Climatic change, planting of cash crops instead of food crops, absence of storage facilities
3. Governance Response: Subsidy of farming
4. Consequence/Impact: Population explosion, High cost of foodstuffs, litigation

Others

Rubber plantation

Timelines: About 40 years

Events: Because of the disease that attack the coconut tree

Governance response: Pre-financial of the rubber plantation by GREL

Impact: Reduce the production of cash crops like cassava, plantain. Mono cropping poor ventilation

Erosion

Timelines: 1928-2010

Impact: Reduction of the land size

Education: Far back in the 1920s at York hall, infrastructure and enrollment increased

correspondingly with the teacher population

Fallen standards in education from the '80s

Causes:

- A. Increased number of subjects.
- B. Attraction to fishing.
- C. Influence from cinemas.
- D. Lack of parental care.

High poverty rate

Timeline: 1983

Causes: Bad social economy

Governance response: None

Impact: Bad standard of living

Annex D: Coastal Village Summaries for Nzema East District



Apewosika landing site
Photo Credit: Nana Efua Tweba Ewur



Fish Processor at Akyenim
Photo Credit: Nana Efua Tweba Ewur

AGYAN

Brief History

In 1482 during the invasion of the Portuguese ships led by Don Diego d'Azambuja at Elmina in the Central Region of Ghana, some inhabitants unable to stand the international trade dominated by slavery, fled and settled in other parts of the country. It happened that, grandparents and founders of Agyan, 3 of them (two men and a woman) unable to stand the dictatorship of the Whites left for the western part of the then Gold Coast now Ghana. They are Enyankor, Amoako and Enuah. One of them (Enyankor) was a hunter who travelled by road while Amoako and Enuah travelled by sea. They were communicating by gunshots given by Enyankor. After some time, they reached Dixcove (in Ahanta West District of Western Region) but didn't settle there and travelled on to Egyambra where local authorities told them to move on because their stool name and traditional system were different from theirs. When they got to the current Agyan area where the Lou Moon Beach resort is located, the hunter, Enyankor killed an antelope there which in Ahanta is called 'gyane', hence the name Agyan.

Physical Characteristics

Agyan is the first coastal community to the east of the Nzema East District. It shares boundaries with Egyambra (the last coastal community in Ahanta West District) in the east and Akonu in the West. The northern part of the community is characterized by thick and hilly vegetation. There are two lagoons in the community, one to the east (Agyani Wanlea lagoon) and the other (Tonzu Lagoon) to the west. They all join the sea during rainy seasons. The shoreline is rocky and curvy with a small green island situated a few metres away from the shore.

Biodiversity

Agyan has no turtle spawning grounds and does not see turtles in the area probably because it has an open and populated beach. Whales are however seen some 5 miles away from the shore especially during the month of August.

Sanitation

Agyan has probably the neatest beach at Nzema East. The community itself is also very neat and serene.

Demographics and Settlement Patterns

Agyan is the first coastal community to the east of the Nzema East Municipality. The population stands at about five hundred (500) with an average household size of 10. The community is a mixed ethnic Fanti and Nzema group with the latter dominating. The major income earning activities are farming and fishing but majority are farmers.

Most of the houses in the community are mud houses roofed with bamboo. About 5 houses only are built with cement blocks and have bamboo roofs with the exception of the Chief's Palace which has aluminum roofing sheets. There are about ninety houses in the community. All these houses are clustered and have no lanes in-between them. There are only two streets in the community, the main road to the community and another road at the beach leading to Akonu. Electrical poles have been fixed but there is no electricity in the community. The only school in

the community is a kindergarten. Residents enroll their children at a nearby school which has a primary and Junior High School located in the neighbouring Akonu community. The only market in the community, a properly constructed facility is standing as a white elephant because the traders prefer selling at the shore (open air) than in an enclosed space. In terms of water and sanitation, there is only one public toilet and a borehole which serves the whole community.

Economy

The mainstay of the people of Agyan are fishing and farming while a few do petty trading and others construction works. Some natives have also been employed to the Lou Moon Hotel which is to the extreme east of the community and others (15) employed as beach brigades (Zoil) to maintain sanitary conditions at the beach.

Tourism

Just at the west end of the community is the Lou Moon Lodge. It is located on a 24 acre land surrounded by jungle forest and lies in a beautiful bay of sandy beaches. On the shore, is a natural swimming pool, protected from the ocean waves by an enchanting peninsula, The lodge has a 12-room hotel facility ranging from the peaceful "traveller" rooms to the exquisite "executive" bungalows located on a private island. Close to the shore is an open bar and restaurant that serves all kinds of continental dishes.

There are still the two lagoons that are believed to have crocodiles in them but have not yet been developed into tourist attraction sites. Another potential yet to be tapped is the small island at the western coast of the community which the chief, Nana Amoako Enuah III, says he's ready to let it out to prospective investors.

Farming

The farmers practice subsistence farming. They cultivate cassava, plantain and sugar-cane. According to the farmers, the farm produce are sent to Axim for sale. They testify that, farming is more lucrative than fishing although it is seasonal unlike fishing which could bring in daily income. Friday is a taboo day for farmers and it is believed that the lesser gods in the area come out on Fridays. They also do not go to the farm on Sunday because they go to church.

Fisheries

Though there are two main lagoons at the eastern and western parts of the community, the people do fishing only in the sea. According to the assistant of the Chief Fisherman, Opanyin Kwame Ampong, canoes at Agyan some 30 years ago, were only 15 in number all of which used paddles. Fish catch was more than enough. Now, the number of canoes has increased to about 120 and fish catch has rather reduced. Out of this current number, only 4 are 'esema hyen', (four-man canoe), one uses outboard motor and the rest, all of which use paddles are one man canoes (Dokuwa).

Fish sharing systems- One man canoe which does not belong to the fisherman, the proceeds are divided into 3 after expenses are deducted. The fisherman takes 2/3rds and the owner takes 1/3rd but if it belongs to the Chief Fisherman, then the proceeds is not shared. For the 4-men canoes, proceeds are divided into two after expenses are deducted. The canoe owner takes one part and the crew takes the other part.

Fishing holiday- Agyan has no fishing holiday due to the activities of bigger vessels (inshore vessels) that fish close to their territory. Fishermen at Agyan as such take the opportunity to fish on taboo days (Tuesdays) when the bigger vessels are away.

Processing/Marketing- Each fisherman sells the fish to his wife or mother mostly on credit and they in turn add their profit margin and sell to other women at a higher price and on cash and carry basis. However, no special or preferential treatment (sex for fish) is offered before the fishmonger gets fish to buy from the fishermen. The major fish processing method at Agyan is smoking. Only a small portion of the fish processed by the women is sold in the community. Majority is sold at Agona Nkwanta though Axim is closer. They claim there are more fish at Axim and will as such receive little money for their sales if they sell there.

The following is a table indicating the canoe and gear types as well as fish species caught at Agyan. It should also be noted that the canoes are usually named after the gears they use;

Table 1: Gears Utilized and Fish Species Harvested at Agyan

CANOE/GEAR USED		No. OF CREW	FISH SPECIES			Season
Local Name	English Name		Local name (Fanti)	Scientific name	English name	
Awam sea/ nkoba	Hook and line	Dokuwa (1man canoe)	Sukue	Galeoides decadactyles	Lesser African threadfin	All Seasons
			Eboe	Brachydeuterus auritus	Burrito	
			Epae/ Opaa	Caranx hippos	Jack mackerel	
Tenga	Bottom set net	Esema hyen (4-man canoe)	Ekan	Pseudolithus typus	Cassava croaker	
			Tantra	Raja straeleni	Spotted skate	
			Kokoe	Pomadasys jubelini	Spotted Burro	

Local Institutions and Governance

There is a Chief fisherman at Agyan but no fishermen groups. One important duty of the chief fisherman is to settle conflicts between fishermen in the community.

Agyan has no chief monger or *Konkohene* (a woman). There are also no women fish groups in the community.

There is also no landing beach committee. Premix fuel is bought at Axim.

The community has a Chief and an Assemblyman.

There is no Community Based Fisheries Management Committee (CBFMC), no NGO or CBO operating in the community.

Key Coastal and Fisheries Issues

Declining fish catches

The decline has been attributed to the increased numbers (in terms of canoes and people) in the industry that multiply daily due to a rise in population.

Fishermen in the community believe that light fishing and other poor methods practised in some coastal communities are major contributory factors to the declining fish catches. This is because these fishermen use Fish Aggregating Devices such as DDT, Carbide and Dynamite which result in fish kills, polluting the sea and driving the rest of the fish species into deep seas.

Fishing industry losing lucrative touch

Many women claim the fishing industry is gradually losing its lucrative touch and producing minimal returns (hand to month) as they are unable to save. They also believe it would be very difficult for them to repay any loan facility they are offered by any financial institution and hence have never applied for or received such a facility.

Conflicts over fishing grounds

Fishermen at Agyan accused boats and trawlers from neighbouring Akatekyi and Miemia of fishing close to their territory and destroying their nets which they have already cast awaiting catches. According to them, these bigger vessels spray them with hot water preventing them from nearing them. Meanwhile no chief fishermen or authority is able to settle this conflict between the bigger vessels and canoe fishermen. There is however the Chief fisherman of Agyan to settle disputes between fishermen in the community when they are conflicted with issues on fishing grounds.

Disappearance of fish spawning grounds

There are two lagoons in the community which apart from their capacity to serve as tourist sites (because they are believed to have crocodiles), served as spawning grounds for fish especially during rainy seasons. These lagoons are now dried up and can no longer serve as spawning grounds.

Inadequate toilet facilities

There is only one public toilet in the community which is not enough for community members. Many residents defecate in the bush. The waste management Zoil personnel however prevent them from defecating at the beach.

Poor access route

The main road that leads the community is untarred, very dusty and rough making travelling by road very difficult. Some commercial drivers refuse to ply the road especially at night and residents who find themselves sick have to be tied in a cloth and carried to Axim Hospital for treatment.

High unemployment rate

The rate of unemployment at Agyan is generally high as residents complain of having no work to do. This could however be attributed to the low educational levels of residents.

Community Concerns

The following are the concerns of community members interviewed:

- Department of fisheries should collaborate with Chief fishermen to solve conflicts encountered at sea with bigger vessels from other communities.
- The government in collaboration with the Chief fishermen should ban light fishing, pair trawling and the use of FADs such as DDT, Carbide etc.
- More public toilets should be built for the community.
- The government should reconstruct the road
- Provision of electricity

AKONU

Brief History

Akonu has two histories leading to its founding and naming. One source narrates that Akonu is one of the first and oldest coastal communities established in the country in the year 1300. It is believed that Akonu, Brawire and Broaa share common ancestors who migrated from the Brong Ahafo Region due to some conflicts. Some inhabitants in the community were fetishes who usually got possessed and chanted. Then one day something from the skies consumed them causing them to disappear. Elders of the village decided to sit down and investigate into the matter. Now it is believed that the place where the elders met to discuss the incident was a compound ('Awukenu' in Nzema) or that they sat at a traditional round table conference (benches or kitchen stools arranged in an oval shape) hence the name 'Akonu', a corruption of 'Awukenu'.

2nd History-The second history behind the establishment of Akonu narrates that a steamer that landed in the community brought with it a lot of coconut fruits which inhabitants could go and pick as many as they wanted and coconut in Nzema is referred to as 'kuke' and has over the years corrupted to 'Akonu'.

Physical characteristics

Akonu is a small coastal community in the Nzema East Municipality. It is bounded to the east by Agyan and to the west by Domunli. The land is relatively flat with the northern part hilly and bushy. The shoreline is characterized by an open sandy beach. At the outskirts of the community lies a dusty untarred road that leads from the Axim Municipal capital.

Sanitation

Akonu has an outstretched beautiful and clean sandy beach that is managed by Zoil Ghana. The community itself is also very neat and serene

Demographics and Settlement Patterns

Currently there are about 400 people at Akonu with an average household size of 7. There are about seventy (70) houses, all of which are made of mud and bamboo roofs. Houses are tightly clustered with no access routes making it difficult for vehicles to pass through. There is no electricity in the community. Akonu has a government basic school that serves the two other communities (Agyan and Domunli) it shares boundaries with. The A.D.A School has a kindergarten, nursery and primary 1 to 6 but no junior high school. The only churches are the 12 apostles and the Pentecost Church which uses the school premises for its activities. There is only one borehole serving the whole community. The cemetery is at the western end of the community after the football field.

Education

The A.D.A Primary school serves the three communities—Agyan, Domunli and Akonu. There are seven teachers; two for nursery and kindergarten and five for the lower and upper primary. Out of the number of teachers in the primary, three are trained, one national service person and

one youth employment person. Those in the nursery and kindergarten are community teachers (employed and paid by the community). In terms of performance, children from Agyan do better, followed by those from Akonu. The current enrollment –2009/ 2010 academic year - stands at 138. Below is a table indicating the enrolment details:

Table 1: Primary School Enrolment at Akonu

CLASS	BOYS	GIRLS	TOTAL
ONE	15	12	27
TWO	17	10	27
THREE	19	13	32
FOUR	21	11	32
FIVE	6	6	12
SIX	9	2	11

A greater portion of the enrolment comes from Agyan as it is the most populated of the three communities. The enrollment table above shows that most pupils drop out as they climb up the academic ladder. Some of the dropouts enroll at other schools in Axim while others stop completely due to lack of ignorance and care on the part of parents who believe children who start an early career like fishing end up making more money than those who receive education. Some primary school leavers enroll to a Junior high school in Axim because the community's school has no JHS. At Axim, they either enroll to a government or private school depending on the financial strength of their parents. Most pupils are unable to buy textbooks and exercise books. Teachers at the A.D.A Primary school complain of harassment from parents of the pupils when they punish them.

Economy

The major economic activities of the people of Akonu are fishing and farming. Majority does farming and few fishing. Fifteen youth natives have also been employed under the eco-brigade programme (Zoil).

FARMING

Farming at Akonu is on a large scale but it appears however that fishing and farming are alternated as many fishermen cultivate the land during lean fish seasons. The main farm produce is oil palm. Others are cassava and plantain. The oil palm is planted mostly in June and takes three to four years to mature. Cassava and plantain are mostly planted in April. The cassava comes in two varieties; there is one that takes six months to mature and the other takes a year. Some residents of Agyan buy the palm fruits and in turn sell to companies. The cassava and plantain are often sold at Axim. Farmers at Akonu are yet to start rubber cultivation.

Fisheries

Along the beach front lie several canoes. There are about 25 canoes in the community all of which use paddle. These canoes are described as one man canoes because they take only one person. According to the fishermen, the fishing industry has changed over time; Fish species used to swim close to the shore making fish catch easy but now fishermen go far and come back with little or nothing at all. In terms of sustainability, the community does not use any unauthorized method of fishing. The gear used is hook and line.

Fish sharing systems- Canoes used at Akonu are one man canoes, normally used by the owner. The owner does not share the fish catch with anybody.

Fishing holidays- Tuesdays are seen as taboo days for fishing and are observed by all fishermen in the community. Apart from Tuesdays, fishermen do not go to sea as well during high sea tides when the sea is rough.

Processing/Marketing- The fish is sold to the women on credit. They repay after sale. The fishmongers however pay upfront for the fish when fishermen from other coastal communities like Axim land there to sell their fish. The fish is mostly smoked and sold at Agona and sometimes at the Axim market.

Table 2: Gears Utilized and Fish Species Harvested at Akonu

CANOE/GEAR USED		FISH SPECIES			Season
Local Name	English Name	Local name (Fanti)	Scientific name	English name	All Seasons
Awam sea/ nkoba	Hook and line	Apoku	Frigate tuna/ Atlantic little tunny	Auxis thazard/ Euthynnus alletteratus	
		Epae	Jack mackerel	Caranx Hippos	
		Sosenkye	Blue-spotted sea bass	Cephalopholis taeniops	

Local Institutions and Governance

There is a Chief fisherman in Akonu but there is no Chief monger (Konkohene).

- Fisher folks in this community do not have a recognized association neither do they have community based fisheries management committees (CBFMC).
- The community has a Chief who resides in the community.
- There is no CBO or an NGO operating in the community.

Key Coastal and Fisheries Issues

Decline in fish catch - Fishermen complain of the drastic decline in fish catch over the last few years. They attribute this to poor fishing practices such as pair trawling, light fishing and the use of chemicals such as carbide, dynamite and DDT that kill fingerlings and even bigger fish species, polluting the water and driving the rest of the fish stock farther. According to them, fishing grounds some decades ago used to be some 25 yards away but have now moved farther away to some 60 yards.

Price of fish- The decline in fish catch has induced an increase in prices.

No Junior high school (JHS) - Pupils at Akonu after completing the primary school enroll to junior high schools at Axim because the community does not have a JHS. Most of them walk about 4 kilometers to and from Axim everyday to school. At Axim, they either enroll at a government or private school depending on the financial strength of their parents.

High school-dropout rates: There is a high rate of school drop outs especially among the females. This has been attributed to ignorance and lack of care on the part of parents who usually advise children to take an early profession (like fishing) since educated people come out of school and get no job to do or worse still a job that pays very little.

Community Concerns

The following were concerns of community members interviewed:

- Need to connect the community to National electricity grid
- Provision of Junior High School (JHS)
- An additional toilet facility to supplement the current facility which is insufficient for the community.
- Provision of extra borehole.

DOMUNLI

Brief History

The people of Domunli are believed to have migrated from Egyambra, a nearby village in Ahanta West District. They first came to the chief of Akonu requesting for a place to settle. At that time, the people of Akonu had a very big lime tree at the outskirts of the town (currently at Domunli). It is believed that during the time, when the women at Akonu menstruate, they were not allowed to stay in the town and were confined under that big lime tree for the whole of their menstrual period. So when the people from Egyambra approached the chief of Akonu and asked for a place, he just told them to go and settle at the area where the big lime tree was hence the name 'Domunli' which means 'lime' in the Nzema language.

Physical characteristics

Domunli shares boundaries with Akonu at the east, Apewosika to the west and Awuku to the north. There are three lagoons; namely Domunli (eastern part) whilst Dobebe and Dahala are to the western part of the community. The northern part of the community is characterized by hilly vegetation which is gradually turning into a developing residential area described by the community as a new site. The old site which is near the seashore is relatively flat and sandy.

Sanitation

The community has 15 inhabitants working under Zoil (Waste management company whose personnel are charged with cleaning of beaches and oil spills) .Though, the beach is fairly clean; residents complain of having no toilet facility and so defecate on the rocks at the beach. Some of the people interviewed confirmed that both the young and old have turned the rocks at the beach into a toilet facility. The community itself is clean and residents warn visitors not to litter or have the Zoil personnel be after them.

Demographics and Settlement Patterns

The people of Domunli are around 300 with an average of 10 persons per household. The people are Nzemas, there are however a few Ewes in the community. They speak mainly Nzema language and celebrate the Kundum festival.

Domunli Community has two sites; the old site and the new site. The old site settlement, where majority of the citizens are, is close to the shore and is a flatland. The buildings are mainly mud houses roofed with bamboo. The houses are clustered and have non-linear narrow footpaths around them. Only few houses can be found at the new site. There are about 40 houses in the community with one major street lying at the outskirts, separating the old from the new site and leading to the Axim capital.

Education

The children enroll at the A.D.A Primary school in Akonu which basically serves the three neighbouring communities—Agyan, Domunli and Akonu. After the primary school, the pupils enroll at Junior High Schools in Axim. Almost all of them walk to and from Axim every school

day. At Axim, they either enroll at a government or private school depending on the financial strength of the parents.

Economy

The people of Domunli do both farming and fishing. The farmers are however more than the fishermen. During the lean fish season, most of the fishermen resort to farming. About 7 inhabitants work at the Lou Moon Hotel at Agyan (a neighboring community) and 15 employed under Zoil. The farmers also engage in firewood business and burning of charcoal. They often return from their farms with firewood and send them to Axim for sale the following day. The men at times load the firewood into their canoes and transport them to Axim. Some also carry them on the head and walk along the coast to Axim to sell. The firewood business is done by both sexes.

Farming

Farmers in the community may cultivate a number of acres of land due to their strength and financial capabilities. Most of them cultivate between 4-5 acres of land and may either inter crop or crop rotate. The crops grown by the people of Domunli are cassava, plantain, sugarcane, coconut, oil palm and currently rubber. According to them, the food crops like the cassava and sugarcane are sent to Axim for sale. With respect to the oil palm, it is sold to oil palm companies through produce buyers every two weeks at GHC 8 .00 per 100 kilos. All the farmers interviewed were of the view that there is more money in farming than fishing.

Fisheries

Some 30 years ago, there were about 20 canoes. Currently, the number has reduced to only ten. Many of these fishermen are now farmers. Two of the ten canoes are beach seines and eight are one-man canoes (dokuwa) which use hook and line. The table below illustrates the type of canoes and gears used as well as fish species caught. The canoes, according to the fishermen, are named after their respective gears used:

Fish sharing systems- With the sharing of fish, (beach seines) the proceeds are divide into two; one for the crew and the other half for the canoe owner. With the one-man canoes, it is normally used by the owner and he does not share the proceeds with anyone.

Fishing holidays- The one-man canoe “dokuwa” fish everyday provided the sea tides are not rough but the canoes that use nets fish from August to March and break during rainy seasons.

Processing and Marketing-Almost all the fish are smoked and marketed at Agona Nkwanta, Bogoso and Kumasi. There are few occasions where some of the fish are sold fresh.

Table 1: Gears Utilized and Fish Species Harvested at Domunli.

CANOE/GEAR USED		No. OF CREW	FISH SPECIES			SEASON
Local Name	English Name		Local name (Fanti)	English name	Scientific name	
Tuwuui	Beach seine	5-7	Kanfena	Long-finned herring	Ilisha Africana	All seasons
			Sukue	Lesser African threadfin	Galeoides decadactylus	
Awam sea/ Nkoba (1 man canoe)	Hook and Line	1	Safor	Spanish mackerel	Scomberomorus tritor	
			Epee	Jack mackerel	Caranx Hippos	

Local Institutions and Governance

There is a Chief fisherman but no Chief monger (Konkohene) in the community. However there is a woman whose duty is to negotiate for the price of fish with the fishermen who use the beach seine nets. With the small canoes (one-man), the wives negotiate the price of fish with their husband or relative-fishermen.

There is no community based fisheries management committee.

Domunli has also no NGO /CBO operating in the community.

Key Coastal and Fisheries Issues

Decline in fish catch

Residents in the fishing industry confirmed that there has been a drastic decline in fish catch in recent times as a result of:

Unauthorized fishing methods – The fishermen lament that light fishing and pair trawling activities done in most coastal communities are major contributors to the decline. The trawlers according to them are dragged over spawning grounds killing fingerlings and making the practice an unsustainable one. Fishermen who use light also use chemicals that accumulate the fish killing some in the process and driving the rest back into deeper seas.

Price of fish: The excess demand of fish over supply has sharply resulted in high fish prices.

Rural-Urban drift - It was mentioned that majority of the youth are unemployed. Hence they prefer to move to communities like Takoradi, Axim to search for jobs.

Community Concerns

The following are key developmental concerns made by the community members interviewed for addressing challenges in the community.

- Connecting the community to the national electricity grid.
- Posting of trained teachers to Akonu School.
- Reconstruction of the main road.
- Provision of borehole.

APEWOSIKA

Brief history of the community

The people of Apewosika were from Elmina and Dutch Komenda and initially settled at Akyenim, now called Anto-Apewosika. The land on which they lived was given them by the chief and people of Axim, who continuously harassed them for taxes and compensation. Some of the migrants who went to sea and were making money from the fishing trips had their landlords (Axim people) always bugging them for money. At the time, there was a couple, Kofi Sebo, and his wife who lived in the Akyenim community. Kofi Sebo was very outspoken and influential. He had a very beautiful daughter called Atta Akosua who was so beautiful that almost every man in the town had his eyes on her but none however succeeded in winning her. At that same time, there was one powerful lawyer at Axim who never lost cases. This lawyer by virtue of his position won the heart of Atta Akosua. It happened also at the time that Axim landlords had a big case that the lawyer helped them win and for his reward, Axim decided to demarcate a vast plot of land behind Akyenim (now Anto-Apewosika) for the lawyer. The designated land therefore became the property of the lawyer. As the opportunity presented itself, his fiancée Atta Akosua discussed with him the harassment they suffer at the hands of their landlords. The lawyer as such allowed the people of Akyenim to occupy the land. This new place was a thick forest and so all the men of Anto-Apewosika went there to weed the following day, started putting up housing structures and gradually left their former place, Anto-Apewosika. Well as they weeded and put up their houses, they kept exclaiming in Akan that: “*eha nso, ape wo sika bi amahen a, bra na betu hen!*” which literally means that “come and remove us from here also, if you have given us any money!”, hence the name ‘Apewosika’. (‘Sika’ is the Akan word for ‘money’).

Physical Characteristics

The community shares boundaries with Anto-Apewosika at the west, Domunli at the east and Dr. Beamish School at the north. There is a lagoon (‘*Awodomla*’ lagoon) at the western end of the town just at the bridge that serves as boundary separating Apewosika from Anto-Apewosika. There is also a river at the centre of the town, few metres from the Chief fisherman’s shed, called ‘*Nana Bogya*’ which joins the sea. The town is characterized by plantain and coconut trees at the heart of the town. The area around the coast is relatively low and the northern part is relatively hilly. There is an island some few meters away offshore which serve as a Ghana Ports and Harbours Authority Light House and a tourist attraction site for both foreign and domestic tourists.

Sanitation

Sanitation at Apewosika is not encouraging. Refuse are thrown into the bushes at the centre of the community and around the coast. The area around the river (Nana Bogya) close to the coast is bushy and very dirty. The residents around that place also dump refuse into the river, blocking the course of the river that enters the sea. The town is very filthy. Residents defecate at the seashore as there is a single public toilet facility in the town which serves about three thousand people.

Demographics and Settlement Patterns

The current estimated population of Apewosika is 3,000, comprising about a 1,000 males and 2,000 females. There are about 4 persons per household and approximately 700 houses in the community. Most of them are built with mud and roofed with either bamboo or aluminum sheets. Some of the houses near the coast are temporal structures made of bamboo probably because of the sea erosion. There are two untarred roads that lead to the Dr. Beamish schools and Axim Beach Resort. The chief fisherman house, which is the only one-storey building, is located to the east and has a cold storage facility. The community has a number of net-mending shops as well as an authorized Yamaha Outboard motor repairer's shop, few metres away from the chief fisherman's shed which are all close to the shore. The town is a Fanti community. There are few Nzemas in the community who are from Lower and Upper Axim. The name of the current Chief is Nana Kofi Sebo. They pay homage to the Paramount Chief of Lower Axim Traditional Area. They celebrate the Kundum festival. There is a Kindergarten, primary school and a single KVIP to the north of the community.

Education

There is one Kindergarten and primary school at Apewosika which also serves the children of Anto-Apewosika since there is none at their end. However, there is no Junior High School (JHS) in the community and so the children after the primary school enroll at a junior high school in Axim.

Economy

In Apewosika, fishing is the main economic activity hence any trend (either downward or blooming) in the sector greatly affects all residents. Apart from the Axim Beach Resort which is situated at the far east of the community, there are no factories, companies or financial institutions in the community. The resort employs few residents of the community due to lack of proper educational backgrounds. There are a few small scale shops in the community that deal in diverse economic activities (goods and services).

Tourism

The Axim Beach Resort is situated at the far west of Apewosika lying on the coast between Domunli and Apewosika coastal communities. There is an untarred road that lies about two kilometers from the Axim main road leading to the resort. The resort was established in 1991 as a partnership between a Ghanaian (Jonas Tetteh) and his German friend. It can now be described as a sole proprietorship as the German partner is now dormant. The resort started full and serious operations some 12-15 years ago. The resort can host a hundred people in its hotel rooms and chalets whose prices range from US\$10 to US\$240. Booking of rooms can be done online or through phone calls. There are two restaurants at the resort; Sankofa and Turtle Beach restaurants. The latter is close to the beach and has spawning grounds that allow visitors to go near for sightseeing. According to Mr. Tetteh, 70 per cent of visitors are foreign nationals from sub-Saharan Africa, while a few Europeans and Ghanaians might patronize. About 50 per cent of employees at the Axim Beach Resort are said to be natives of Axim.

Challenges

Tourism in Ghana according to Mr. Tetteh seems not to be reaching its highest potential though the country has beautiful beaches. Many whites from Europe prefer taking vacations in the Caribbean and South East Asia. This has been attributed to the expensive and unattractive air fares charged visitors travelling from Europe to Ghana. The other reason aside the expensive air fares is Malaria. The situation if it continues could work to the detriment of Ghana's hospitality industry. Back in the Caribbean government has subsidized the air fares to make tourism look attractive to foreign nationals without losing. Elsewhere (especially in the Canary Island) according to Mr. Tetteh, it is difficult for foreigners to acquire land anyhow unlike Ghana, and this coupled with the expensive air fares would rather work to the advantage of foreign nationals operating in the hospitality industry to the detriment of Ghanaians in the sector.

Farming

Some 40 years ago, there were a lot of farmers who were into the cultivation of onions, groundnuts, tiger-nuts, corn, coconuts, cassava etc. Currently, Apewosika has no farmers as they've all passed away. Residents currently living in the community are not interested in farming because of the quick money they make from the fishing industry.

Fisheries

Almost the entire community is into fishing related activities. Most of the men are fishers and the women, fish processors. The children (aged 10 and above) join in the business after school hours; the girls help their mothers with the fish processing while the boys are mostly at the shore helping the fishermen in their activities. In the past (about 50 years ago) there were only 15 small sized non-motorized canoes all of which used nets called 'ade' and carried a capacity of 5-7 crew members. Some of the fish species caught were sardines, *idue*, *ekan* etc. Currently there are about 160 canoes in the community. According to the fishermen, they use the 'light house', locally called '*BOBO-AREZI*' for direction.

Fish sharing system-Based on an agreement between the canoe/vessel owner and the crew the sharing of fish proceeds is done either on Mondays or Tuesdays. It is shared equally (50:50) between the crew members and the canoe owner after expenses are deducted. That of the canoe owner covers the canoe, outboard motor and nets. The canoe owner has a little share in the 50 % that goes to the crew members because he is recognized as part of the crew. An agreed amount is reserved for the most senior crew.

Fishing holidays-Fishermen in the community regard fishing on Tuesdays as a taboo, hence restrain from fishing.

Processing and Marketing-Fishmongers buy fish from the fishermen either on credit or pay upfront. The women have between three to seven days to make repayment of any fish they bought on credit. It is however only a few fishermen who offer the processors such credit services. Interestingly, most married women do not benefit from this service even from their own husbands who are fishermen. Fishmongers at Apewosika mostly smoke fish. During the major season, fish processing usually extends to the evenings and becomes a nocturnal activity. It mostly exceeds 12 hours. Marketing centers for the smoked fish are Kumasi, Accra (Agblobloshie market) and Obuasi.

Table 1: Gears Utilized and Fish Species Harvested at Apewosika

Canoe/Gear type	CREW	FISH SPECIES			SEASON
		Local name	English name	Scientific name	
Wokye	25-27	Eban	Flat Sardinella	<i>Sardinella eba</i>	Major Season
		Ibuei	Burrito	<i>Brachydeuterus</i>	
		Tantamire	African moonfish	<i>Selene dorsalis</i>	
Ahyekon	5-10	Edoe	Baracuda	<i>Sphyræna sphyræna</i>	All season
Tenga	2-3	Sukue	Common threadfin	<i>Galeoides decadactyles</i>	
		Kanfena	Long-finned herrings	<i>Ilisha Africana</i>	
		Ekan	Cassava Croaker	<i>Pseudotolithus</i>	
Adado	5-6	Sukue	Common threadfin	<i>Galeoides decadactyles</i>	
		Mpo agyina moa	Common tiger shark	<i>Galeocerdo articus</i>	

Local Institutions and Governance

The community has an assembly man who claims communal labour and other activities are organised regularly in the community. His relationship with his subjects is very cordial as was confirmed by some residents.

The fishermen at Apewosika belong to the Ghana National Canoe Fishermen Council. There is a chief fisherman and his local council who resolve issues that arise among fishermen usually over fishing grounds and other conflicts at sea.

There is no organized fish mongers and processors association. There is however a Chief Monger (konkohene), whose main duty is to negotiate with the fishermen a fixed price of the fish that arrives at the landing on behalf of the women (processors). The chief monger also heads fishmongers at Anto-Apewosika.

According to most of the fishing groups interviewed, FoN (an NGO based in Sekondi-Takoradi) has been engaging them in a number of capacity building workshops with the latest (on oil and gas) being held at the Asempa Hotel in Takoradi on March 25-27.

Apewosika has no Premix/Landing Beach Committee that sees to the marketing of premix fuel in the community and other neighbouring areas. Before the year 2009, however, the community had a vibrant premix committee

Key Coastal and Fisheries Issues

Decline in fish catch

Some 50 years ago, one canoe could get about 80-100 head pans of fish (sardines) from a single fishing expedition. It is now difficult for the fishermen to make even 10 head pans from an expedition. In the past, fishermen could just study the colour of the sea and decide to go fishing or not to and judging from the colour, they normally came back with a lot of fish. Many of the interviewees confirmed that there has been a decline in fish catch in the last 30 years.

Unavailability/High cost of inputs

The high cost of fishing inputs especially outboard motors according to the fishermen prevents them from going on fishing expeditions to make ends meet. The fishermen claim the outboard motors are also scarce. At the time of our visit, there was news that a few available outboard motors for sale in Accra stand at a cost of GH¢5,100 (40 horse power). Almost all the canoe owners and the crew members were of the view that the price had shot up abnormally.

Unauthorized fishing methods

Notable among these unauthorised and unsustainable fishing methods are light and chemical fishing which the fishermen (though some practise them) believe must be curbed.

Increasing canoe numbers

With the upsurge in population especially in the coastal communities that do fishing, a corresponding fishing effort is being recorded in most of the communities. Many people are entering the fisheries sector and acquiring canoes. All these canoes and vessels go out there and compete over the limited stocks

Lack of closed seasons

The fishermen at Apewosika noted that fishing along the country's coasts is done at all seasons instead of the main fishing season. There is now no effectively enforced regulation on closed seasons which is resulting in depleted stocks.

Inadequate and irregular supply of premix fuel

Though there are over hundred canoes that use premix fuel in the community, but there is no premix/landing beach committee and purchase of the fuel is mostly made from Lower Axim. However, since there are many canoes also at Lower Axim, the fishermen from Apewosika most often do not get supply and this results in low productivity levels as many fishermen there are unable to go to sea.

Decline in alternative livelihoods

Unlike most coastal communities in Ahanta West visited, and even in Nzema West where most fishers were either combining fishing with other livelihoods or even drifting totally, the Apewosika community has rather moved solely into fishing neglecting other livelihood sources. For instance, natives who were either farming or combining fishing with farming are now doing only fishing because they believe the fishing industry is more lucrative and produces quick money.

Poor fish quality

The use of chemicals such as dynamite, carbide and DDT according to the fishmongers at Apewosika remains a challenge to them. This is because the fish starts discolouring and perishes few minutes after purchasing from the fishermen. Some even spoil before the fishermen land at the shore.

Poor fish taste

According to the processors, because of crude methods of fishing these days, the taste of fish is no longer as nice as it used to be some 50 years ago.

Increasing Price of fish

Fish has also become so expensive that a head pan of fish that sold at GH¢40-50 about a year ago now sells at GH¢70-80 due to the decline in fish catch and consequently a high demand over supply.

Inadequate toilet facilities

Very few households can boast of latrines. There is a single public latrine at Apewosika which is in a deplorable state due to pressure on it. Due to the activities of Zoil (waste management company) defecation at the beach by residents is done at night. During day time, some residents claim to have mechanisms of going about the act (defecation at the beach).

Lack of Credit facility

Most fishmongers, processors and fishermen at Apewosika complain bitterly of having no access to credit facilities to work with. The fishmongers and processors attributed this challenge to the non-existence of an organized women's group. About 4 years ago, 3 different women groups were formed to allow for easy access to credit facilities. However, as the formation of these groups did not work out for them, apparently due to lack of unity, the groups became dormant and eventually collapsed.

Community Concerns

Most key informants interviewed and the focus group discussions revealed the following as the major community concerns;

- The community expected to see an end to light fishing.
- They expressed fears about oil spillage
- Fear of oil production resulting in deprivation of their livelihoods
- Apewosika has no refuse dump and residents dump refuse at river banks and in bushes as well as drains

ANTO-APEWOSIKA

Brief history of the community

The people of Anto-Apewosika migrated from Elmina and Dutch Komenda in the Central Region of Ghana. When they reached Axim, the chief of Axim gave them that land (Anto-Apewosika) to occupy. The name of the town at the time was Akyenim. The name changed from Akyenim to Anto-Apewosika after the discovery of the next town currently Apewosika. 'Anto' is a Fante word, which means 'before'. Thus, if one is going to the current Apewosika community from Axim, they get to Anto-Apewosika first before Apewosika proper. Again, history has it that, the people of the current Apewosika community drifted from Anto-Apewosika as the years went by. It thus appears that the two communities have the same background and are virtually the same people.

Physical Characteristics

The community shares boundaries at the east with Apewosika, west with Fante Line and the north with Dr. Beamish School. The northern part of the town is hilly whilst the southern part around the coast is relatively flat. Straight ahead leading from the main road (north-east) is a sharp slope and dusty hilly road that hits a dead end in the community and could pass for a roundabout. There is a mangrove at the eastern part of the town which during the rainy season, forms a large water body and enters the sea.

Sanitation

Sanitation at Anto-Apewosika is very appalling. The town looks untidy. The community's refuse container has been placed in the middle of the town where shops are selling all sorts of food items and a small video centre operates. The stench emanating from the container engulfs the whole area making respiration difficult. Residents also defecate at the seashore as there is no toilet facility in the town.

Demographics and Settlement Patterns

There is an estimated 2,000 people at Anto-Apewosika, comprising 500 males and 1,500 females. The town is a mixed ethnic group made up of Nzemas and Fantis and they speak both languages — Nzema and Fanti. There are about 500 houses in the community, with an average of 4 persons per household. Most of the houses are built with mud and roofed with aluminum sheets and bamboo. The settlement does not follow any pattern. It is clustered and densely populated. Almost all the houses are located at the northern part of the town. There is a main road (untarred) linking the community to Fante Line (next community on the west) which basically separates the town from the shoreline. Located to the right side of the main road, on entry to the community from Fante Line, is an old fuel station just before the GPRTU station close to the shore. There are a number of canoes, then to a small fishermen shed. After the shed is a bridge that demarcates the border line separating Anto Apewosika and Apewosika communities. On the left side of the road on entry to the community from Fante Line are a few

small scale shops lined along the street and some along the hilly slope. At the back of the shops is the historic 'Black/Bomb House' (a place where the Army of Forts Anthonio used to keep their bombs). That place is currently being used as a refuse dump. Another popular centre is the recently created Youth Centre called Kingdom City. There are three premix centres in the community that are no longer functioning. There are no public toilets, health posts and schools (Primary and Junior High) in the community.

Economy

The Anto-Apewosika economy is dependent on fishing. Almost everybody in the community depends on the fishing industry for a living. Majority of the population are into fishing. Less than one percent of the populace (usually women) is into petty trading. These traders are usually fishmongers who have diversified to trading. The traders could also be relatives and spouses of fishermen and fishmongers who are handed down start-up capital earned from the fishing industry. Thus a decline in fish catch (especially in lean fish seasons) is detrimental to the financial stability of the people.

Fisheries

Fishermen at Anto-Apewosika were some 30 years ago using the 'Ade', now 'ahyekon' which were only 14 in number. Currently the number of canoes has increased to about twenty-eight; made up of 5 *wokye* canoes, 10 *ahyekon* canoes, 10 *tenga* canoes and 3 canoes for gears that catch *sesew* (shrimps).

Fish sharing system-Proceeds from the sale of fish are shared among the fishing crew based on a laid down agreement. It is shared equally (50:50) between the crew members and the canoe owner after expenses are deducted. The initial 50% to the canoe owner covers the gear, canoe and outboard motor. The canoe owner is also part of the 50% that goes to the crew members. The money is usually shared weekly (Tuesdays)

Fishing holiday-Tuesday is regarded as a non-fishing day and is observed as such by all the fishermen.

Processing/Marketing- Fishmongers at Anto-Apewosika buy fish directly from the fishermen only when they are paying upfront or when the fisherman is a husband or relative. A fishmonger has to buy from another woman fishmonger especially when they are buying on credit or when they do not have husband fishermen. Processors in the community (usually women) smoke their fish. They smoke all fish types that fishmongers bring in.

The fishmongers sell the fish at market centres in Agona, Techiman, Kumasi, Sefwi and Bogoso. Other buyers from Axim come to the area to buy fish but in smaller quantities. The table below explains the canoes, their respective gears used and the fish species caught:

Table 1: Gears Utilized and Fish Species Harvested at Anto-Apewosika

CANOE/GEAR USED		No. OF CREW	FISH SPECIES			SEASON
Local Name	English Name		Local name (Fanti)	English name	Scientific name	
Wokye	Ring net	20-25	Eban	Flat Sardinella	Sardinella eba	Mawora &harmattan
			Apoku	Atlantic little tuna	Euthynnus alletteratus	
Tenga	Bottom set net	2-4	Sukue	Common threadfin	Galeoides decadactyles	
			Ekan	Cassava Croaker	Pseudolithus	
			Abranwa	Guinea sole	Synaptura cadenati	
Ahyekon	Drill Gill Net (DGN)	5-10	Eban	Flat Sardinella	Sardinella eba	
Sesew boa			Po sesew	Royal spiny Lobsters	Panuilirus regius	

Local Institutions and Governance

The Assemblyman of Anto-Apewosika is as well in charge of Apewosika. According to him, his relationship with residents of these two communities is very cordial apparently because of his youthful age and exuberance. This assertion was confirmed by some residents at the constituency.

Fishermen in Anto-Apewosika belong to the Ghana National Canoe Fishermen Council (GNCFC).

There is no Landing Beach Committee (Premix fuel Committee).

Fishmongers at Anto-Apewosika do not have a chief monger (Konkohene) who heads them. Sources say the community has twice installed chief mongers all of whom the community has rejected. Some fishmongers hinted that the fishermen are always challenging and assaulting her verbally over price negotiations of fish, that she does not own a canoe and has no right to tell them how much to sell their fish to the fishmongers. This means that the chief monger position in the Anto-Apewosika community is reserved for the rich and not for women who do not have canoes, gears or influence. In the absence of the chief fishmonger, fishmongers at Anto-Apewosika fall on the chief monger of the neighbouring community (Apewosika) for leadership. Thus after prices of fish are negotiated in the neighbouring community (by the chief monger). The price is communicated to fishermen and fishmongers at Anto-Apewosika who trade accordingly.

Key Coastal and Fisheries Issues

Decline in fish catch

Fish catch, according to community members interviewed has declined now as compared to some 30 years ago. This has been attributed to:

Lack of closed seasons that allow for replenishment of fish stocks

Increasing number of canoes that fight for the limited fish stocks.

The use of poor and unauthorized fishing methods such as light, dynamite etc.

Fish price hikes – Prices of fish over the years have shot up drastically and fishmongers attribute it to the declined fish stocks and consequently a high demand over supply. A head pan of fish that used to sell around GH¢10 to GH¢15 some three years ago now sells at GH¢80 to GH¢100.

Short span of processed fish – Fish processors at Anto-Apewosika say some 10 years ago smoked fish could last about 4 months without perishing. Now however, smoked fish does not even last a week and starts perishing. They attribute this to the poor fishing methods of fishermen like the use of chemicals which according to them discolours the fish within a few hours after arrival at the landing, keeping them from lasting after processing.

Lack of fish processing equipment – It is commendable to note that some fishmongers at Anto-Apewosika do not want credit facilities but rather donations of metal wire nets to smoke their fish in order to make them presentable and meet international standards. Some however access loans from government agencies and pay back in installments with interest. Some fishmongers in the community save with rural banks and non-bank financial institutions. The proceeds from the sale of the fish according to some fishmongers are invested in petty trading, but only a small portion of the women do that. The majority have no alternative livelihoods.

Lack of premix fuel- Fishermen normally do not get premix fuel to buy at Lower Axim (the nearest center) and other neighboring communities. This negatively affects their fishing activities.

Limited educational infrastructure - Children of school going age attend primary school at Apewosika and Junior High school in other communities at Axim.

Problems at sea:

Heavy storms at sea pose a big threat to the lives of fishermen as they sometimes grapple with ship wreckages.

The fishermen often get missing on their way back home and land at unknown places. This is also due to the storms and high tides at sea.

Community Concerns

The following were some key development needs of the community.

- There is the need to connect the community to the national electricity grid.
- Provision of a toilet facility for the community because Anto-Apewosika do not have a community at all in the community.
- Establishment of a Landing Beach Committee- Though a vibrant fishing community, Anto-Apewosika has no premix committee and fishermen sometimes have to neglect fishing expeditions to search for fuel to buy cutting down productivity.

FANTE LINE (LOWER AXIM)

Physical Characteristics

Fante Line is a lively coastal community that shares close boundaries with Boat Ase at the west, Anto-Apewosika at the east and Bokazo at the North. The area around the coast is relatively flat and sandy while the northern part of the community is hilly and muddy evidenced clearly during heavy rains when the waterlogged grounds create little puddles all over. There are two gutters at the eastern and western parts of the town called Afali/patanngye and Ahwibala respectively, all of which enter the sea. The shoreline appears to have been taken over by erosion, thankfully to the sea defence walls that form the landing, separating the few houses on the shore from the sea tide.

Sanitation

Sanitation in the community leaves much to be desired as most gutters and drains have been filled-up with solid waste material and gotten choked. The community has but only a few refuse containers. Apparently due to the numbers that converge daily at the beach, the beach is not that clean despite the efforts of the Zoil waste management personnel who are charged with the daily cleaning of the beaches. Defecation at the beach and on the shores is not permitted and those found culpable by the Zoil personnel are prosecuted. They receive either a fine of GH¢200 or spend three months in jail.

Demographics and Settlement Patterns

Fante Line, just like the neighbouring Boat Ase community on the west has a population made up of 3 main ethnic groups; Nzemas, Gas and Simpas (From Winneba in the Central Region). The tribe that dominates is Nzema. The population is estimated at 650, made up of more females, with an average household size of 4 persons. Fante Line has about 380 houses with about 80% built with mud and few plastered with cement and roofed with aluminum sheets and bamboo. Fishing is the main occupation. Few people are into petty trading along the main road.

The main lorry road divides the town and the coastal shoreline. Both sides of the main road are characterized by mini stores (small scale shops) selling various kinds of goods including some pharmacy shops. Most of the buildings along the road are one and two storeys and usually have their ground floors turned to shops for commercial activities. There are two premix fuel centres, one on each side of the road, though currently not operational.

The side of the road near the shore (southern part) has a big fishermen shed where some fishermen sit to mend their nets. To the east of the shed are a number of canoes lined up and some small scale shops. Opposite the fishermen shed, to the north of the community is an untarred road that leads to Ankonam Street where a number of mini shops are lined up.

Before the bridge (Ahwibala gutter) at the eastern side is a fish and meat processing/ice block shop called Ranchex Enterprise. To the far eastern end of Fante Line is the market, Fishermen meeting center and the Fisheries Commission. After the bridge is a 'Y' Junction. The right end leads to Dr. Beamish School and the left to Anto-Apewosika community.

Education

Almost all the basic schools located at Lower Axim are inland. This means, the children of Fante Line (part of Lower Axim) enroll at the numerous private and public basic schools located inland.

Economy

Just like Boat Ase, Fante Line appears to be part of the commercial hub or the Central Business District of the Nzema East Municipal capital. It is a lively town every time of the day where all types of business transactions take place. Fishing is the main and most preferred economic activity. The few people, who engage in petty trading, claim their trading is dependent on the fishing season. They thus record high and low sales during the major and lean fishing seasons respectively.

Fisheries

Some 40 years ago, the number of canoes was around 56 but the number has currently increased to 146 comprising 32-*wokye*, 74-*pataku* and 40 bottom set nets.

Fish sharing system- The boat owner and crew share the proceeds from a fishing expedition based on agreed principles and time. After expenses have been deducted from the proceeds, the remaining amount is shared equally between the crew members and the canoe owner. It should also be noted that the canoe owner after getting his percentage of fifty gets something extra from the other 50% that goes to the crew. This is because he is recognized as part of the crew. An agreed amount is also reserved for the most senior crew members.

Fishing holidays-Fishing on Tuesdays is seen as a taboo and is as such observed by all fishermen in the community.

Processing/Marketing- Most fishmongers at Fante Line buy fish directly from the fishermen at the harbour. Others buy from their relatives and husbands who are fishermen and in turn sell to other women. Few women who sponsor fishing expeditions particularly the buying of premix fuel are usually handed over the fish to sell to other women fish processors. The fish mongers buy fish either on credit or with cash based on the quantity of fish brought in by the fishermen. When there is less fish, it is strictly on cash basis and the opposite holds.

Fishmongers at Fante Line mostly smoke the fish. There are however a handful who salt big fish like the jack mackerel and Tuna. The processed fish is usually marketed at Bogoso, Kumasi, Techiman, Agona and Sefwi. The table below shows the type of canoe, number of crew members, gears used, type of fish species and the season:

Table 1: Gears Utilized, Crew Size and Fish Species Harvested at Anto-Apewosika

CANOE/GEAR USED		No. OF CREW	FISH SPECIES			Season
Local Name	English Name		Local name (Fanti)	English name	Scientific name	
Wokye	Ring net	20-25	Epae /Opaa	Jack Mackerel	Caranx hippos	May-August
			Eban	Flat Sardinella	Sardinella eba	
			Apoku	Atlantic little tuna	Euthynnus alletteratus	
Pataku	Drill Gill Net (DGN)	6-9	Ekyinekyin	Sword fish	Xiphias gladius	All seasons
			Semin	Blue shark	Prionance glauce	
			Edae	Yellow fin tuna	Thunnus albacores	
Tenga	Bottom set net	2-4	Abranwa	Guinea sole	Synaptura cadenati	
			Ekan	Cassava Croaker	Pseudotolithus typus	

Local Institutions and Governance

Fishermen at Fante Line have a Chief fisherman who overlooks the whole of Lower Axim (Boat Ase and Fante Line). They belong to the Ghana National Canoe Fishermen Council. (GNCFC) and are represented at meetings by the Chief fisherman.

There is also an Assembly man at Fante Line who also looks after the Boat Ase community (Lower Axim Electoral Area). The relationship between the Assemblyman and his community members is casual.

The community also has a paramount Chief (Lower Axim Traditional Area) whose palace is located on the land of neighbouring Boat Ase community.

Fante Line has no Landing Beach committee and buys premix fuel from neighbouring communities such as Boat Ase.

The community has a chief fishmonger who serves the next communities: Boat Ase and Solo (Upper Axim). Her duty is to negotiate the price of fish with the fishermen on behalf of the women and also to settle disputes between other women processors particularly on debt defaults. Together with her 7-member arbitration team (Besuon fo) she meets the chief fishermen of the various communities she serve over the quality of fish and other issues.

Key Coastal and Fisheries Issues

Decline in fish catch - Fishermen complain of the drastic decline in fish catch over the last few years. They attribute this to poor fishing practices such as pair trawling, light fishing and the use of chemicals such as carbide, dynamite and DDT that kill fingerlings and even bigger fish species, polluting the water and driving the rest of the fish stock farther. According to them, fishing grounds some decades ago used to be some 20 yards away but have now moved farther away to some 50 yards. Some people also attributed the decline fish catch to the increasing number of canoes in the coastal communities.

Lack of loan capital for fishing businesses. Accessing credit facilities to work with according to the fishmongers is a major challenge as they face difficulties in getting a financial institution to give out loans to them. Many of them however save with rural banks and other non-bank financial institutions. These financial institutions refuse to offer them credit facilities due to their inability to offer collateral. However, few women are able to access a little credit facility based on group guarantee.

Limited livelihood options. Apart from fishing, residence in Fante Line does not have alternative livelihoods and only rely on the fishing industry.

Poor fish quality – The use of chemicals such as dynamite and carbide for fishing according to the processors reduces the life span of processed fish as the processed fish (usually smoked) which used to last for about 3 months now perishes within a week.

Increasing fish prices-Fish has also become very expensive due to the excess demand over supply.

Lack of premix fuel: Though there are two premix centres in the community (defunct), Fante Line has no Landing Beach Committee (LBC) and has to depend on Boat Ase (the neighboring community on the west) and other communities for supply. During the institution of the LBCs by the new NDC administration, Fante Line was not given one and according to fishermen this is due to political reasons. The high demand and pressure on the premix centre at Boat Ase (the centre serves about four communities) is a great challenge as they sometimes do not get their share of the fuel and have to move to other places which is very inconvenient and sometimes come back with no fuel at all.

Community Concerns

Below are the concerns of community members interviewed:

- More refuse containers to correspond with the huge numbers of commercial and residential population.
- Provision of more toilet facilities at Fante Line. According to residents are not enough and some residents defy the Zoil personnel to defecate on the beaches.
- Fishermen at Fante Line are calling for an LBC there to help forestall challenges of shortage and consequently low productivity levels as they sometimes are unable to go to sea to make ends meets.

BOAT ASE (LOWER AXIM)

Physical Characteristics

Boat Ase shares boundaries with Boka-kokole at the North, Fante line at the east and upper Axim (Solo) at the west. It is relatively a low land. Both sides of the main lorry road are characterized by small scale shops dealing in various goods and services. Boat Ase has a fairly neat and outstretched shoreline encamped by a sea defence wall serving as the landing site. The community could be described as a strictly commercial centre or the central business district of the Axim municipal capital. It is a lively and densely populated town

Sanitation

The town has a very poor drainage system. There is a gutter to the eastern part of the town which sometimes gets filled up with silt and other solid waste material producing a pungent smell which becomes a nuisance to traders and residents at the area. Despite the presence of the Zoil waste management personnel on the shores of Boat Ase, sanitation is poor and needs addressing. Plastic waste is scattered all over, though there are broom marks in the sand signifying that the place has already been swept. The sea also sometimes sweeps ashore filth which gathers at the shore making the place look untidy. Some traders also sit by the choked drains and gutters to sell posing a health danger to consumers.

Demographics and Settlement Patterns

The community is a mixed ethnic group comprising of Nzemas Gas and Simpas (people from Winneba). The Nzemas are more than the other ethnic groups. The population of Boat Ase is around 700, made up of 450 females and 250 males. Most of the people work in the fishing industry while a few do petty trading. There are about 400 houses in the community. Averagely, there are 4 people in every household. The greater part of the settlement is to the north of the community. The few houses to the south form a single tier at the beach and are separated from the settlement at the north by the main road. Most of the houses at Boat Ase are built with mud and plastered with cement and roofed with aluminum sheets. Most of the buildings close to the main road are one or two storeys. The eastern part of the town is relatively planned but the western part is not well planned. The main road that divides the town and the seashore is a very busy one especially during fishing days and evenings.

Major landmarks include the Police Station, Morning Star Preparatory School (Mr. Mozu's house), Lower Pra Rural Bank, Nzema Maanle Rural Bank, Public Works Department (PWD), Main market (two storey building), Nyane Abentia house (Ahwea Abusua Kotoko clan/family house) and the Palace of the Paramount Chief of Lower Axim Traditional Area, Awulae Attibrukusu who is also the President of the Western Region House of Chiefs and the Vice President of the Ghana National House of Chiefs.

Economy

Boat Ase and its adjoining Fante Line community can be termed as the real commercial hubs of the Nzema East District where brisk business activities of all kind take place, ranging from white and blue colour jobs to menial ones. Majority of the residents rely on the fishing industry for their livelihood. A few women are however into petty trading of all sorts. There are a few financial institutions, NGOs and other organizations that have employed some residents at the area. It appears however that all these business activities revolve around the fishing industry. Consequently, the levels of fish catch whether low or high determines how good or bad a business day will look. The recent decline in fish catch has deeply affected economic activities in the community. The town is very busy during fishing days and evenings especially at the main lorry road.

Fisheries

Currently, Boat Ase has about 38 canoes all of which use outboard motors compared to the 16 canoes that were in use some 30 years ago.

Fish sharing systems- Expenses incurred on fishing expeditions are deducted before proceeds are shared. Proceeds are shared equally between the canoe owner and crew. However the canoe owner gets a share in the other part of the proceeds that goes to the crew. The first 50% to the canoe owner covers the canoe, nets/gear and outboard motors. Since, there are senior members among the crew, an agreed amount is given to them.

Fishing holidays-Tuesdays are non-fishing days in the community.

Processing/ Marketing-The fishmongers usually buy fish directly from the fishermen at the harbour. Some of them who have relative or husband fishermen buy directly from them and in turn sell to other women. Some of the women lend monies to the fishermen to buy fuel for sea to be paid back after sea trips and sale of the fish. It should also be noted that these women money lenders are the same who the fishermen hand the fish over to sell. During bumper catches women usually buy fish on credit and repay after processing and sale. In lean seasons, catches attract ready cash due to the high demand and less supply of fish and the women have to pay upfront for the fish they buy. Fish is mostly smoked. A few might sell it fresh while others salt usually the big fish. According to the fishmongers some women also buy fresh fish from them to fry. Marketing of the fish is usually at Bogoso, Kumasi, Techiman, Agona and Sefwi markets. The table below depicts the type of canoe, its number of crew, gear used, fish catch and the season.

Table 1: Gears Utilized and Fish Species Harvested at Lower Axim

CANOE/GEAR USED		No. OF CREW	FISH SPECIES			SEASON
Local Name	English Name		Local name (Fanti)	English name	Scientific name	
Wokye	Ring net	24-30	All Fish types			Major season
			Edae	Yellow fin Tuna	Thunnus albacares	
			Mpo agyinamoa	Common tiger shark	Galeocerdo arcticus	
Awam sea/nkoba	Hook and line	6-9	Wiriwiriw	Congo dentex	Dentex congouensis	
Twuwii	Drag net	5-7	Ekan	Cassava fish	Pseudotolithus brachygnathus	
			Kanfena	Long-finned herrings	Ilisha Africana	

Local Institutions and Governance

The Boat Ase and Fante Line communities could be described as twin suburbs that fall under one umbrella called Lower Axim. They have one Chief Fisherman who overlooks the affairs of fisherman in the two areas. The fishermen belong to the Ghana National Canoe Fishermen Council and are represented at meetings by the chief fisherman.

There is a Premix/Landing Beach Committee which sees to the marketing of premix fuel to the fishermen.

Fishmongers at Boat Ase have a chief monger who serves as well Fante Line as well as Upper Axim (Solo). The Chief monger is charged with negotiation of the price of fish with fishermen when they come back from sea with catches. This is done before fish is sold out to the women. Another duty of the chief monger is to settle issues between women processors especially on debt payment. The Chief Monger has a 7-member panel called 'Besuonfo' in Akan who are all women and they help her to resolve issues. The Chief Monger together with her arbitration team also meets chief fishermen, when the quality of the fish caught is poor, to discuss possible causes and solutions.

Key Coastal and Fisheries Issues

Decline in fish catch

Most fishermen and fishmongers at Boat Ase say fish catch has over the last few years declined. They assign the following reasons;

Increased number of canoes- There are about 38 canoes currently at Boat Ase competing for fish on the seas unlike some 30 years ago when there used to be only 16.

Light Fishing/ Use of FADs – The people of Boat Ase have nothing like bumper and lean seasons due to the light fishing. Some people in the industry explain that the light fishing was usually done during lean fish seasons. Now some fishermen are practising it all year round so that even during fish bumper seasons, fish catch is low and looks like any ordinary day or season. The Chief Monger at Boat Ase, Madam Ablema attributed the decline in fish catch to light fishing and the use of chemicals (Fish Aggregating Devices). According to her, the chemicals kill the fish and drive the rest of the fish stock into deep seas. Fishermen at Boat Ase

however explain that they started practising light fishing when they realized that their counterparts from neighbouring coastal communities were using it because they could not sit down and look on while others made more catches with light putting others who did not use it at a loss.

Increasing price of fish

A head pan of fish (herrings) that used to sell around GH¢10 to GH¢15 some three years ago now sells at GH¢80 to GH¢100 due to the declining fish catch that has altered demand and supply.

Practice of savings among womenfolk

Though many women lamented the harsh economic situation, they confirmed to be saving with rural banks and other non-bank financial institutions in the area.

Lack of credit facility : Most women complained bitterly about lack of credit facility to help expand their business. This, they blamed on the loan requirements by the financial institutions.

Poor fish quality – Fish quality has become very poor as a result of the chemicals (dynamite, carbide and DDT) used for fishing. This according to the processors makes processed (smoked) fish stay for fewer days (less than 7 days) and starts perishing.

Community Concerns

The following are community concerns for addressing challenges in the communities as mentioned by key stakeholders at the community.

- Many of the fishmongers demanded that credit facilities be made available to enable them reduce post harvest losses caused by pressure from fishermen from whom they buy fish.
- Some fishmongers at Boat Ase are calling for a ban on light and chemical fishing. This is because they attribute the poor fish quality to these fishing methods.

UPPER AXIM (SOLO)

Physical Characteristics

Upper Axim is a large and lively coastal town in the Nzema East District that shares boundaries with Lower Axim (Boat Ase) to the east and Amanfukuma to the west. The community's shoreline is a complicated mixture of rocks and sand that though outstretches to the east is difficult to see the ends clearly. Upper Axim is fortunate to have on its territory the popular Fort St Antonio constructed in 1515 by the Portuguese.

Sanitation

Sanitation in the community leaves much to be desired. The drains and gutters are filled with silt and produce a strong stench that fills the whole atmosphere. Littering and improper dumping of waste especially in drains are very common at Solo. The problem could partly be attributed to the inadequate waste disposal sites and facilities. Before cleaning and management of the beaches were assigned to the Zoil personnel of the Zoomlion Ghana Limited (renowned waste management company), most people used to defecate at the beach and solid and liquid waste were mostly dumped into the sea. Now the Zoil personnel prevents residents from defecating at the beaches and defaulters who are taken to court face a 3-month imprisonment term or a fine of GH¢200. Dumping of refuse at the shore continues and is acceptable as the community has no refuse container or dump site to dispose of solid waste. To the extreme west of the community's coast is a steep cliff overlooking the sea where dumping of refuse takes place.

Demographics and Settlement Patterns

The people of Upper Axim are Nzemas and speak the Nzema (Evalue) language. The population of the town according to the Assemblyman is around one million comprising about 600 females and 400 males. There are about 400 houses in the community. Unlike most houses of the coastal communities in the Municipality that are built with mud, Solo appears a fast developing town whose houses are of mud but plastered with cement and have aluminum roofing sheets. The settlement is a partially linear one separated, some by narrow roads and others by paved roads or narrow footpaths yet to be developed into streets. Averagely, there are about 6 persons per household. The northern part of the town has beautiful and modern buildings some of which are made of cement blocks and others with mud but plastered with cement making it impossible to tell the difference between the cemented houses and mud ones.

Major landmarks in the area include the Old and New Catholic Church, Old European (Catholic) Cemetery, Catholic School, York hall, Quandohor building(built AD1923) Hollywood spot, the Ghana Commercial Bank ,a taxi station, Tourist Service Centre and the Fort St. Anthonio.

Education

There is one primary and JHS at Upper Axim which is a Catholic School. It runs a morning and afternoon shift to pave way for effective teaching and learning for the large numbers of pupils who outnumber the school's infrastructure. They have started a secondary school called Axim Girls Senior High which is currently in its second year.

Economy

Majority of the people are into fishing. The men go fishing and the women in turn buy from them, process and sell the fish. There are however farmers in the community who are only a handful. The farmers are mostly females because according to some opinion leaders, the men are not industrious and want easy ways of making ends meet, hence venturing into fishing. Farming is seen as a long term investment. Some men are said to enjoy, aside fishing, driving commercial vehicles. There is a taxi rank and bus station at the extreme east of the community and most of the drivers are natives. A few people at Solo do petty trading and food vending. One can see a number of wooden kiosks and stalls lined up along the streets offering provisions, and cooked food for sale. It however appears that the lively Solo community has been rendered redundant in recent times due to the decline in fish catch producing low returns and therefore less spending. There are a few government institutions and agencies at Nzema East like the Municipal Assembly, government hospital, Zoomlion Ghana limited and other NGOs and the financial institutions that might offer some natives blue and white colour jobs.

Tourism

Tourism in Axim can be described as a partially patronized one where many foreign nationals are seen daily. The *Axim Tourist Service Centre* established for the community by the German NGO, Recerca e Cooperazione, started operations just a month ago. It is located to the extreme west of a park where the Axim Fort (Fort St Anthonio) is situated. The centre is run by a middle aged woman and young daughter who offer services such as guidance to tourists for accommodation facilities, food joints, visitation and briefing of historic events in Axim. The centre registers tourists for a small token for the services rendered but according to the attendants, the place is only patronized by foreign nationals who sometimes use their services and refuse to pay. Sanitation in front of the fort and the service centre leaves much to be desired. The park is used for various communal activities where residents leave empty water sachets and other waste material there. The situation is a bother to attendants at the Fort and Tourist Service Centre but they are yet to find a solution to the matter.

Farming

Farming at Upper Axim (Solo) is mostly done by women in the area. They grow oil palm, sugarcane, cassava, plantain, pepper and tomatoes. Most of the farm produce is sold at Axim but some buyers sometimes go to the farms usually to purchase sugarcane. The farmers say the industry is more lucrative than fishing though it is a long term investment. Fridays are non-farming days for farmers at Solo.

Fisheries

Some 15 years ago, the number of canoes was 22. Out of this number, 10 were using outboard motors (5-10 horse power) and 12 were using paddles. Now, the number of canoes has increased to 36 most of which uses outboards motors.

Fish sharing s ystem - Based on the agreement between the boat owner and the crew, proceeds are shared weekly or yearly. About a decade ago, proceeds were mostly shared annually but due to the current bad economic situation, the weekly system is the preferred choice. Half of the proceeds are for the crew members and the other half covers the canoe, gear and outboard motor. This formula is applied after expenses are deducted. The canoe owner gets a share as well of the proceeds that go to the crew. It is worth noting that an agreed amount is always reserved for the most senior crew.

Fishing holidays-Fishermen in Solo do not go fishing on Tuesdays.

Processing/Marketing- Fish is mostly purchased directly from the fishermen. Some fishermen sell their fish to their relatives (women) or wives, who in turn sell to other women. Fishmongers either buy fish on credit or with cash depending on the season. For instance during the fish bumper season, fish is usually given out on credit and in lean seasons for ready cash. The fish is mostly processed into smoked fish and sold locally in the Axim community, at Agona Nkwanta, Bogoso and Wassa Akropong markets. The table below depicts the type of canoe, its number of crew, gear used, fish catch and the season.

Table 1: Gear Types Utilized and Fish Species Harvested at Upper Axim

CANOE/GEAR USED		No. OF CREW	FISH SPECIES			Season
Local Name	English Name		Local name (Fanti)	Scientific name	English name	
Wakye	Ring net	20-25	Eban	Eban (nkankrama)	Round Sardinella	Major season (Mawora)
Tuwii	Drag Net	5-7	Ibuei	Brachydeuterus auritus	Burrito	All seasons
			Sukwei	Galeoides decadactylus	Lesser African threadfin	
			Nkanfona	Ilisha Africana	Long-finned herrings	
			Ekan	Pseudolithus typus	Ekan	
Saakoto	Ring net	8-10	Nkanfona	Ilisha Africana	Long-finned herrings	
			Idue	Barracuda	Sphyraena sphyraena	
			Ibuei	Brachydeuterus auritus	Burrito	
			Iboe	Brachydeuterus auritus	Burrito	

Local Institutions and Governance

The community has an Assemblyman whose relationship with the community is cordial. The communal spirit is very high and the Assemblyman often organizes communal labours especially for the de-silting and cleaning of drains which are well attended.

Upper Axim has a Paramount Chief who is not recognized by some members of the community as well as the Regional House of Chiefs due to a chieftaincy dispute that has produced two factions.

Fishermen in Upper Axim (Solo), have a Chief fisherman who heads them and represents the community's fishermen at meetings of the Ghana National Canoe Fishermen Council (GNCF). Fishmongers and processors at Upper Axim (Solo) do not have a chief fishmonger and rely on the chief fishmonger of Lower Axim (Boat Ase) for price negotiations of fish with the fishermen.

There is a Landing Beach Committee that sees to the supply and marketing of premix fuel.

Key Coastal and Fisheries Issues

Decline in fish catch

Fishermen and processors in the community believe there has been a drastic decline in fish catch as a result of:

- Light fishing and the use of Fish Aggregating Devices (FADs) such as dynamite, carbide and DDT.
- Increased number of canoes: The number of canoes has increased over the years due to the increasing population and subsequently affected fish catch.

Poor fish quality

Fish Aggregating Devices (FADs) used such as dynamite, carbide and DDT makes processed (smoked) fish stay for less than a week and starts perishing. According to the fishmongers smoked fish could last for about 4 months before it perished.

High price of fish

Fish has also become so expensive that a bowl of fish that sold at GH¢40- GH¢50 some two years ago now sells at GH¢80- GH¢100 due to the decline in fish catch.

Practice of savings and investment among women folk

According to the fishmongers and processors, proceeds from the sale of fish are invested in other livelihood sources such as farming and petty trading. Some women also save at the banks and others with non-banking financial institutions (Susu collectors).

Lack of credit facility

The fishmongers complain of having no loans to work with despite constantly saving with available banks and other financial institutions. The reason is their inability to meet the credit requirements (such as collateral and high interest rates) by the financial institutions.

Truancy on the part of school children

Residents say during fish bumper seasons, many of the school children run to the seashore during school hours. This practice remains a big challenge to the authorities of the school and the opinion leaders of the town.

Community Concerns

The following are some key development needs for addressing challenges in the communities as mentioned by key stakeholders at the community.

Construction of landing site - Upper Axim has no proper landing site due to the rocky nature of the shore and the fishermen are asking for a properly constructed landing site.

Provision of toilet facility.

Provision of Pipe-borne water – The community has a single community pipe-borne water supply managed by the assembly and proceeds returned to them.

Provision of a refuse container

Construction of more classrooms – The Roman Catholic Primary and JHS runs a morning and afternoon shift because of limited infrastructure. The school's classrooms are not enough to contain the high number of enrolment and consequently not enough to run a single shift school. There is however the need for more classrooms to be constructed.

AMANFOKUMA

Brief history of the community

According to a 93 year old woman, Madam Theresa Baidoo (Maame Awugu) the ancestors hailed from Princesstown and settled close to the Axim Fort 'St. Antonio'. A conflict later broke up which made them to search for a new place. They named the new place 'krofofrom' (new town). As time went by, the name changed to Amanfokuma. During the same period, people from various villages and towns also came to the town to trade and to work. However, those from Accra were many and named their place of residence as 'Accra town'. Accra town is as such a suburb of Amanfokuma

Physical characteristics

Amanfokuma is a large coastal community in the Nzema East District that shares boundaries with Brawire to the west and Solo to the east. The community is characterized by muddy and rocky hills that leave behind little puddles when it rains. Amanfokuma has a headland that houses some residents but the rocky and muddy nature of the cape might lead to sea erosion and sweep away these settlements in about a decade. A sea defence wall at the landing site has created an artificial bay giving the shoreline an oval shape bordered by headlands on each side.

Sanitation

Sanitation at the seashore in particular, is not encouraging. This is because, most residents and people of Upper Axim (Solo) throw their refuse into the sea which is in turn swept back to the shore by the waves rendering the place untidy.

Demographics and Settlement Patterns

The community is divided into three suburbs; Amanfokuma, Accra town and Kokodo (Mango Ase). The population is estimated at a 1,600. The average number per household is 10. Inhabitants are Nzema and Fantes. They speak Fanti and the Evalue Nzema dialect. Fanti is however the predominant language. They celebrate the Kundum festival. There are about 300 houses in the community. The buildings are mostly roofed with aluminum sheets and clustered in nature. There is a small cape that penetrates into the sea which very soon will be an island if erosion is not checked. There are a few houses on the cape that are mostly built with mud and roofed with raffia sticks and bamboo. The town is hilly and rocky. There are two major lorry roads at the southern and northern part of the town, but the former is currently out of use. The road at the south is very close to the sea defense wall. The road to the northern part is a tarred road that has developed severe pot holes making passage difficult. Majority of the community's settlement is captured in-between the two roads.

Major landmarks in the community are the Exodus house, Sacred Action Church, 12 Apostle Church, Mosama Disco Christo Church, Nike house, Arabic Primary and Junior High Schools and White House. There is a KVIP near the bridge that separates the community from Brawire community.

Education

Amanfukuma has an Islamic Primary and Junior High School; the Ahlesunna Islamic School that has an enrolment of about 466 pupils. The primary school starts from nursery and kindergarten to class six and has an enrolment of 380 pupils and 16 teachers' four of whom are youth employment teachers (Teachers employed under the National Youth Employment Programme-NYEP). The primary school was established in the 1970s and has a school counselor who counsels mostly the girls on sex education due to the high rate of teenage pregnancy in the area. This has resulted in a high enrolment of female pupils. The school's building is made of cement block. The Junior High School building is a new one constructed in 2008 and has only JHS 1 and 2. The enrolment for the JHS is 86 made up of 44 students in JHS 1 and 42 in JHS 2. There are 6 teachers in the JHS but only two of them (including the headmaster) are trained teachers. The rest are untrained. According to heads of the Islamic school, girls in the area are more interested in education as compared to the boys. Truancy in the lower classes is however high than in the JHS. The JHS has no offices for staff teachers and the headmaster and they all sit on the school compound to discharge their activities. The Islamic Primary and Junior High School has no toilet facility and potable drinking water. Pupils as such attend to nature's call on a refuse dump just opposite the school with a deplorable still-in-use road separating them.

Economy

The main economic activity is fishing and almost the entire community depends on the sector in different ways. For instance, the few into petty trading complain of poor sales when fish catch is low indicating that there is little money left in the pockets of fisherman to spend. During bumper catches at Amanfokuma, there is brisk business activity everywhere.

Fisheries

Amanfokuma had about 12 canoes some twenty-five years ago. Currently, the number of canoes has increased to 26. 4 of the canoes are of bigger sizes using 40 horse power outboard motors while 22 are small and use 4 horse power outboard motors.

Fish sharing system- After deducting all fishing expenses, proceeds are divided into 2. One part goes to the canoe owner and the other to the crew

Fishing Holidays-Fishermen in the community observe Tuesday as a non-fishing day and usually mend their nets on the day.

Processing/ Marketing-The fish mongers usually pay upfront for the fish they buy in the lean season. It is only during bumper seasons (August-Major season) that fishermen give out fish to them on credit. Fish can also be sold on credit when the fishmonger's husband or relative either owns a canoe or is a crew member. Negotiation of prices of fish is the sole duty of the Chief fish monger (Konkohene) regardless of whether a relative owns a canoe or is a crew member. The major fish processing type is smoking. Smoked fish is sent to nearby communities on market days. They normally sell the fish at Esiama, Agona Nkwanta, Bogoso and the Axim Markets. The table below gives the canoes or gears used and the respective crew size as well as fish species caught at Amanfokuma:

Table 1: Gears Utilized and Fish Species Harvested at Amanfokuma

CANOE/GEAR USED		No. OF CREW	FISH SPECIES		
Local Name	English Name		Local name (Fanti)	English name	Scientific name
Karadze	Bottom set net	2	Eban (nkankrama)	Round Sardinella	Sardinella aurita
Tenga		2-4	Sukue	Lesser African threadfin	Galeoides decadactylus
Wokye	Ring net	22-30	Apoku	Frigate Tuna	Auxis thazard
			Eban (ntar)	Sardinella eba	Flat sardinella

Local Institutions and Governance

Fishermen at Amanfokuma, have no organized association. However, they belong to the Ghana National Canoe Fishermen Council (GNCFC).

There is an Assembly woman who oversees the activities of Amanfokuma, Accra Town and Mango Ase Electoral Area. According to her, the relationship between the community and the Municipal Assembly is quite satisfactory.

There is no Landing Beach/Premix committee in the town.

The fish mongers/processors have a Chief Monger (Konkohene). The women are however not well organized as a group as there is no fishmongers' association there. They only form small groups when there is a loan facility, for the women that require them to access it as a group. The Chief fish monger (Konkohene) has the responsibility of negotiating the price of fish with the fishermen before any fishmonger buys the fish.

Key Coastal and Fisheries Issues

Decline in fish catch: Some 25 years ago, there used to be more fish because fishermen carried out excessive fishing expeditions only during the major fish seasons. But now, fish catch has declined as a result of the light fishing and other unsustainable methods that are practised all year round even during bumper seasons.

Increasing Price of fish: Most fishermen, mongers and processors interviewed confirmed fish prices have shot up as a result of the low fish catch.

Lack of Premix fuel: Because there is no landing beach committee at Amanfokuma, fishermen often do not get supply from their neighbouring purchasing points and this negatively affects the work. Amanfokuma and the other two neighbouring communities to the west (Brawire and Akyenim) all buy fuel from the service center at Solo. The fishermen lament that because the centre is serving three communities the supply is not enough for them.

Black marketing of premix fuel: According to the fishermen interviewed, some middle men, mostly not fishermen, buy the premix fuel from some centre and later sell it at higher prices to the fisher folks.

Unavailable and expensive Fishing Inputs: Most fishermen complain painfully about unavailable fishing inputs especially Outboard motors and the expensive price of few available ones.

High rate of teenage pregnancy: The issue is gradually declining due to the sex education given to girl children at the Ahlesunna Islamic School at Amanfokuma.

Increased number of malaria cases: Residents complain of the increasing rates of malaria cases recorded in the community.

Community Concerns

According to the stakeholders interviewed, the following are the concerns of the community:

Provision Pipe borne water—residents buy a bucket of water at GHC 0.50p from two local operators. This according to them is expensive and residents are as such calling for the provision pipe borne water in their community.

Proper road network - Residents are calling for the reconstruction of their main road which is now in a critical deplorable state.

Provision of KVIP (toilet)—The community has a single public toilet facility that is used by many residents creating congestion and other inconveniences. They are therefore calling on District Assembly / NGO to help in the provision of an additional toilet facility.

Youth Employment Training – The youth in the community are calling for some form of self employment training skills for an accelerated socio economic development.

A reconstruction of the bridge linking the community to the lorry station.

Provision of community refuse containers—Amanfokuma has no community refuse container because of the gap created by the out-of-use bridge rendering the road immotorable.

Regularization of the sector: Fishermen at Amanfokuma called for the fishing industry to be regularized arguing that even in farming, each crop had its season. To them, if the industry is not regularized, a time is coming soon when there will be no fish left in the sea.

BRAWIRE

Brief history of the community

The people of Brawire are believed to be migrants from Sampa in the Brong Ahafo Region who had to move due to fighting at the time. They first settled at Cape Coast and then moved to Lower Axim and later to Amanfukuma due to continued fighting in different parts of the country. The migration was too much for some of them who vowed not to move again after they leave Amanfukuma. They later settled in a dense forest close to Amanfukuma and to the settlers it was the end of life's struggles. Brawire could pass for an Akan word (bre ewie) which literally means 'end of suffering' and this is because the settlers had decided the migration was too much for them and that the time had come for them to end their suffering and resettle permanently. The population is a mixture of Nzemas and Fantis but the Nzemas are more. The people speak the Evaluate Nzema dialect and celebrate the Kundum festival.

Physical characteristics

Brawire is a lively and populated coastal community that lies between Akyenim (in the west) and Amanfukuma (in the east). The community is a fairly large one that has a beautiful oval shoreline and beautiful scenery of a natural bay and headland that almost passes for an island. An old and out of use international road separates the beach from the settlements. The northern part of the community is very hilly while the western part is characterized by farmlands especially of plantain.

Sanitation

The shores of Brawire are fairly neat due to the efficient role of the Zoil personnel. Because it is a populated community that does mainly fishing, the number of Zoil personnel is more than the other coastal communities. In Brawie, there are twenty seven Zoil personnel responsible for cleaning the beach whiles in most communities they are fifteen. At the outskirts of the community close to the shore, is a large refuse container managed by the Zoomlion waste management company. The community itself is fairly clean but for a few plastic waste lying around and muddy stagnant puddles of water left by rains. There is another refuse dump close to a dried-up lagoon in the community where some residents dump and due to its nearness to homes on lowland washes into homes during rainfall causing flooding

Demographics and Settlement Patterns

Brawire has a population of about a 1,000 people and a household size of about eight. The houses to the north-western part of the community are made mostly of mud and plastered with cement and have aluminum roofing sheets. Houses close to the coast and eastern parts are purely mud structures with raffia or bamboo roofing. There is a principal road that separates the northern part of the community from the southern. The road leads to Akyenim and is tarred but in a deplorable state making access difficult. There are only two churches at Brawire.

Education

Brawire Akyenim Junior High School serves the two communities (Akyenim and Brawire communities). The school buildings are made of bamboo and roofed as well with bamboo. The floor is however not plastered or cemented. The school was established in 2008 and will sit for its first Basic Education Certificate Examination in 2011. There are eight (8) teachers including the head master, 6 are trained teachers while 2 are service personnel. The current enrollment 2009 / 2010 academic year stands at 70.

Table 1: Junior High School Enrolment at Brawire (2009/2010)

Class	Boys	Girls	Total
JHS 1	16	18	34
JHS 2	19	17	36

Economy

The mainstay of the people of Brawire is fishing and farming but the farming dominates. Some of the fishermen usually farm during lean fish seasons. Those who combine the two occupations are however few. The native Nzemas are mostly farmers while the Fantis are fishermen. A few of the residents do petty trading and coconut oil extraction which is sold mostly outside the district. Others are businessmen who go to other regions such as the Brong Ahafo Region to purchase cereals in bulk. They in turn sell their commodities in the southern part of the country. Few women are also into bakery—cake and bread Brawire is one of the few coastal communities in the country whose Zoil (beach brigades) personnel are mostly females.

Farming

Farmers in Brawire describe farming as a legacy that could be held onto for a long period of time. They believe it is more lucrative than fishing but is capital intensive and a long term profit venture. They grow mostly oil palm, pineapple, sugar-cane, okro, garden eggs, tomatoes and pepper with a few growing rubber. The men mostly grow oil palm, pineapple, sugar-cane and rubber while the women may grow the other crops. The farm produce are all sold in the community but a few people from Axim and other areas come to the community to purchase some of the farm produce. The sole buyer for the rubber is the Ghana Rubber Estates Limited, (GREL). Some of the farmers save with non-banking financial institutions. Farmers at Brawire do not go to farm on Thursdays.

Fisheries

Apart from the marine fishing, fishermen in Brawire also fish from the community's 'Egualé' Lagoon which has tilapia and shrimps. Usually the youth fish in the lagoon but hand over to the older folks during rainy seasons when there is plenty fish in the water body. They practise light fishing, because the other neighbouring communities are practising it and this according to them will put them at a disadvantage if they also do not practice it. Some 50 years ago, there were about 40 canoes at Brawire. Now however there are about 200 canoes. Out of this number, 50 use paddles and 150 use outboard motors.

Fish sharing system- Proceeds from the sale of the fish are shared amongst the fishing crew based on a laid down agreement. Proceeds are divided into 2 after expenses have been deducted: one part goes to the crew and the other to the canoe owner. The canoe owner is however part of the crew and gets a share as well from the other half that goes to the crew.

Fishing holidays- In Brawire, fishing on Tuesdays is seen as a taboo and is as such observed by all fishermen in the community. This day is used for maintenance of canoes, repair of fishing gears and sharing of fish proceeds. Tuesdays are also used to settle disputes among fishermen.

Processing/ Marketing- The fish mongers sometimes buy fish on credit but usually pay upfront. Fish price negotiations are normally the duty of the Chief fish monger (Konkohene). All the fish are smoked and sent to Esiam, Agona Nkwanta, Bogoso etc. Some fishmongers from neighbouring communities come to Brawire to buy fish which they process into smoked fish. The table below shows the gears and canoes used at Brawire, the fish species caught and the seasons:

Table 2: Gears Utilized and Fish Species Harvested at Brawire

CANOE/GEAR USED		No. OF CREW	FISH SPECIES			SEASONS
Local Name	English Name		Local name (Fanti)	English name	Scientific name	
Awam sea/ Nkoba (one-man Canoe)	Hook and line	1	Apoku	Frigate tuna / Atlantic little tunny	Auxis thazard/ Euthynnus alletteratus	All seasons
			Epae / Opaa	Jack Mackerel	Caranx hippos	
			Sukue	Lesser African threadfin	Galeoides decadactyles	
Esema hen	Bottom set net	3-4	Ekan	Cassava croaker	Pseudotolithus typus	Dry season
Karadze			Safor	Spanish mackerel	Scomberomorus tritor	
		4-5	Asese,	Balyhoo half beak	Hemiramphus brasiliensis	All season
			Eboe	Burrito	Brachydeuterus aurtius	
Ahyekon	Drill Gill Net	12-15	Wiriwinwa	Congo dentex	Dentex Congoensis	(Major season) mawora
Wokye	Ring net	25-26	Eban (kankama)	Round sardinalla	Sardinella aurita	
				Epae / Opaa	Jack Mackerel	Caranx hippos
Tenga	Bottom set net	5-7	Kanfena	Long-finned herring	Ilisha Africana	All seasons
			Sukue	Lesser African threadfin	Galeoides decadactyles	

Local Institutions and Governance

Brawire has a well recognized chief fisherman who together with his 7 member arbitration team settles disputes that arise between fishermen especially at sea. The chief fisherman also

represents the fishermen of Brawire at meetings convened by the Ghana National Canoe Fishermen Council. The fishermen meet occasionally to discuss issues of prime concern. Brawire also has a chief monger (Konkohene) who is the leader of all fishmongers and processors in the community. The women are however not well organized as a group, that is, they do not have an association. They only form small groups when there is a loan facility for the women to access which requires that they come together as a group to be able to access it. Brawire has a traditional chief as well as an assemblyman who live in the community. Landing Beach Committee – During the regime of the NPP government, (2000-2008), there used to be a premix committee headed by the chief fisherman. At that time, the people of Brawire claim they were getting supply of premix almost every week. With the coming into power of the NDC government in 2009 however, the Brawire community was not given a landing beach committee and residents have attributed this to political reasons. The numerous canoes at Brawire that use outboard motors have to go to the next town to buy premix fuel.

Key Coastal and Fisheries Issues

Decline in fish catch – The decline in fish catch has been attributed to the following: Increased number of canoes/vessels - It is believed that with the ever increasing population, more people at the coast are entering the fishing industry because it is, to them, the only readily available and lucrative livelihood in the community.

Poor/ unauthorized fishing methods -Many fishermen have resorted to the use of unsustainable methods like dynamite, carbide, DDT, light and pair trawling.

The use of unauthorized net size - As a result of the decline in fish catch, some fishermen now use smaller nets in order to catch more fish.

Increasing prices of fish - Fish is now expensive because of the decline in fish catch. The fishermen spend more money to go to sea especially the motorized canoes that move farther than they used to some decades ago and sometimes come back from sea with less fish catch. They are as such obliged to increase prices of the fish.

Lack of loan capital to operate small businesses - Many women (fish mongers / processors) lamented the lack of start-up capital or loans to expand their business. The few who save with banks are unable to obtain loans from them. Others also form groups to obtain loans from other financial institutions but say the interest rate is high.

Premix - The non-availability of a premix centre is affecting the fishing sector in the community as fishermen struggle to get supplies of fuel from neighbouring communities who also sometimes grapple with shortage issues.

Community concerns

The following are concerns of community members interviewed:

- Provision of credit capital for fishmongers.
- Department of fisheries should collaborate with Chief fishermen to solve conflicts encountered at sea with bigger vessels from other communities.
- Specific sites should be earmarked for pair trawling.
- Provision of toilet facility

AKYENIM

Brief history of the community

It is believed that the people of Akyenim first settled at Ankobra and moved two more times before arriving at this final destination. According to the Youth Chief (*Mbrantsiehen*) some Fantis from Shama also settled at the area and traded in salt which in Fanti is called 'nkyen', hence the name Akyenim. Other sources also say the name of the community was first called 'Ahenlezo' in Nzema which in Fanti is 'Adze Akye Do' (Day has dawned on it) and this name gradually changed to 'Akyenim'. The people of Akyenim are made up of Nzemas and a few Fantis who celebrate the Kundum festival and speak the Nzema language.

Physical characteristics

Akyenim is a coastal community that demarcates end of the Nzema East District in the west where it shares boundaries with Ankobra in the Ellembelle District. The community also shares boundaries with Brawire to the east. The northern part of the community is characterized by farmlands that gradually turn to thick forest cover at the northwest. The shoreline is very rocky and curvy outstretching to the Ankobra beach resort where it is a bit sandy. Two lagoons that are almost dried up due to the dry season converge at a bridge under an old out-of-use ECOWAS route and enter the sea at the eastern part of the community.

Sanitation

The community's rocky shore line is fairly neat but sanitation in the community leaves much to be desired. There is a heaped refuse dump in the community, close to an uncompleted toilet facility that is not being managed. According to some opinion leaders, the waste management company (Zoil) personnel who are expected to help maintain sanity, clean the area and dump the refuse in the community without managing it. They lament that though adjoining communities have been provided with community refuse containers that are lifted and cleared regularly, city authorities have neglected Akyenim and have not provided them with one.

Demographics and Settlement Patterns

The population of Akyenim stands at about 500. The houses in the community are about 150 with an average household to be 6. The houses are a mixture of mud or coconut fronds with raffia or bamboo roofing. Interestingly enough, buildings to the extreme west of the community are built with mud and plastered with cement and have aluminum roofing sheets or raffia. A few of the houses are purely made of cement blocks. Towards the north western part of the community is a government kindergarten, primary and Junior High School and about 200meters away from the school are disease-tainted coconut trees as well as some plantain and coconut plantation and thick forest vegetation. Residents make use of the Axim Government Hospital when sick and the major disease usually reported at the hospital is Malaria.

Education

The Brawire-Akyenim Junior High School serves the two communities (Akyenim and Brawire communities). The school buildings are made of bamboo and roofed as well with bamboo. The

rooms have not been paved or cemented. The school was established in 2008 and will sit for its first Basic Education Certificate Examination in 2011. There are 8 teachers including the head master, 6 are trained teachers while two are service personnel. The current enrollment 2009 / 2010 academic year stands at 70.

Table 1: Junior High School Enrolment at Akyenim

Class	Boys	Girls	Total
JHS 1	16	18	34
JHS 2	19	17	36

Economy

Though a coastal community, majority of the citizens in Akyenim does farming while a few does fishing. Some members of the community are petty traders while others work under the Zoil waste management project.

Farming

Most people are into farming at Akyenim. Produce cultivated are mostly cassava and oil palm, with the women usually cultivating cassava. Others grow plantain and sugarcane. Those with large acres of land prefer oil palm plantations. Non land owners, share the produce with the owners when harvested. The cassava is frequently sold to the ‘Akyeke’ food vendors while some are used for corn dough and gari. Two varieties of cassava are planted – that which takes six months to mature and the other one year. The palm fruits are either sold to individuals or used for palm oil. Almost all the farm produce are sent to Axim for sale.

Fisheries

In the past (30years ago) there were only five canoes all of which use paddles. Currently there are 8 canoes, 4 use paddles and the other four out-board motors. According to the crew interviewed, the paddled canoes use drag net whiles the outboard motors use bottom set net. The non-motorized canoes employ about 17 crew members whiles the motorized canoes employ about four crew members. The fishermen confirmed that the fishing industry has changed over time: fish used to be closer to the shore and as such fishermen were not going far but these days although they move a little bit farther, they sometimes come back with little or no catch. Fishermen purchase premix fuel from Lower Axim and other nearby communities subject to its availability. There are two main seasons, the major and minor seasons. The major season starts from August while the minor season falls between October – December.

Fish sharing systems- Sharing of proceeds is usually done on weekly basis. All expenses are deducted and after that the money is divided into two. One part goes to the canoe owner and the other part to the crew. If the owner is part of the crew, he is still given a share of the proceeds for the crew.

Fishing holidays - Tuesdays are observed as fishing holidays in this community. The day is used for maintenance, repair of fishing gears and sharing of fish proceeds.

Processing and Marketing- The fishmongers usually pay upfront for the fish they buy in the lean season. In the bumper season however, fishmongers get to buy fish on credit. They can also get fish on credit when the husband owns a canoe or a relative is a crew member. Repayment is made in two weeks. All the fish are smoked and are mostly marketed in Accra (Agblobloshie Market) and Kumasi markets. Others sent the fish to Esiam, Agona Nkwanta, Bogoso and the Axim Markets to sell.

Table 2: Gears Utilized and Fish Species Harvested at Akyenim

CANOE/GEAR USED		No. OF CREW	FISH SPECIES		
Local Name	English Name		Local name (Fanti)	English name	Scientific name
Twuwii	Drag net (these are Non-motorized/Paddled canoes)	5-7	Eboe	Burrito	Brachydeuterus auritus
			Sukue	Lesser African threadfin	Galeoides decadacyctlus
			Ekan	Cassava croaker	Pseudotolithus typus
			Kanfena	Long-finned herrings	Ilisha Africana
Tenga	Bottom set-net (motorized canoes)	4	Amoni	Anchovy	Engraulis encrasicolus
			Sesew	Deep water rose shrimp	Parapenaeus longirostris
			Doktafish	Rainbow runner/Doctor fish	Elegatis bipinnulata

Local institutions and governance

Akyenim has a Chief fisherman who replicates his role in the next community, Brawire. The fishermen belong to the Ghana National Canoe Fishermen Council-Western Region and are represented by the Chief fisherman in meetings.

There is however no chief monger (Kokonhene) in the community. They rely on the Chief Monger (Konkohene) in Brawire for price negotiations of fish with the fishermen. The women are not well organized as a group; in other words they do not have an association

The community mentioned Friends of the Nation (FoN) to be the only NGO that has been working with fisher folks in the area for the past two years.

Key Coastal and Fisheries Issues

Decline in fish catch

There has been a drastic decline in fish catch. This has been attributed to:

Increasing number of canoes. According to the fisher folks, there has been a drastic increase in the number of canoes in the coastal communities.

Poor/ unauthorized fishing methods - Gone are the days when fishermen only used the net for fishing. Now many fishermen have resorted to the use of unsustainable methods like dynamite, carbide, DDT and light

The use of unauthorized net size - As a result of the decline in fish catch, some fishermen now use smaller nets in order to catch more fish and these nets catch all the fingerlings leaving only a few for breeding.

Increases in prices of fish: The price of fish according to the fishing community has increased so much. For instance, a head pan of herrings which was sold at GHC 50-60 last year is currently selling at GHC 150

Poor quality fish resulting from use of unsu stainable fishing practices: Fish spoils within few days as compared to about ten years ago due to the use of chemicals such as dynamite, carbide etc in fishing.

Lack of operating capital: Fishermen indicated the general lack of financial assistance for operating their businesses. According to them, although they save in rural banks in Axim (Municipal capital), they find it difficult accessing loans from these banks.

High youth unemployment - Youth in the community complain that apart from fishing there are no other job opportunities in the community.

Lack of public toilet facilities - Akyenim has no single public toilet facility though a few homes have their own toilet facilities. There is an uncompleted toilet facility in the community put up, according to them, by an NGO. Residents as such attend to nature's call in the bushes

Insufficient refuse disposal sites - There is only one dumpsite available for solid waste collection and this according to residents is not enough as managing it becomes a problem.

Truancy among school children- During the major fishing season, many of the school children run to the seashore during school hours. This practice remains a big challenge to the authorities of the school and the opinion leaders of the town.

Community Concerns

These are the concerns of community members interviewed;

- Credit facility to start and expand existing businesses.
- Provision of an additional toilet facility
- Provision of two or more refuse containers
- Alternative livelihood activity for the youth
- Construction of the New block for the Junior High School
- Pipe borne water – Akyenim needs pipe borne water. The only pipe stand in the community is managed by city authorities and residents say it is not enough to cater for their needs.

7.0 Rapid Assessment of Coastal Communities in the Western Region: Summary of Findings for Ellembelle District

Background

A rapid appraisal was conducted in seventeen (17) coastal communities in the Ellembelle District from March 29 to April 6, 2010. The purpose of this assessment was to generate primary information that will ultimately contribute to establishing the overall baseline coastal conditions and socialize the Integrated Coastal Fisheries and Governance (ICFG) initiative among the seventeen communities the team visited.

This appraisal collected mostly qualitative information and some quantitative data on issues relative to fisheries, community infrastructure, governance and institutions, local habitats and perceptions of resource management. The research team comprised five members and spent a day in each community. Data was collected through focus group discussions, participatory mapping, direct observations and interviewing key informants. Information was also collected from secondary sources including development plans of the District Assembly.

The following report provides a brief overview of the Ellembelle District Assembly as well as a synthesis of key fisheries, coastal and other coastal community development issues that were revealed during the field assessment. The Annex provides profile information and specific issues for each of the coastal villages within the Ellembelle District Assembly.

Profile of Ellembelle District : Brief History

Ellembelle District is one of the seventeen districts in the Western Region of Ghana. It has one constituency and a total of seven Area Councils as well as thirty-one Electoral Areas.

Ellembelle District was carved out of the Nzema-East Municipality in 2008. The area is noted for past conflicts between communities and mining companies undertaking gold mining operations. Since 1993, artisanal marine fishing activities in the district have been adversely affected by algae bloom.

Physical Characteristics

The Ellembelle District covers a total area of about 1,468km² which constitutes about 9.8% of the total land mass of the Western Region. It is located on the southern end of the region, between longitudes 2⁰05' and 2⁰35' West and latitudes 4⁰40' and 5⁰20' North. It is bounded on the West by Jomoro District, North by Wassa-Amenfi District and the East by the Nzema-East Municipal Assembly. It has a 28km stretch of sandy beaches. The topography of the district is generally undulating with the highest point at about 450ft above mid sea level and this makes the area unsuitable for mechanized farming. The coastal areas are either wetlands or sandy soil. These soils are acidic and low in nutrients due to high leaching resulting from abundant rainfall in the district.

The rock is made up of the Cambrian type of Birimean formation and the Tarkwaian sandstone – association Quartzite and Phyllites types. It contains economic minerals as kaolin, silica and gold, as well as sandstone deposits. The beaches and estuaries are very beautiful with a lot of

white sand, comparable to the Caribbean and beaches are awash with coconut trees in their abundance.

The sea, Ankobra River and the Amanzule wetlands are main water bodies though the area has a lot of streams and small rivers which serves many communities as the source of water for drinking and domestic use.

Local and Traditional Governance

There is a Local Government Authority appointed by the President of Ghana. In line with the 1988 Decentralised system of government this is the highest political authority in the District and is headed by the District Chief Executive who though is approved by the two-thirds of the Assembly through voting, is a political appointee who leaves office when the government leaves.

The various legal framework for local development in Ghana include, the civil service Law, 1993 (PNDC Law 327), the National Development Planning (System) Law, 1994 (Acts 480) and the local government Law, 1993 (Act 462). All of these legal enactments place the District Assembly in the centre to reinforce the government's decentralization process and participatory development. Thus the assembly, by law is the highest administrative and political body in the district. Two-thirds of the members are elected while the remaining are appointed. The Member of Parliament (MP) is an ex-officio member. The government, with two-thirds approval of members of the Assembly at a sitting appoints the District Chief Executive as its political and administrative head. The chief civil servant in the district in person of the District Coordinating Director (DCD) is the number two man in but in practice, the head of administration. Practically, he is in-charge of day to day running the district.

The District has an executive committee which formulate policies for the Assembly with the DCE as representative of central government chairing it. It operated through various sub-committees, (namely Finance and Administration, Social Service, Development, Works, Justice and Security, District Environmental Management and District Tourism Sub-Committees).

By law, there have always been two different machineries for the administration of Ghana. One is based in the capital (Accra) with branches at the local (district) level; and another separate and district-level based in well-defined localities and referred to as local government. Central government bodies at the local level deal with national matters.

Central government attracts the best qualified personnel compared to local government in terms of management skills and professional expertise. These central government agencies had less clearly defined powers in terms of local responsibilities, but had a much better presence by reason of their *de facto* position as bodies of central government.
(Ghana Districts, 2006)

Local government bodies are vested with authority specifically for local matters, and had grown up alongside the central government agencies that operate at the local level. They are required to provide municipal services and amenities in their localities without regard to whether or not they had the resources to deliver. These bodies lacked personnel with the requisite skills and professional expertise.

Central government agencies had less clearly defined powers in terms of local responsibilities, but had a much better presence by reason of their de facto position as bodies of central government (eg security). Decision-making took an unduly long time because these bodies had to refer decisions on almost any matter of significance to a ministry in Accra, which – bogged down with matters of “national significance” – was unable to react quickly enough to problems referred from the local level, thus causing the tempo of activity to be slow.

Interference and ‘hijacking’ of laid-down procedures by ruling parties’ functionaries of laid-down governance systems in the fisheries and other agricultural activities is a critical issue (eg the distribution of pre-mix fuel to fishermen and fertilizers to farmers). The disbanding of every pre-mix committee and the usurping of their authority of the any time there is change of government has created more conflict in the agricultural sector rather than sanitize it.

The Traditional Authorities (chiefs and elders) being land owners whose office and scope of authority goes back into hundreds of years in history are the custodians of the people’s culture and is headed by the Omanhene who is the ‘king of the nation’. This authority is derived from the support and allegiance from his elders and people. Undertaken of any major activity (socio-economic etc) by any group of people, national government inclusive is carried only with support from traditional leaders.

The Ellebelle District has two paramountcies under the *Nzema Manle*¹ Traditional Council with its offices at Esiama. Under each of these are Divisional Chiefs and below them are Odikros. These Traditional Authorities command the respect of large numbers of their people and communities. Most of them are dedicated to the development of their areas, the education and enlightenment of their people. They have a part to plan in facilitating government policies and mobilizing their people for development.

Of particular importance is the role of the traditional authorities in support of land administration reform, a key factor in economic growth and in the protection of the vulnerable and excluded. This offers positive contribution to economic and social transformation. Traditional Authority can therefore be regarded as part of the decentralization process. The District Assembly there partners the Traditional Authority to provide a mechanism for consultation and co-operation.

Civil Society plays a very important role in the development of the district. Participation by other stakeholders is manifested at the levels of information sharing, consultation, collaboration and empowerment. To ensure public ownership of the Assembly’s development agenda it is necessary that avenues be created for stakeholders and other parties with contributions to get involved in the whole process. This is the effective way to generate true sustainability and public support for the development process.

Demographic Characteristics

Population

The population of 114,839 (according to the 2000 national population census) may indicate no great pressure of human activity on the land. However the same cannot be said of the pressure on resources. Settlement or growth points like Esiama and Aiyinase have been experiencing relatively higher population densities with corresponding pressure being exerted on the existing limited infrastructural facilities and natural resources.

Some big towns like Ainyinase, Asasetre and Esiamia experienced higher relative growth of population from 1970 to 2000 and beyond. These areas are characterized by not only high birth rate among the population, but also in-migration of particularly male folk, to undertake economic activities including fishing, farming and recently small-scale mining.



Figure 1: Young mothers and their children



Figure 2: Fishermen interacting with CRC-ICFG/FoN

The district's population structure does not differ much from the general demographic trends in the country. It indicates a broad base that gradually tapers off with increasing age. From the census, the population is relatively youthful with 51% as the economically active force. The dependent cohorts (0–14 and 65+) constitutes a total of 61,549 (43%) of the population. This has implications for future population growth. Also, the districts growth trend reflects that of the regional with a higher male population of 71,673 as against 71,198 for the females giving a sex ratio of 1:0.7 (Ellembelle MTDP, 2009)

Rural – Urban Split

There is unequal distribution of socio-economic resources between the rural and urban centres in the district. This is evident in the enhanced economic opportunities and developed infrastructure facilities in the urban centres as opposed to the rural areas. Generally, there is lopsided development planning in the district resulting in over concentration in few urban settlements and neglect of rural communities.

Migration

The district experiences a considerable degree of movement of people (migrants) into and out of it. This is largely attributable to seasonal fishing activities, migrant farm workers, the influx of small-scale miners and refugees (from Liberia and La Cote d'Ivoire) into the district. These exert much pressure on the limited social services especially; water, sanitation and housing.

Religion and Ethnicity

In terms of religion, Christians constitute about 79% of the population with Moslems having 8%, Traditionalists 3% and others 10%. The Nzema constitute the predominant ethnic group with 80% of the population. The remaining are Fante (9%) Ga-Adangbe (3%) Ewe (4%) and Mole-Dagbani (4%).

Economic Activities, Livelihoods and Quality of Life

Prior to 1900, small-scale salt production was the preferred livelihood option in this district, particularly in the coastal communities. This activity was done at the subsistence level with little income generated. The onset of fishing migration by Fante fishers from the Central region ushered in a new era of marine artisanal fishing within the coastal communities after 1900. While the Fante migrants were the key actors in the marine fishing sector, the indigenes (Nzemas) engaged in this activity along the line. Currently, there are an estimated total of 1,400 fishermen in Ellembelle District averaging 100 per coastal community. However, it is noteworthy that Esiam alone has over 300 fishermen whilst the rest have 80 to 170 per community. Vessel size varies from the small-sized paddled canoe to large-sized outboard motor-powered ones. Gears used in the artisanal fishing industry include lobster net, set net, *ali/poli/watsa* net, *ali net*, drift gill net, ring net, purse seine, beach seine, cast net and crab traps. There are few motorized canoes using 40HP outboards. The main species caught include anchovies, sardinellas, sail fish, lobsters, shrimps, burrito, big eye grunt, bumper, barracudas, ribbon, cassava fish, king fish, tunas, sole, quid, snapper, sea breams, groupers, threadfin, mackerels, sword fish, and sting ray. While production has been variable over the years, overall, fish landings have decreased within the district.

Farming in the district is both subsistence and commercial. The major crops cultivated are maize, cassava, plantain, rice and other staples. Vegetables such as garden eggs, pepper and tomatoes are also cultivated. Coconut, oil-palm and cocoa are grown on mainly commercial scales. It is to be noted that coconut plantations which once provided a source of livelihood to majority of the inhabitants in the district have either been uprooted and washed away by coastal erosion, grown too old or been devastated by Cape Saint Paul wilt disease. This has negatively impacted livelihoods, leading to low incomes and increased unemployment.

There is generally lack of access to farming inputs such as fertilizer, insecticides and herbicides. Rice is cultivated in low-lying areas like Asanta, Kikam, Esiam and Kamgbouli. However due to

inefficient post-harvest processing and storage facilities, losses are high and farmers' income is low. The average farm size is estimated at 4 hectares with slash and burn being the common practice of land preparation.

It is to be noted that fishing and farming are undertaken in most coastal communities in the district. For the most part, these activities are defined by gender roles and seasonal occupational trends. Generally, the men engage in fishing while women undertake farming activities. During the high fishing seasons, the women provide support to their husbands as small scale fish traders.

Other livelihood options are coconut oil production and small scale mining operations. Coconut oil production is constrained by inefficient technology leading to low oil recovery rate and small scale mining is increasingly becoming a dominant activity practiced by locals and migrant youth.

Rearing of goats is prohibited in many communities because they are said to cause a lot of nuisance. Sheep rearing is popular. The small ruminants suffer from high worm infestation and other veterinary problems. Local poultry is reared in virtually every single household though the chicken population remains low due to annual outbreaks of Newcastle Disease that results in high mortality of the birds. There are no commercial poultry farmers in Ellembelle district. Piggery is the most popular livestock rearing activity and is indulged in mostly by women and the youth.

Piggery in the district has a symbiotic relationship with coconut oil processing. Animal rearers depend on the chaff produced after grating coconut for feeding the pigs. Since they cannot buy it most of the time, they provide free labour to oil processors and are paid with the chaff which they in turn feed their animals with. The availability of the by-product of coconut oil processing which was the catalyst for this activity is however dwindling and farmers cannot afford wheat bran as feed for their pigs. Fact is coconut is sold as copra in increasingly large quantities to foreign buyers because the oil is not very popular on the Ghanaian market due to higher quality and more attractively packaged brands of vegetable cooking oil available on the market.

Marketing and storage facilities of agricultural produce in the district are generally poor. The various farming communities experience heavy post-harvest losses due to the poor conditions of existing traditional storage facilities. Cassava is usually sold fresh and only about 20% of harvest is processed into gari which has a very long shelf-life. Poor quality of locally-produced coconut oil poses marketing challenges against factory produced brands which are usually imported.

Traditional stoves are energy-inefficient and use a lot of fuel wood (bamboo, raffia, coconut shells and mangrove). The primitive and unsatisfactory work environment and dependence on the traditional hearth poses enormous health challenges to the predominantly women oil processors. The District has many investment opportunities of which energy sector plays a vital role. With the discovery of oil in deep sea off the coast, investors interested in the oil industry can use the area as a launch pad to gain access to the business by the setting up of their offshore facilities.



Figure 3: Women frying fish on traditional stoves



Figure 4: Cooking of 'atuku' meal from cassava

Environment

The District is mainly drained by the Ankobra River and its major tributaries - the Ahama and Nwini rivers. The Ankansa River and its tributaries on the northern side act as boundary between the district and Wassa-Amenfi. Located on the south-western side are the Amanzule River and other relatively small rivers and streams that are perennial.

The district lies within the wet semi-equatorial climate zone of the West African Sub-region and rainfall occurs throughout the year with the highest monthly mean occurring around May and June. The average temperature in the District is about 29.4°C with variation in mean monthly ranging between 4°C to 5°C throughout the year.

The vegetation of the district is made up of the moist semi-deciduous rain forest in the northern part of the district, but turns into secondary forest as one move southwards mainly due to human activities like tree felling and farming. The about 40km coastline is mainly of savannah vegetation interspersed with wetlands. The district has several timber species and other non-timber forest products like rattan, bamboo. It also abounds in game and wildlife all of which offer opportunities to generate resources for development through eco-tourism. There are four forest reserves within the district. These are Gwira-Banso, Shelter, Draw River and Ndumfri Forest

Reserve to the North Eastern end of the District. (There is however currently no data available on size of the reserves except for on Gwira-Banso). The average annual rainfall, which is the highest in Ghana, is between 1700 and 2000mm. The vegetation is tropical high forest of the wet evergreen type.

The area abounds in extensive forest resources from which extraction of timber and other non-timber forest products (mangrove on the River Ankobra and the Amanzule wetlands) are exploited on a large scale. However lack of comprehensive resource extraction policy and insecurity of land tenure, unsustainable farming and lumbering practices have resulted in deforestation and loss of vital timber and non-timber resources in many areas within the forest zones of the district, especially the Gwira-Banso Stool Land area in the northern part of the district.

The over-dependence on the forest for fuel-wood by over 90% of the population has contributed to deforestation. All these have led to the depletion of Natural Resources and most importantly a change in the micro-climate of the area.

The depletion and degradation of the natural resources threaten the very source of livelihood of the people. With the majority of the household depending on fuel-wood and charcoal as their main source of fuel, a big majority of the population in all the major towns like Esiama, Aiyinase and Atuabo are under imminent threat of a fuel-wood crises.

Water pollution is also another major problem in the District. The main elements of pollution have been waste products of coconut oil extraction and the discharge of solid waste into many streams and the sea. Sand winning activities along the coast especially in Asanta and Esiama have led to considerable degradation of beaches. This activity need to be regulated. Excessive sea erosion continues to threaten some communities along the coast. The District Assembly recommends that an integrated coastal management programme should be promoted.

The recent upsurge of illegal small-scale mining activities (*galamsey*) in the district, especially around Teleku-Bokazo, Nkroful and Salma, as well as granting of many concessions for gold prospecting and production is another source of concern for surrounding communities, environment, agriculture and water and sanitation. Though mining offers potential for employment creation, it has not benefited locals as specialised labour is needed and imported from other parts of the country. There is the need for close monitoring and regulations to minimize its negative environmental effects. For example, the Kaolin Mining around Salma and its environs have also created a number of open pits which pose serious health and environmental challenges. Effective and efficient measures like the Environment Impact Assessment (IEA) should be put in place in collaboration with stakeholders like the Environmental Protection Agency (EPA) and Minerals Commission to ensure a sustainable resource management and a health and clean environment.

The Gwira-Banso Joint Forest Management Project was a collaborative resources management project implemented by CARE International and its local partner, Friends of the Nation (FoN). It addressed introduced land use planning and biodiversity conservation to farmers in the area.

Land Use

Land uses in the district include forests, farms, mining, settlements, roads and other public infrastructure. Some communities are currently being resettled to pave way for large scale mining operations. Relocation of communities is also associated with settlement development

and construction of new roads. While forest reserves are intact, off-reserve forests have been degraded through land clearing for agricultural purposes.

Land ownership and acquisition is a major challenge in this district. Traditionally access to lands is based on sharecropping arrangement between land owners and migrant farmers. Furthermore, individual families compete with chiefs for control over land utilisation. Many communities are therefore without any proper planning schemes or lay-outs. Presently there are only about 20 communities with proper planning schemes in the district. Chiefs and Landowners allocate plots of land to people without reference to the appropriate authorities, further aggravating the situation. Many of these problems have been caused by ignorance of the relevant laws and regulations on land use. (Ellebelle MTDP, 2009)

The Housing environment in the district is characterized by poor drains, untidy, exposed building foundations and cracked walls and leaking roofs. Most (over 65%) of these houses were built with mud, wattle and daub raffia or bamboo and land-crate and roofed with thatch, bamboo or galvanised sheets. With a household size of about 6 compared to the national average of 5.1, most are without potable water and household toilet facilities due to the unplanned layouts characterizing the area.



Figure 5: Coconut fronds houses



Figure 6: Bungalow constructed with raffia, coconut trees and thatch

The housing problem is of quality rather than quantity as houses abound but are not high standard. Majority of these are made from local material like raffia, coconut leaves, thatch and bamboo.

Key Coastal and Fisheries Issues in Ellembelle

This rapid assessment revealed that the Ellembelle is predominantly rural. In recent years, the area has experienced poverty in the coastal areas due to declining fish catches and invasion by algae bloom in the sea. Fishers from neighbouring districts, especially Nzema-East come to decimate the waters with light fishing whilst the locals and other also apply other unapproved, unsustainable and dangerous fishing methods (chemical and dynamite).

Fisheries Issues

Decline of fish catches

This is an issue prevalent in all of the fishing communities and affecting the indigenous artisanal fishing sector. Catches have declined consistently over the last decade and this has resulted in loss of fishery- based livelihoods and decline in household incomes.

Greenish substance, known as locally as “green-green” have totally taken over the sea in Ellembelle District hampering fishing activities with the worst hit communities being Kikam, Asemkor and Asanta. The weeds are currently destroying the fishing nets of fishermen operating in the area, thus affecting their economic activities. Community members’ suspects the seeds for the weeds might have been dumped in the sea in La Cote d’Ivoire. The Regional Operations Manager of Zoil Ghana Limited¹ emphasized that the presence of the weed was a challenge to the government. He said his office in collaboration with the District Chief Executives for Ellembelle and Jomoro, and the Member of Parliament (MP) for Ellembelle, as well as the Minister for Environment Science and Technology, had taken samples of the weeds for laboratory tests.

Workers of Zoil, who are working in the area, sometimes use canoes to bring ashore some of the algae weeds from the sea. According to the Zoil Operations Manager the weeds pose a threat to marine life and the environment. One of the fisherfolks, Nana Kofi Bekoe, admitted to the media that life had become unbearable for them, as a result of the presence of the weeds (Ghana Districts, 2006).

Practice of unsustainable fishing methods and its impact on fishery resources.

In this district light fishing is practiced at a relatively low scale. However, the use of dynamite and DDT in the artisanal sector is rampant and this has resulted in loss of marine life and ecosystems. During the rapid appraisal exercise, many artisanal fishers expressed that the entry of artisanal fishing zones by unauthorized fishing vessels create competition and conflict which necessitate the use of these fishing methods.

Decline of traditional authority in fisheries management.

The roles of Chief fishermen and *Konkohene*¹ and have been modified by rapidly changing market and demographic conditions. Political interference by government further reduced the efficiency in their authority. Traditionally, the sea is considered as a deity with lesser of as a god containing lesser gods. Abundance or scarcity of fish was attributed to the activities (eg mermaids and mermen). In the event of fish scarcity, the gods are pacified through performance

of appropriate religious rituals traditionally related to the sea. This religious dimension of fishing is important as it is believed to have economic implications when done or overlooked. Trends in modernity have however, deeply watered down the spiritual reverence accorded to the sea and marine life.

Inadequate attention to fisheries management at the local government level.

Inadequate attention is given to fisheries management issues by the District Assembly due to absence of a fisheries sub-committee. Additionally, there is inadequate capacity of the few Community-Based Fisheries Management Committees (CBFMCs) to address emerging conflicts and fisheries resource management issues. Operations of CBFMCs are not backed by requisite laws. Political interference by government has further reduced the authority of the Chief Fisherman and his lieutenants. Inadequate attention in form of policing, sanctioning of offenders and conflict resolution (poor governance) has also resulted in the increasing number of conflict between artisanal, semi-industrial and industrial fleets. This issue manifests itself in the destruction of nets and fishing gears of artisanal fishers by industrial boats.

Poor processing, storage, handling of fish. There are no storage facilities in the district in relation to fish harvests. Modern fish processing facilities are non-existent but for traditional stoves or kilns (*Chorkor smoker*) used for fish smoking.

Lack of transparency in management of pre-mix funds.

There are only two landing beach committees in the district, operating at Esiama and Sanwoma (Ankobra). All the other sixteen communities do not use outboard motors in fishing.

Coastal Management Issues

Threats to wetlands and estuaries

This includes excessive cutting of mangrove for fuel wood as pertains on the Ankobra River to the north of Sanwoma. Mangroves in the district are relatively untouched. It is also unpolluted due to the relative rural nature of the place and small population. The banks of the Amanzure estuary at Nzuleloano are being eroded by the rising sea rapidly. Some portions of the coast especially Anochie messy with jelly fish usually in January to April.



Figure 7: Beach messed up by jellyfish

Coastal erosion is destroying habitats and property.

The shorefront has eroded averagely about 100 metres in an estimated three decades. Sand winning has contributed to the degradation.

Open public access to shoreline and beaches.

The coast is accessible to everyone at anytime without restrictions though a new beach resort which is a private sector initiative is under construction on the beach at Akonu.

Other Development Issues of Concern in Coastal Communities

Poor sanitary facilities and waste management.

Generally, sanitary conditions are relatively poor with community members' defecation on some of the beaches not far away from fish landing bases. There are a few toilet facilities for public use in the communities. Some households also have their own toilets but this is the exception, not the norm.

Fish-related migration is causing population growth and driving over-fishing.

In-migration for the purpose of fishing is high in the area. Significantly, many of the migrant groups (especially from the Central Region) are second-generation whose parents settled in the area. The fishers in the district use relatively simple methods, especially beach seine and therefore do not harvest much compared to artisanal fishers from adjoining districts using outboard motors, light and chemical; and industrial fishers who maraud the waters with the big appetite to sweep the sea clean each time they go fishing.

Relatively few number of basic schools but enrolment in coastal communities is high.

There is high incidence of truancy and drop-out from school in most communities. Educational facilities are few and are mostly in deplorable state.

References

- Birdlife International, 2009. Important Bird Area factsheet: Amansuri wetland, Ghana. <http://www.birdlife.org/datazone/sites/index.html?action=SitHTMDetails.asp&sid=6341&m=0> (accessed 14th July 2010).
- Ellembelle District Assembly Medium-Term Development Plan. 2009. 69 pages
- Ghana Districts, 2006. <http://www.ghanadistricts.com/districts.com/news/?read=33711> (accessed on 8th July, 2010)

Appendix 1: List of Key Contacts

Community	Contact person(s)	Position	Telephone
Atuabo	Nana Nyakeke Kwakye Kakuchie Kwame Ebanyeke Kermah	Chief Community member Chief fisherman	0275 968150 0246559618
Anochie	Francis Anochie Gladys Boah Armah Boadi	Community member Fishmonger Fisherman	0272 364797 0278 741152
Baku	Nana Owusu Krah Elizabeth Cudjoe Emelia Yebi	Chief Trader Fishmonger	0271 330844
Ngalechie	Nana Morkeh Kpanyili III Ambrose Blay Stephen Armoo	Chief Opinion Leader Fisherman	0279 415590 0275 158122 0271 641967
Ngalekpole	Francis Gyade Thomas Kwesi Menlah Isaac Alu	Fisherman Community member Fisherman	0273 357552 0272 037286 0278 472030
Eikwe	Nana Kofi Amiyiah III Hon. Nda Gyanpong Peter Ampong	Chief Assemblyman Fisherman	0272 842199 0245 774597 0247 254069
Krisan	Mister Cudjoe Kwabena Masuro Nda Eduku	Opinion Leader Community member Community member	0271 640978 0279 053850
Sanzule	Nana Bedu	Chief	0279 973569
Akonu	Veronica Miah Elizabeth Miah Joseph Ackah	Fishmonger Teacher Fisherman	0275 152036 0540 790837
Ampain	Nana Nyamikeh Fofolleh II Abdulai Dawuda-Kokole Augustine Amandeh Rexford Afful	Chief Zoil Assistant Foreman Fisherman Assemblyman	0273 361145 0276 172295 0273 486098 0272 680769
Azuleloano	Rexford Afful	Assemblyman	0272 680769
Esiama	Joseph Mensah Doris Melewiah Peter Kobina	Assemblyman Fish Monger Community member	0541720173 0275504509
Kikam	Safohene Mla Quao Godwin	Caretaker chief Linguist	0248 556312 0249 485117
Asemko	Abusuakpanyili Gyedu Joseph Ngumah Yankey Koko	Community head Community member Opinion Leader	0242 141641 0278 292341 0541 103024
Bobrama	Blay Miezah Tony Koomson Nana Nyamike Alima II	Chief Fisherman Fisherman Chief	0248 687960 0547 012946 0242 668991
Asanta	Paul Kablan Peter Yankey Paul K. Jukwah Lord Duku	Fisherman Secretary of CBFMC Stool caretaker (Regent) Assemblyman	0248 250751 0248 558871 0245 219336 0242 869200
Sanwoma (Ankobra)	Nana Kwamena Amos Joseph Asare Quayson John Tetteh	Opinion Leader Community member Fisherman	0246 651100 0246 781203 0275 079183

Appendix 2: Description of Fishing Gears Used in Ellembelle

Gear Name (English)	Local Gear Name	General Description	Species Caught
Drift Gill Net (surface)	AshékŌn		Tuna, marlin, sharks
Bottom set gill net	Tenga	<p>This gear can be operated by 2-6 crew members. The smallest mesh size is 10mm². There are also 20mm² mesh sizes of these nets. These nets target both demersal and pelagic species. It is made from polyethylene material which could be about 200 yard long and 1.5 yards wide.</p> <p>They are set attached to long bamboo poles which are fixed at the bottom with floats that are sometimes reflectors. It is operated from small and medium-sized vessels. They set off at about 3.00 a.m. and land at 2.00 p.m. the same day. This gear is set for about 3-4 hours before it is hauled. They are employed in the minor season.</p>	<p>All species of fish like <i>Kanfla</i>, Long finned herring, Ribbon fish, Thread fin, Sardines, Anchovies and Mackerels, Barracuda, Burrito, Bigeye grant, <i>Ilisha africana</i>, Oil fish, African threadfin, Shine nose, Common threadfin.</p>
Ring Net/small purse seine	Watse	<p>This net has about 20mm mesh size. It is made with thread. They are used by big canoes, semi-industrial vessels as well as industrial vessels. These canoes usually have a small canoe which carries generators for light fishing. The big canoes have 12-25 crew members.</p> <p>They set off at 5pm and land at 8am the next day. They are employed in the major season. They usually target pelagic species but are able to catch demersal species too.</p>	<p>All species of fish Round/flat sardines</p>
Beach seine	Twuyee	<p>They employ between 5-14 crew members and 2 help hands depending on size of the canoe. This gear is commonly used in all the 17 coastal communities of the district.</p>	<p>Ribbon fish, Long finned herring, Cassava fish and Shrimps.</p>

Appendix 3: Description of Fishing Vessels in the Ellebelle

Vessel Type	Local Name(s)	General Description	Gears Used
Small-size Canoe (motorized) Crew size is 9-12 (Very few)		This type of vessel is averagely, approximately 30m long and 2m wide made preferably from a single dug out log. It is now regularly made from thick planks. <i>Wawa</i> is the wood of choice as it is relatively cheap and very buoyant. The hull is planked in regular intervals to serve as seats. This type of vessel cost approximately Ghc12,000. The fishing net costs approximately Ghc20,000. Outboard motors of 15-25HP mounted on the starboard side of the vessel costs about Ghc5,500 and are pre-mix fuel powered.	-Drift gill net (surface) -Bottom gill net
Medium-size Canoe (motorized) Crew size is 28-35 (Very few)		This type of canoe vessel is on the average, approximately 33m-37m long and 2m wide made preferably from a single dug out log. It is now regularly made from thick planks. <i>Wawa</i> is the wood of choice as it is relatively cheap and very buoyant. The hull is planked in regular intervals which act as seats. This type of vessel cost approximately Ghc14,000. The fishing net costs approximately Ghc20,000. Outboard motors of 25-40 HP mounted on the starboard side of the vessel using pre-mix fuel costs about Ghc5,500.	-Drift gill net (surface) -Bottom gill net
Large-size Canoe (motorized) Crew size is 34-40 (Very few)		This type of canoe vessel is on the average, approximately 38m-42m long and 2m wide made preferably from a single dug out log. It is now regularly made from thick planks. <i>Wawa</i> is the wood of choice as it is relatively cheap and very buoyant. The hull is planked in regular intervals which act as seats. This type of vessel cost approximately Ghc15,000. The fishing net costs approximately Ghc20,000. Outboard motors of 40 HP mounted on the starboard side of the vessel costs about GHc5,500 uses pre-mix fuel.	-Drift gill net (surface). -Bottom gill net
'Regular' canoe Crew size is 5-14		This type of canoe vessel is on the average, approximately 10m-14m long and 1.2m wide and made preferably from a single dug out log. It is now regularly made from thick planks. <i>Wawa</i> is the wood of choice as it is relatively cheap and very buoyant. The hull is planked in regular intervals which act as seats. This type of vessel cost approximately Ghc6,000 with net costing approximately Ghc20,000.	-Beach seine (dragnet)

*Motorised canoes are based only in Sanwoma (Ankobra) and Esiama. The other 15 communities host exclusively non-motorised canoes. However motorised canoes from elsewhere do moor in any community for a day or two to land catches or to carry out repairs on nets and canoes.

Appendix 4. Ellebelle District Validation Workshop Outcomes

Natural Environments and Livelihoods

Thematic area	Timeline	Trends	Consequences/ impacts	Governance response
Forest	1965-2010	<ol style="list-style-type: none"> 1. increased production of charcoal 2. High incidence of forest fires 3. reduced rainfall 4. expansion of farmlands 5. settlement expansion 	<ol style="list-style-type: none"> 1. Lack of land for plantation, afforestation, wood for building houses. 2. Shortage of bush meat 3. Heavy windstorms 4. Low productivity of land for food 	Law on permit and licensing for development of land
Beaches	1965-2010	<ol style="list-style-type: none"> 1. Commercial sand winning 	Destruction of homes and coconut trees along the beach	Sanctions on sand winners
Lagoons/Rivers	1965-2010	<ol style="list-style-type: none"> 1. Rapid deforestation 2. Illegal mining 	<ol style="list-style-type: none"> 1. Lack/insufficient fish for domestic consumption 2. Breeding of mosquitoes 3. Lack of safe drinking water 	Banning of illegal miners and illegal chain saw operators
Wetlands	1965-2010	<ol style="list-style-type: none"> 1. Disposal of rubbish into wetlands 2. Indiscriminate cutting of trees and other human activities 	Shortage of building material (e.g. raffia)	No government response
Mangroves	1965-2010	<ol style="list-style-type: none"> 1. Cutting of mangrove for fire wood and charcoal 2. Clearing of mangroves for salt ponds/extraction 	<ol style="list-style-type: none"> 1. Destruction of aquatic life 2. Reduction in fishing activities 	Wildlife society ban on mangrove cutting
Fishery	1965-2010	<ol style="list-style-type: none"> 1. Using small sized net & pair trawling 2. Use of dynamite and other destructive materials 3. Use of light 4. Dumping of waste 	<ol style="list-style-type: none"> 1. Low fish catch 2. Unemployment 3. Increased emigration 4. Reduction in economic activities 	Enforcement of fisheries laws/ regulation.

Annex E: Coastal Village Summaries for the Ellebelle District



Fisherman at Akonu
Photo credit: Kwesi Johnson



Women fish buyers at Eikwe beach
Photo credit: Elvis Addae



Sandy coastal community of Anochie
Photo credit: Elvis Addae

ATUABO

History

Atuabo translates as “under the *Tua* tree”. The town was said to be full of *Tua* trees with the first settlers as Amihere Kpanyinli and Blay. Blay later became the chief of the town under the stool name Awulae Blay. The town served as the market centre for the Europeans and the people of West.

Physical Characteristics

Atuabo is the first community of the Ellembelle District from the Jomoro District. It shares boundaries with Menzezor on the north, west and east with Ekabaku and Anochie communities respectively. The landscape is relatively flat with no major peaks. There are a number of islands which are surrounded by the Amanzule River to the north of the community. These are *Kpondenli*, *Borazo* and *Asemdasuazo* Islands.

The land to the north is mainly used for farming and dominated with coconut plantations and patches of cassava farms. There is also a large swampy area bordering the northern part of the community. The coastline is an open sandy and characterised by stretches of coconut trees. The river has mangroves grown on both sides.

Demographic and Settlement Patterns

The population of Atuabo is about 1,500 with men and women in the ratio of 2:3. The number of houses is estimated to be 200. The houses are built with a combination of raffia and cement blocks. The community is connected to the national electricity grid.

Nzemas forms about 98% of the population with Fantes consisting the remainder 2%. The Fantes are reported to have migrated from various parts of the Central Region. The Fantes are mostly fishermen whiles the Nzemas are engaged in both fishing and farming. “Itinerant” Fante fishermen come to the community during peak fishing seasons. The socio-economic life of the community booms during such periods. The two ethnic groups live harmoniously with each other.

Education

Atuabo Methodist Primary and Junior High are the only schools (basic) in the community. Literacy rate was indicated to be low attributed to the fishing industry. According to the *Tufuhene*, the school has inadequate teaching staff and this has adversely affected the performance of the school in the Basic Education Certificate Examinations (BECE) over the years. He also noted that students do not make much time for their books, but instead spend it watching movies. Some parents are also unable to provide the required inputs for their wards’ education because of low incomes, he added.

School children play truancy during the major fish seasons and bumper fish harvest. They skip school hours and indulge in fishing activities at the beach. The young boys join in the dragging of the beach seine nets and the girls serve as porters.

Health

There are no health facilities in Atuabo. Residents seek medical attention at Ekabaku Health Centre in nearby Jomoro District and St. Martin de Porres Catholic Hospital at Eikwe which are 2km west and 6km east of Atuabo respectively. Residents mentioned of malaria as the commonest disease.

Water and Sanitation

The community is served by one hand-pumped borehole water facility. A second borehole is, however, under construction.

The community has a 12-seater public KVIP toilet constructed from monetary contributions by community members. There are no constructed drains or communal containers for refuse collection in the community. Two sites have been designated for dumping refuse and these are located within the coconut plantations towards the east and west fringes of the community. According to residents the refuse dumped are burnt periodically. The sanitary conditions at the beach are quite good. Residents commended the Zoomlion Eco-brigade for always keeping the beach clean.

Economy

Economic activities in Atuabo are mainly fishing, farming and livestock production.

A few residents especially, the women are engaged in petty trading of household consumables and food stuffs in small shops and on tables. These shops are built with raffia and roofed with thatch and are situated in front of a few houses. The community has a market which houses a handful of traders. Although about 25% of the inhabitants are engaged in fishing, the influence of the industry on the local economy is very significant. According to residents, commercial activities have been adversely affected with the advent of algae bloom in the ocean which has stalled fishing activities for the past three months (*as at March 2010*). "This town was quite vibrant three months ago, but this *green green* has brought economic activities into a standstill and we are starving", they complained.

Residents also indicated of declining economic well-being since the past three years due to the rising cost of living and lack of enough liquidity in the general economy.

Farming

About 70% of the working population are farmers and the major crops cultivated are coconut and oil palm. There are however small cassava, groundnuts and tomatoes farms. The coconuts are sold to buyers from Nigeria whilst the other farm produce are marketed in Ainyinasi. Palm wine and *Akpeteshie* (local alcoholic beverage) are also produced from uprooted palm trees and marketed in Asasetre and Ainyinasi.

According to the farmers, the cassava and tomato farms are often flooded during the rainy seasons, thus destroying the crops. Farmers also indicated of low coconut yields due to reduced soil fertility and over-grown coconut plants some of which were estimated to be over one hundred years old. However, the farmers indicated of their readiness to cut down the over-aged coconut trees and plant new ones if they are provided with high-yield seedlings and fertilizers.

Coconut oil processing

Lack of ready market for coconut oil has led to the collapse of the industry in Atuabo. According to the oil processors, the locally produced oil is no more the preference of most consumers. Consumers now prefer well refined vegetable oils to the locally manufactured coconut oil, they explained.

Livestock Production

Pig rearing is the main commercial livestock activity in engaged by about 5% of the population. About 80% of households also keep poultry and goats for domestic consumption. The piggeries are found at the beach and the pigs are mainly fed with coconut chaff and wheat bran. The coconut chaff is obtained free of charge from coconut oil producers while the wheat bran is purchased from agro-chemical stores in Esiama. Pig farmers reported of declining production because of limited access to coconut chaff. This is due to the collapse of the coconut oil industry. They also complained of high cost of the wheat bran.

Tourism

The community identified Borazo Island as a potential tourist attraction. The Island is located about a kilometre north of the community and is surrounded by the Amanzule River. The island is said to be bigger than Atuabo Township. There are no hotels or guest houses in the community.

Fisheries

Atuabo fishers mainly use beach seine nets with mesh sizes of 2 inches and 1 inch. There were six non-motorised canoes which deploy 2 inches and 1^{1/2} inches beach seine nets since two decades ago. The community currently has four canoes with one of them powered by a 40HP outboard motor. The canoes are approximately 3ft in width and depth, and 40ft in length. The non-motorised canoes have 8 to 10 crew members on board during fishing expeditions. About 45-50 people help haul the net after the expedition. *Edue, Eban, Sukue, Ekan, Apae and Ahenemandzi* are the major fish species caught during the major season. The fishermen indicated of significant changes in fishing grounds. They stated that fishes were caught within 700-800m off shore two decades ago, but the current fish grounds are 1,500m from the shore. The use of light and dynamite in fishing and the increasing number of motorised canoes were noted as the causes for the changes of fishing grounds. The fishers claimed the sounds emanated from outboards drive fishes into the deep seas.

Harvested fish is usually sold to fisher-mongers on credit especially in the major seasons or in the event of bumper catch. During the minor seasons, fish sales are strictly on 'cash and carry' basis.

The proceeds from fish sales are shared as follows: the entire fishing crew take 50%; 33.33% goes to the canoe owner and 16.67% is used for canoe and net maintenance.

Smoking is the major processing method employed by fish-mongers in the community. The processed fish is mainly marketed in Agona-Nkwanta, Ainyinasi and Asasetre.

Governance and Local Institutions

The community has a chief fisherman, but no chief fisherwoman (*konkohene*). The Chief fisherman said engagement with the then Nzema East District Assembly was quite regular. These engagements have however stalled with the creation of the Ellembelle District out of the Nzema East District three years ago. The community has neither Community-based Fisheries Management Committee (CBFMC) nor a Landing Beach Committee (LBC).

Key Coastal and Fisheries Issues

Decline in fish catches

Fisherfolks indicated of dwindling fish landings. They said about 80-100 head pans of *Eban* were harvested per expedition 20 years ago, but the current catches (2010) have reduced to 4-6 head pans on a good harvest. *Edue*, *Ekan* and *Sukue* catches have reduced from 5,000, 15,000, 20,000 pieces to about 200, 2,000 and 3,500 pieces respectively. *Apaē* and *Ahenemandzi* catches have each declined from 6,000 and 15,000 pieces to 1,500 and 800 pieces respectively. The fishermen attributed the decline in fish catches to light fishing, pair trawling and the presence of algal bloom.

Unsustainable fishing practices

The fishermen are worried about the effects of light-fishing and pair trawling on the fishing industry. Fishermen from other communities especially Axim and Half-Assini were cited as culprits who come into their waters to carry out light-fishing.

Expressing his displeasure on pair trawling the chief fishermen said, "The pair trawlers normally start their operations around 8pm. They cover their number plates and switch off their lights. They operate as close as 500m from shore and catch every fish that come their way. They throw the dead unwanted fishes back into the sea and this drives fishes far into the deep waters". "Because of these activities fish harvests have dropped significantly", he concluded.

Incidence of algae bloom

The fishermen complained that the presence of algae bloom in the sea has stagnated fishing activities for the past three months. Fishing gears get destroyed when pulled after casting. It was remarked the algae bloom are highly concentrated approximately 500m off-shore.

Coastal erosion

The shoreline has eroded about 100m since the past two decades. This was attributed to sand winning which was rigorously engaged in the past as reported by residents. It was however said that sand winning has been banned.

In anticipation of further erosion the coastal settlers indicated that they have acquired some of the inland lands for resettlement.

Lack of access to credit capital for small business operations.

The women interviewed expressed their inability to access to credit due to lack of collateral and high interest rate.

Teenage pregnancy

High rate of teenage pregnancy was said to be prevalent in the community. This was attributed to low-income levels of parents, peer pressure and lack of parental control.

Trade of sex for fish

It was indicated that this practice does not exist in this community.

ANOCHIE

History

The earlier settlers migrated from Wassa Akropong during the period of wars. They were led by *Anoekyi* who later became the chief of the village. They were basically salt miners who had direct trade relation with European traders at Atuabo and Ahonlezo now Asamdasuazo. They were later joined by a second group who migrated from Kumasi in the Ashanti Region. This group were mainly farmers.

Physical Characteristics

Anochie is a small coastal community with a relatively flat land surface with no significant hills. The coastal strip is characterised by open sandy beach of about 120 meters. The community is bordered on the west by Atuabo, east by Baku, Mezozo to the north. The soils are sandy, but support coconut, oil palm, groundnut and maize. Towards the northern part of the community is the *Adwomodile River* which runs through swamps. The western and eastern edges of the community are covered with coconut plantations.

Demographic and Settlement Patterns

Anochie has a population size of about 840 people living in approximately 120 houses. Majority of the houses are built with mud and raffia with thatched roofs. There are also a few cement houses roofed with corrugated aluminium sheets. The settlements are well laid-out with spaces in between them wide enough for the easy passage of vehicles. The community comprises Nzemas and Fantes. The Fantes represent about 5% of the population and are predominantly fisherfolks while the Nzemas are engaged in both fishing and farming. The tribes live at peace with each one another and intermarry. Four churches are located in the community. These are the Catholic, Sacred Action, Methodist and Twelve Apostles churches. During the major fishing seasons fishers from other community migrate to Anochie.

Education

This community has two basic schools namely, Anochie Methodist Primary and Anochie D/A Primary and Junior High Schools. Educational standards as well as literacy rate were reported to be low.

School attendance is relatively low during the major fishing seasons. Students join fishing activities during these periods.

Health

Anochie has no medical facility. The community access health care at Ekabaku and Eikwe Health Centres. A resident Traditional Birth Attendant provide supplementary support in ante-natal services.

Water and Sanitation

Five wells and two hand-pumped boreholes are the sources of water supply for domestic use in this community. One of boreholes was reported to be functional, but the water turns blue after 30 minutes of collection. Designated places within the coconut plantations along the beach are used as defecating grounds since there are no public places of convenience. Disposal of solid waste is also done at three designated sites within coconut plantations located on the fringes of the community. Observation of the sanitary conditions at the coast was quite good due to the efforts of Eco-brigade.

Economy

The main livelihood activities in Anochie are farming and fishing. Some residents also earn their living from pig farming. The community has a market, but houses a few traders and trading activities were not vibrant. The fishing industry exerts much influence on the local economy. Residents indicated of dwindling economic fortunes due the inability of fisherfolks to engage in fishing since the past three months because of presence of '*green green*' in the sea. There are no major industries and financial institutions in the community.

Farming

Coconut plantations dominate farming activities in Anochie. Other crops cultivated include oil palm, cassava, maize and groundnut. The farmers indicated of low coconut yields due to reduced soil fertility and over-aged coconut plantations. They also noted that the land does not support cassava farming, but cultivation of groundnut thrives very well. They said though the land supports groundnut farming, lack financial capital limits its cultivation on a large scale.

Coconut oil processing

Coconut oil extraction is done on a very small scale and it is mostly for domestic consumption. This was attributed to low market value of the product and the laborious process involved.

Livestock production

Livestock production in the community involves pig farming and domestic rearing of fowls, goats and sheep. The pigs are marketed in Ainyinasi, Asetre and Kumasi. The farmers indicated of regular visit by veterinary officers. Some community members expressed interest in grass cutter and crab rearing if they are supported with technical and financial assistance.

Fisheries

The current fishing fleet of Anochie is 6 as compared to 4 canoes two decades ago. The former the canoes were 15 yards in length and 3yards in width and depth and deployed 2 and 1.5 inches beach seine nets. The current canoes are approximately 20 yards in length and 3 yards in width and depth and deploy 2, 1.5 and 1 inch mesh sizes beach seine nets. The major fish species harvested are *wanwanya*, *nkanfona*, *ekan*, *eban*, *sukue*, *ebueakwa*, *apae* and *ahenemandzi*. The fisherfolks mentioned that fishing grounds have increased from 700 yards two decades ago to 1,700 yards currently (2010). They attributed it to coastal erosion, bad

fishing methods and the use of motorised canoes. They said the sounds from outboard motors drives the fishes into the deep seas.

In terms of income, the fish proceeds are shared into two equal halves between the canoe owner and the crew members.

Fish harvested are smoked, fried or salted. These are marketed in Agona Nkwanta, Tarkwa and Ainyinasi.

Tourism

There are no hospitality facilities in the community. The inhabitants reported of no potential tourist site.

Environment

The nearshore were polluted with algal blooms. The beach front was relatively tidy with few solid wastes scattered around.

Whales and dolphins are sighted in the marine areas, particularly during the months of August and September. Sea turtles nest on the beach front around 9pm during the same period. It was expressed that marine turtles were previously hunted, but the practice has halted due education on its ecological importance by the Wildlife department. One could be arrested and prosecuted if ones the sea turtles or their eggs, the residents remarked.

Local Institutions and Governance

The community has a Chief fisherman, but no *Konkohene*. There is no Community-Based Fisheries Management Committee (CBFMC) in the community. The community has an assembly member. There is no pre-mix committee or landing beach committee. There is a community information centre with a public address system which feeds the locals with information. There are neither NGOs nor CBOs operating in this town. Residents indicated of not receiving any support from the District Assembly.

Key Coastal and Fisheries Issues

Decline in fish catch

Significant changes in fish harvest were reported by fisherfolks. It was indicated that catches of *Wanwanya*, *Sukue* and *Apae* has reduced from 100,000, 80,000 and 70,000 pieces to 20,000, 10,000 and 8,000 pieces respectively. The fishers blamed the phenomenon on bad fishing methods, pair trawling and algal bloom.

Practice of unsustainable fishing

Fisherfolks complained of light fishing and pair trawling as hampering their activities. They alleged fishermen from other communities come to their waters to indulge in light fishing. On pair trawling they said the perpetuators fish as close as 500m off shore scooping every available fish.

Incidence of algae bloom

The presence of the blooms was reported to have stalled fishing for three months. Jelly fish popularly referred to as “sea nose” was reported to be impeding fishing activities.

Coastal erosion

The fishermen indicated that the beach front has been eroded by about 100m over the last two decades.

Lack of access to credit capital

The fishmongers remarked that fish is not credited unless during the major fishing seasons or in the event of a bumper harvest. This situation is disadvantaged to most the women, because of their difficulty in accessing credit and capital. They said that interest rates on credit are extremely high.

Low incidence of teenage pregnancy

The prevalence of teenage pregnancy was indicated to be low in the community.

BAKU

History

Baku translated is said to be one of the oldest communities in the Ellebelle district. It is believed that their ancestors migrated from Effiduase in the Ashanti region and finally at Baku. They were led by their great grandparent, Ekpotinli Ackah who later became the chief of the town. They were salt producing people and had direct trade relation with the Europeans. It is believed that the barter system was used for sometime before money was introduced. The community served as the main route to Tarkwa and Prestea where mining and timber business were carried out. George Maclean first landed in Baku on his way to Atuabo to arrest King Kwaku Ackah.

Through trade contacts, a woman from the royal family was married to an European trader and was sent to Russia and settled in a village which was named after Baku. All efforts are being made to trace her family members in Russia.

Physical Characteristics

Baku is located on a flat open sandy beach. The community is bounded to the west by Anochie, East by Ngalechi and to the north by Menzezor and Aloakpole.

Two ponds known *Ngoane Azale* and *Korazo* lie on the western and eastern edges of the community. According to the locals, these ponds are gods and serve as habitat for crocodiles.

Demographics and Settlement Patterns

The community is occupied by three main ethnic groups, namely Nzemas, Fantes and Ewes. According to the 2010 projections, Baku's population is estimated to be 1,161. The native Nzemas represent over 80% of the population. The Nzemas are both farmers and fishermen while the Fantes and the Ewes are predominantly fishermen. The ethnic groups inter-marry and co-exist peacefully. There are approximately 120 houses in the community which are mainly built with mud and raffia and roofed with thatch. The settlements are a well laid-out which eases vehicular movement through the town.

It was indicated that most of the youth of the community have travelled to other coastal communities and also to the cities to seek for job opportunities.

Education

The community has only a Kindergarten and shares both Primary and Junior High with Ngalechie community which is a kilometre away. The standard of education and literacy rate were reported to be low. Lack of parental control and poor children's attitude towards learning was cited as the cause.

Health

There is no health facility in the community. Residents attend St Martin's de Pores Hospital at Eikwei and Ekabaku Health Centre for all their health concerns. These are located 5km east and 4km west from the Baku community respectively. There is, however, a trained Traditional

Birth Attendant (TBA) in the community who takes care of non-complicated pregnancies and deliveries.

Family planning

Some women confirmed the use various family planning methods either with the approval or otherwise of their husbands. They said some husbands need more children as against the will of their wives. In such cases the wives hide the usage of pills, injections, etc from the husbands. They explained that with lower fish catch and subsequent economic hardships, there should be fewer children so as to enable them put them into good schools and take proper care of them. "One properly cared-for child can do much for the family than many, yet, poorly catered for children", said one of the discussants.

Teenage pregnancy

Teenage pregnancy was reported to be high in the community. These they attributed to adventure of the girls, poverty of parents and lack of parental control.

Water and sanitation

There is no toilet facility in the community; they therefore use the bushes and part of the beach as places of convenience. The situation poses a lot of health hazards to the people.

A dumping site has been created on the outskirts of the town which is periodically maintained through communal labour.

There were 3 boreholes in the community, but only two were operational. The beach is well kept through the efforts of Eco-brigade.

Economy

The major economic activities in the community are fishing and farming with the former dominating the local economy. Farming is done on a subsistence level as compared to fishing which is highly commercial. Majority of the community members were said to engage in fishing activities during the major upwelling seasons. The community was quite dull without any major commercial activity. This is due to the presence of algal blooms in the nearshore areas for the past three months. Quality of life was indicated to very low due to dwindling fish catches and the rising cost of living in the general economy.

Farming

Coconut cultivation forms the major farming activity in the community. Farmers also grow cassava and maize on a subsistence level, but coconut and oil palm are for commercial purposes. The land does not support cultivation of these cash and food crops anymore due to loss of soil fertility and over-aged coconut trees. Farmers are prepared to cut down old coconut trees for new ones if the necessary assistance is offered.

Coconut oil processing

The industry has crumpled owing to low coconut yield and poor market value. Additionally, coconut farmers sell the copra to the Nigerian merchants for ready cash instead of crediting to

the oil processors. This has greatly affected economic life of people who are engaged in the industry.

Livestock production

Livestock production is limited to household rearing of fowls, goats and sheep. However, some residents expressed interest in pig farming, poultry, snail farming, and grass-cutter rearing when the needed financial and technical supports are provided.

Tourism

There are no lodging facilities in the community. Ngoane Azale and Korazo ponds were identified as potential tourism sites.

Fisheries

The number of canoes in the community has increased from 4 to 12 canoes in the last twenty years. The current fishing fleet has two of them motorised with 40HP outboard motors. The beach seine net is the common fishing gear deployed by the non-motorised canoes. The ring net is operated by the motorised canoes. Abonyi, Antosolo, Nrале, Kaponle, Manye, Sukwei and edoei are the main fish species harvested.

Fishing grounds were reported to have changed significantly. It was indicated that fishing was done within 15 yards, but now fishers go as far as 700-800 yards off-shore. The fisherfolks blamed the situation on pair trawling, light fishing and the increasing number of motorised canoes.

Harvested fish in this community are smoked or sold fresh fish. The marketing centres are Ainyinasi, Agona Nkwanta, Asasetre and Tarkwa. Fish is sold on cash basis unless during the bumper season when sales are sometimes on credit.

Environment

The shorefront is characterised by open sandy beach with spilling surf, but the nearshore areas are dominated by algal blooms. The community has two ponds which serve as habitat for crocodiles. The research visited the ponds, but they were dried up. Sea turtles feed on the shore and are sighted during the months of August and September. The marine turtles were previously hunted, but education on their biodiversity values has salvaged the situation.

Local Institutions and Governance

The community has a caretaker Chief and a Chief fisherman, but lacks a *Kokohene*. There are no CBMFC and Landing Beach Committee in this village.

Key Coastal and Fisheries Issues

Decrease in fish catch

Community fishers remarked that in the past there were more fish to catch, but less fish is harvested currently. This was attributed to increasing fish effort, bad fishing methods such as light fishing, dynamite, carbide and the presence of algal bloom.

Coastal Erosion

The shoreline has eroded about 70-80 metres attributed to the construction of the Takoradi harbour. The research team was shown a building that housed the UAC which was far away from the shore. This building had been destroyed by the sea leaving a few remnants.

NGALECHIE

History

Nrale literary means Beetle and *Kyi* means little. It is believed that the earliest settlers migrated from Shama and settled at Kprusi in the Ahanta West District before finally migrating to the present day Ngalekyi. They were led by their great-great-grandparent Moke Kpanyinli who later became the chief of the village. When they first settled at the place there were lot of beetles but the beetles reduced in number and they named the place Ngalechie, which was later corrupted to be pronounce Ngalechie.

Physical Characteristics

Ngalechie is largely a rural community. The topography of the community is generally flat with a long stretch of open sandy beach. It is bounded on the west and east by Baku and Ngalekpole respectively. Akpandu and A.B. Bokazo communities are bordered on the north of Ngalechie.

Demographics and Settlement Patterns

The population of the community is estimated to be 1000. It is made up of both Nzemas and few Fantes. The two tribes live peacefully with each other and intermarry. The native Nzemas are both fishermen and farmers whilst the few Fantes are solely fishermen residing along the beach. Community women are engaged in both fish mongering and farming. The housing units in this town are predominantly mud constructed and thatch-roofed. There are approximately 150 houses and an average household size of 6.7. The population increases during the major fishing season when migrant fishermen come to the place.

Education

The community has a basic school which is shared with the Baku community. The school has a teacher's bungalow which is yet to be commissioned. Majority of the teaching staff in the school are untrained. Educational standards as well as literacy rate were reported to be very low.

Health

Ngalechie has no health post. Medical care is accessed from Ekabaku and Eikwe Health Centres. The common disease in the town was reported to be malaria.

Water and Sanitation

The community has no toilet facility. They have three hand-pumped boreholes and three hand-dug wells. Two of the boreholes are out of service. The community has created dumping site which is also used as place of convenience. The practice of dumping solid waste in open spaces is very common in the community. They major cause of the insanitary conditions in the community is lack of toilet and communal containers for waste collection.

Economy

The main economic activities in the community are farming and fishing. The land is low in nutrient due to its porous nature. It makes leaching so easily. The economy of the area is largely dependent on fishing. They have a silicon deposit which is being mined.

Farming

The land is relatively flat which is very suitable for farming but due to its nutrient level, farming activities is quite low. Cutlass and hoe are main tools of farmers. Farmers do not have access to fertilizer, insecticides and herbicides. The major tree crops grown are coconut and oil palm on commercial scale. Coconut yield has reduced and this has adversely affected other activities in the community.

Coconut oil processing

The dwindling produce from coconut has negatively affected the coconut oil industry coupled with the copra being marketed to Nigerian merchants for ready cash. This has seriously affected the economic livelihood of people who are in the oil processing industry.

Livestock production

Livestock rearing is very minimal in the community. Most people who rear animals do it for domestic purposes. Pig production is quite popular in the community, but the collapse of the coconut oil industry has affected the feeding of the pigs.

Tourism

There are no hotel facilities in the community.

Fisheries

Fishing is the major occupation of the community members. The total of canoes recorded were five with none of them powered by outboards. The canoes widely operate the beach seine net. The mesh sizes are 2, 1.5 and 1 inch. The major fishing season is between July and September with the minor season occurring in November to January. Fishing is carried out throughout the week with no forbidden or taboo days. The most common types of fish caught are mainly *eban*, *kpoku*, *aboyi*, *nrele*, *kaonle* and *sukwei*. During the major season, economic activities in the community become very brisk with the influx of people. During off seasons unemployment is high due to their dependence on the sea.

The community fisherfolks mentioned that fishing grounds has changed. Fishermen now go as far as 600-700 yards before casting their nets as compared to 24 yards some few years ago. They are of the view that fishing with light and chemicals are the main cause of this situation.

Environment

Whales and dolphins are often seen. They sometime come close to the fishing grounds and get entangled in their nets. This occurs between August and October. Turtles also come to nest ashore around September to October.

Local Institutions and Governance

The town is ruled by a caretaker chief, locally known as *Tufuhene*. The community has a Chief fisherman and an Assembly-member. The locals accused the District Assembly of not providing any of their development needs. There are no CBFMC and Landing Beach Committee in the town. There are no community-based organisations in this village.

Key Coastal and Fisheries Issues

Decline in fish catch

Fish stocks have reduced drastically compared to a decade ago. This is a result of factors manifesting from bad fishing methods, increase in the number of canoes and the presence of the algae bloom. This is further worsened by the invasion of pair trawlers and big commercial vessels.

Coastal erosion

Coastal erosion is a serious issue on coastal communities and Ngalechie is no exception. The sea has eroded 60-70 metres of land inland. Some rows of coconut trees have been washed away from the sea. Inhabitants were of the view that the erosion started after the construction of the Takoradi Harbour in 1024.

NGALEKPOLE

History

Ngalekpole which is originally pronounced as Aluane Azoma Kpole, is believed to be one of the oldest communities in the Ellembelle District. The early settlers were Aguane Afo, Ahuane Azomakpole and Mame Matun. The eldest among them was Ahuane Azomakpole which became the name of the community. They were basically salt producers who produced salt for the forest zone but later had to trade contacts with European traders. It could not be proven if there were family relations between their ancestors and that of Ngalechie.

Physical Characteristics

The landscape of Ngalekpole is flat and sandy. It has a long stretch of sandy beach. It is located in the south end of the district. It is bounded on the west by Ngalechie, east by Eikwe, north by Akpandue, A.B. Bokazo and Aloakpole.

Demographics and Settlement Patterns

The community is largely rural with a population of about 850 inhabitants. The residents are mostly Nzemas with a few Fantes and Ewes. There is a peace co-existence of the three tribes. This relation is further strengthened through inter-marriages. There are approximately 150 houses in the community. The settlements are mainly mud-houses with a few of them plastered with cement. The Ewes and Fantes who are mainly fisherfolks live close to the shoreline in raffia built structures.

Migration in this town is not common during the major fishing seasons.

Education

The community has only a nursery, but has no primary and Junior High School. Children attend school either at Ngalechie or Eikwe. It was indicated that the standard of education has dropped significantly. This is attributed to insufficient trained teachers and parents unwillingness to invest in their wards education.

Health

The community has no hospital. They access medical care at Eikwe and sometime resort to traditional healers depending on the type of sickness. Malaria is the commonest disease.

Water and sanitation

The community has no toilet facility. The only toilet in the community was abandoned over the last 30 years. Indiscriminate defecation is common under the coconut plantations.

The community has only one hand-pumped bore which serves the whole population. Dumping sites have been created under the coconut plantations.

Economy

The economy of the area is largely based on fishing. Over 70% of the population are fishermen, though some are engaged in some form of farming. Farming is purely subsistence. Produce from farms are sold and also consumed domestically. Farming is not attractive to the youth due to unfertile farm lands. It was expressed that over cultivation has reduced soil fertility.

Farming

Cutlass and hoe are the main tools for farming tools. Farmers do not have access to farm inputs such as fertilizers and insecticides. Farmers have small holdings due to scarcity of land. The slash and burn method is a common practice of land preparation in the community. The major cash crops grown are coconut and oil palm. Vegetables such as pepper and tomatoes are also cultivated among others. Food crops such as cassava and maize are grown extensively both for subsistence and for cash.

Coconut oil processing

Reduction in coconut yield has greatly affected other businesses such as coconut oil processing and pig farming. Coconut oil processing which use to be a source of employment for the people of the area has done down. This is attributed to the low yield of coconut farms and the low market value of the product. This has serious impacts on the economic lives of the people, especially women.

Livestock production

Rearing of animals is done on subsistence scale. Most households have goats and sheep. Local poultry is done throughout the community, almost every home has fowls. Pig production is popular in the community, especially the youth and women. However, the recent reduction in coconut extraction has impacted negatively on the business.

Fisheries

Fishing is done all year around, but the major fishing season is between July and September. Fishing activities engage almost everybody in the community during the peak period. Thus all other aspect of the local economy becomes vibrant. The traditional fishing methods are used. For example, *Tenga, Nwowie, Kalage and Ganku are mostly used*. The types of fish catch include *edoi, esoe, anvolo, abonyi and kwasele*. The most common gear types include drag net, round net and ring net.

Environment

Turtles do come to nest ashore around September to November. Whales and dolphins are also seen. They sometimes entangle the nets of the fishermen and destroy them. They appear around August to October. The Amanzure lagoon provides mangrove which some people cut for fuelwood.

Local Institutions and Governance

The community is governed by a caretaker Chief. There is an assembly member and Chief fisherman, but no *Kokonhene*. There are neither CBFMC nor Landing Beach Committee in this town

Key Coastal and Fisheries Issues

Decline in fish catch

There has been a decline in fish catch as compared to 10 years back. This is attributed to a number of factors ranging from increase in the number of canoes, the use of outboard motors, bad fishing methods, such as light fishing, dynamite, carbide and the presence of algae bloom. Fishing grounds have changed drastically as fishermen have to go as far as 700-800 yards from shore as compared to 15-20 yards over 10 years ago.

Coastal erosion

The sea has eroded over 100 metres inland. Residents were not sure what has led to the erosion. They indicated that several coconut trees and households have been washed away by the sea.

EIKWE

History

Eikwe was originally known as *Male Ekwebo*. History has it that the earlier settlers migrated from Juaben in the Ashanti region. They were led by Kofi Amiyiah and his sister Adjoa Sika. They settled under a royal palm tree, locally known as *Male Ekwe*. It is believed that they were basically salt producers. The place was later referred to as Male Ekwebo which has been corrupted to be pronounced as Eikwe.

Physical Characteristics

Eikwe is the twelfth largest community in the Ellembelle District and is located in the western coastal zone. It has a flat land surface with a long sandy beach. It is bounded on the west by Krisan, north by A.B. Bokazo and Ala Bokazo and on the south by the Gulf of Guinea. Streets and lanes which ensure easy movement have been encroached upon due to expansion of houses.

Demographics and Settlement Patterns

The population of Eikwe is 1,777 according to the 2000 population and housing census with females numbering 1,026 and males 751. The population is dominated by native Nzemas with few Fantes and Ewes. The number of people per household is estimated at 6. The population size is sometime influenced by the presence of patients who attain medical care from the hospital.

Education

The community has a KG, Primary, Junior High School, and vocational training institution for the disabled. There is a teachers' quarter in the community. Enrolment at basic level is quite encouraging but dwindles as they proceed to higher institutions, especially among females. This trend is attributed to a number of factors ranging from bad attitudes towards education by both parents and students, and financial constraints on the part of parents. This has affected the level of education in the community. The implication is that a significant number of adult populations especially the females remain illiterate which does not augur well for development.

Health

The community host the largest hospital in the district. Many kinds of sickness is treated at the hospital. The predominant disease of the area is malaria.

Water and Sanitation

The water situation in the community has seen an improvement over the years with an increase in the number of facilities and coverage according to the chief of the town. He indicated that the community has no water problem. However, few people interviewed were of the view that quite a significant number of people in the community could afford clean water and still depend on hand-dug wells as their source of drinking. Sanitation in the community is quite bad with the

practice of dumping solid and liquid waste materials in open spaces, especially along the coast and their backyard is very common.

Economy

The major economic activity in the community is fishing and farming. Farming is mostly done by the native Nzemas whilst the Fantes are purely fishermen. Commerce is quite brisk due to the influx of people who come to access medical care from the hospital; and also during the major fishing seasons.

Farming

Farming is done on a very subsistence level with the exception of coconut and oil palm plantation which is on large scale. Slash and burn is the common land preparation method. Cutlass and hoe are the main tools for farmers. Food and vegetable crops cultivated are cassava, plantain, tomatoes and pepper. As indicated earlier, cash crops such as coconuts and oil palm are cultivated. Farming is not attractive to the youth due to low soil nutrients and lack of ready market for farm produce. Pig farming is done on a small scale and is mostly by the youth.

Coconut oil processing

Coconut oil processing used to be very lucrative venture in the past. Currently the business seems to have collapsed totally. This is attributed to low yield of coconut plantation and low market value for coconut oil. This has greatly affected the economic livelihood of both women and the youth.

Livestock production

Local poultry especially chicken is reared in almost every home for domestic consumption. Pig farming is common practice among women and youth in the community. However they are faced with some challenges like unavailability of by-product from coconut oil processing for feeding pigs due to low yield of coconuts and sales to Nigerian buyers of copra. Farmers complained of ready market for matured pigs. Farmers were ready to welcome any intervention which will help improve their business and standard of living.

Tourism

The community has no tourism potential according to the chief.

Fisheries

Fishing is done all year round with the major seasons between July-September and minor season occurring in November-January. Almost everybody in the community is engaged during the fishing seasons and plays a role. Unemployment levels rises during the off-seasons resulting in low economic activities in the community. Types of fish catch include *Manye (sardinella)*, *Ekan*, *Ebonyi*, *Akoa*, *Nrafonla*, *Abowinba*, *Eduei*, *Amgboloma* and *Sezeke*. They use ring net, beach seine net and hook and line (1, 3 1/4, 7 inches)

Environment

Sea turtles do come to lay eggs on the beach around August to September. Turtles were eaten, but the intervention of wildlife has save the situation as inhabitants now set them free. However, others were quick to add that they should be compensated for harvesting the sea turtles to serve as a source of motivation for them. Whales and dolphins are also seen during September and October. They sometimes entangle and destroy fishing gears.

Governance and Local Institutions

The community is governed by the traditional authorities and other government institutions such as the District assembly, the assembly member and the unit committee members. The District Assembly was said not to be proactive in responding to their community development priorities.

Key Coastal and Fisheries Issues

Decline in fish catch

Fishermen remarked that the number of fish catches has diminished over the years. These were attributed to the increase number of canoes, the use small net size and bad fishing methods such as pair trawling and light fishing. The fisherfolks indicated their readiness to support any measure which will help eliminate the use of inappropriate fishing methods.

Coastal erosion

The shoreline has eroded for about 100metres. This was attributed to the construction of the Takoradi harbour.

Lack of fish storage facilities

The community has no storage facilities to store excess fish during the peak period which leads to post harvest losses.

KRISAN

History

Kisane translated as white calico. It is believed that their ancestors migrated from Adwaa in the northern part of Cote d'Ivoire and first settled at Bansam at the southern part of Cote d'Ivoire before migrating finally to their present location. The sand at the place was as white so people referred to the place as Kisane which has been adulterated to be pronounced Krisan. They claimed their ancestors were led by the patriarch Nana Asuah Minlawa who later became the chief of the place.

Physical Characteristics

Krisan has flat land surface without any physical drainage system. It has quite a perfect layout which facilitates movement. The houses are mostly daub raffia roofed with thatch or iron sheets. A lot of houses lack water and toilet facilities. The community bounded on the west by Eikwe, east by Sanzule, north by Ala Bokazo and on the south by the Gulf of Guinea. The UNHCR has a refugee facility at the outskirts of the community. The camp houses refugees from West Africa and beyond.

Demographics and Settlement Patterns

The community comprises native Nzemas and few Fantes. The two tribes co-exist peacefully. The Fantes are mostly seen along the coast. It is estimated that females are more than males. The number of houses in the community is estimated to be around 52 with a population size of about 550. The average household size is about five.

Education

The community has its own kindergarten, but shares both primary and JHS with Sanzule. There is a Vocational Training Institute named "Charlotte Dolphins". The standard of education is low and that has been attributed to negative attitudes of both parents and students towards education.

Health

The community has no hospital or clinic. They access medical care at the Eikwe Hospital. The most common disease of the area is malaria.

Water and Sanitation

The community has only one borehole which serves as a source of drinking water for the whole community with 3 hand-dug wells. Community members feel that water situation in the community needs to be improved. The community has created dumping sites at the outskirts of the community. This place is maintained through occasional communal labour.

Economy

The major economic activities in the community are farming and fishing. Fishing is done mostly by the Fantes whilst the Nzemas engage in both farming and fishing. Commercial activities of the area are very low.

Farming

Farming is one of the major activities in the community. However, traditional method of farming is still persistent in the area resulting in low production. The main implements used are cutlass and hoe. The major cash crops cultivated are coconut and oil palm. Food and vegetables cultivated are cassava, maize, tomatoes and pepper. Farmers do not have access to farm inputs such as fertilizers, insecticides and herbicides. The youth are not interested in farming because it is not “money-fetching” they said.

Coconut oil processing

Coconut oil processing industry has collapsed as a result of low coconut yield. In addition the product has lost its market value due to the presence of other well-refined cooking oil on the market. The business does not exist anymore in the community.

Livestock production

Livestock production in the community is very subsistence. Almost everybody in the community has one animal or the other but is purely for domestic consumption. Pig production is also undertaken but on a low key because the community does not have access to the main feed, coconut chaff, is not available.

Tourism

The community has no tourism potential which could be developed to a full tourist site.

Fisheries

Fishing is done by Nzemas and Fantes in the community. They fish throughout the year with the major season occurring in July-September and minor season falling between November-January. Fishing employs over 80% of the population during the major fishing season. In the same vein unemployment level rises during the lean season. The community has no organisation which oversees the operation of fishermen and fishing activities.

The type of fish catch include *edoi, ekpoku, akole, ankoawona, atianuawole, nkafona, manye konsoanu*. The type of gears used include, ring net, beach seine net of one inch, two inches and three and half inches.

Local Institutions and Governance

The traditional set up of governance system is well recognised in the community. The community's political institutions, such as the unit committee have not lived up to expectation. Community members were of the view that the District assembly is not proactive in attending to their problems and that the assembly has turned to be a political institution which is only heard during elections.

Key Coastal and Fisheries Issues

Decline in fish catch

There has been reduction in fish catch over the years. This was attributed to the increase number of canoes, small mesh nets and bad fishing methods.

Coastal erosion

Shoreline erosion is an issue in the community. According to the group, the coastline has eroded over 120m of land for the past 15-20 years.

SANZULE

Physical Characteristics

The neighbouring town to the east and west of Sanzule are Bakanta and Krisan respectively. Ala-Bokazo is the nearest community to the north. The landscape is flat and sandy with no major peaks. Coconut plantations border the eastern, western and northern perimeter of the community. About 500m on the north after the coconut plantations is the *Ser* lagoon. A few meters from the lagoon are swamps. Farm lands on which cassava and vegetables are cultivated are located farther north. Another lagoon known as *Manzule* also runs on the north a few metres from the farm lands.

Demographics and Settlement Patterns

Sanzule is inhabited predominantly by Nzemas. A few Fantes also exist in the community and are mainly fishers. The 2000 population and housing census report indicated the total population of Sanzule at 1,617, consisting of 843 females and 774 males. The total number of houses recorded was 180 with an average household size of 5.

The settlement areas are highly concentrated towards the coast. The houses in this area are predominantly built with raffia and thatch-roofed. Towards the north-east after the main road are new settlements made of cement blocks. Dotted along the main road are the Sanzule Junior High School and the Tufuhene's residence. Across the main road towards the north-west is situated a National Vocational Training Institute (NVTI).

Three churches exist in the community. The community is connected to the national electricity grid.

Education

The community has a kindergarten, primary and a Junior High School.

Health

There are no health facilities in the community. They trek 5km to attend Eikwei Hospital for all their health problems as there is no regular transport system makes living in the community a tough prospect. The people have to call taxi-drivers on their mobile phones to come to the community to pick sick persons to the hospital.

Water and sanitation

The community has three wells as sources of water for and domestic use. The people, however, complained that the water sometimes become too salty to drink. These wells, according to the people, dry up during the dry season.

Toilet and refuse dump facilities are non-existent in the community. In the spirit of communal labour, the people attempted on several occasions to dig a pit to be used as toilet but the pits are always filled with water. They are then compelled to 'do it' anywhere. They have earmarked two places for the dumping of refuse. These are well-maintained by the people.

Economy

The community has no industries or financial institutions. The local economy is based on farming and fishing, but highly dependent on the latter. Coconut and cassava are the main crops grown by farmers. There are few people who live on commercial pig farming. The local economy, according to the residents has declined. Residents remarked the decreased fish landings and incidence of algae bloom have contributed to the decline in commercial activities.

Farming

Crop yield were said to be decreasing. The locals noted that coconut production is not as fruitful as it was about a decade ago. The cultivation of cassava had also gone down due to poor fertility of the soil. Farmers expressed interest in re-planting the coconut plantations if they are given the necessary technical and financial support.

Coconut oil processing

The coconut oil processing as a business is on the verge of collapse. This is because the copra is not available due to the low yield of the coconut trees. Again the market price of the processed oil has gone down.

Livestock production

Pig rearing which is the common commercial livestock activity is suffering huge setbacks. This is due to the difficulty in accessing cheap feed. Coconut chaff, which the major feed for the pigs, is no longer available due to the decline in coconut oil processing industry. Wheat bran which is the alternative feed said to be too expensive. The pig farmers indicated of no support from veterinary officers.

Tourism

The town lacks hospitality facilities. The community members reported of no potential tourist sites.

Fisheries

The canoe stock in the community was seven with none of them motorised. The canoes are approximately 18 yards in length and 3 yards in width and depth. The fishers widely deploy 2, 1.5 and 1 inch mesh sizes beach seine nets. The major fish landings include *wanwanya*, *nkanfona*, *ekan*, *eban*, *sukue*, *ebueakwa*, *apae* and *ahenemandzi*.

In the past, the fisherfolks reported taht they could fish in the nearshore areas, now they have to go out further. They attributed this to light and chemical fishing and increasing fishing effort.

The lay system reported by the fishers indicates that costs for maintenance of canoe and gear are deducted from the gross income, then the canoe and gear owner takes one-half and the other half goes to the crew.

Harvested fish are widely smoked and marketed in Ainyinasi, Agona-Nkwanta and Tarkwa

Environment

Algae bloom dominates the near shore areas.

Marine turtles are observed on the beaches during August and September mostly in the early mornings. Inhabitants spoke of volunteer spies that had been deployed to look out for those who catch them and/or eat their eggs. They had not seen any for some time now.

Local Institutions and Governance

Residents expressed the relations with the District Assembly as not very regular. “We hardly get any support from the Assembly”, they complained. Management of the coast and fisheries issues are handled by the Chief fisherman. The community has no *Konkohene*. There are no recognised associations in the community.

Key Coastal and Fisheries Issues

Declining fish catch

The fishers claimed they are fewer fish catches today, and blamed it on in the increasing number of fishing activities in the sea. They said there are more canoes on various landing beaches as compared to two decades ago. They also complained vehemently about the algal blooms, light fishing and pair trawling.

Coastal erosion

The inhabitants said that the sea has washed away some settlements and coconut trees. It was reported that the erosion is about 80 metres since the past twenty five years. They remarked that the construction of the Takoradi harbour was the major cause.

Incidence of algae bloom

The bloom inhibits fishing activities and makes pulling of the beach seine fishing gear ashore very difficult.

Unsustainable fishing practices

The use of light and dynamite in fishing is another key issue of concern to the fisherfolks. The said light attracts both big and small sizes of fish to it and dynamite or carbide are thrown to kill every fish within that particular radius. They lamented this practice is unsustainable and called for total ban.

Lack of access to capital and credit

The fishmongers complained they purchase fish with ready cash from the fishermen. They said this practice is difficult for most of the women as they hardly access any form of capital or credit facility.

AKONU

History

The people of Akonu were said to have lived at Princesstownnow in the Nzema West District Assembly also in the Western Region. From there, led by Nana Anwi Nyameke and Nana Nyanzu, they settled at “Ahwea-sini” meaning small sand. ‘Small sand’ because they lived on the thin sandy land between the sea and the Amanzule lagoon. It was said that at a point in time, the lagoon got flooded and part of it entered the sea at where they lived. They then named the place ‘baka-nta’, literary meaning ‘twin lagoon’. For fear of the re-occurrence of the flood some of the people a little northwards and named the place Bakanta. This is beyond the lagoon. Those who remained there named the place ‘*Akonu*’ meaning ‘in the house’. The two communities therefore do everything together because they are one and the same people.

Physical Characteristics

Akonu is a coastal town. The nearest towns to the west and east are Ampain and Sanzule respectively. Ala Bokazo and A. B. Bokazo towns share boundaries with Akonu on the north. The community is located on a flat sandy landscape. The western and eastern corners of the community are fringed by coconut plantations. The immediate northern edge is also characterized by coconut plantations followed by mangrove forest. The *Amanzule* River runs on the north of the town and it is surrounded by mangroves. Farmlands on which cassava and vegetables are grown are located beyond the mangroves on the north.

Demographics and Settlement Patterns

Akonu is inhabited by only the native Nzemas. According the people, Ewe fishermen once lived in the community but left long ago when fish catches started going down. The population of Akonu was estimated at 1,099 comprising 494 males and 605 females as at 2000. The settlements are mainly constructed of mud and plastered with cement. The houses are well spaced for easy vehicular movement.

Notable landmarks on the main road are the chief’s palace, the community market, and the Action church. A few metres from the shoreline on south-western edge is the community cemetery.

Christianity is very popular in the community with about 90% of the populace being Christians.

Education

The community has a kindergarten and a primary school. There is no JHS, therefore students at that level walk cross the *Amanzule* lagoon via a canoe and walk further to Kamgbuli town to attend school. This practice is difficult especially during rainy seasons when the lagoon increases in volume and the bush path becomes muddy and slippery. They get to school late and very tired.

Health

There are no health facilities in the community; not even a drug store. Residents attend Eikwei Roman Hospital for all their health problems. Though Eikwei is only 5km away, lack of regular

transport makes living in the community a dangerous venture. Residents have to call taxi-drivers on their mobile phones to pick sick persons to the hospital.

Family planning

On family planning, the women travel all the way to Ainyinasi hospital instead of the Eikwe Hospital which is only five kilometres away. The reason behind this is that the Eikwe hospital is Catholic Mission one which frowns on family planning as a method of birth control. This discourages many a woman who wished to regulate the size of her family. It was, however, pleasant to learn that some men accompany their wives to the Family Planning Centres.

Water and Sanitation

The community has three wells as sources of water for domestic use. The people, however, complained that the water sometimes become too salty to drink. These wells, according to inhabitants, dry up during the dry season.

Toilet and refuse dump facilities are non-existence in the community. The community used communal labour on several occasions to dig a pit to be used as toilet but it always caved-in because of the sandy nature of the soil. Two areas have been demarcated for use as refuse dumps and well-taken care of by the community.

Economy

The economy of the community is based on fishing. Farming is also practiced but on a small scale. The farmers grow mainly coconut and cassava. There are few people who are into commercial pig rearing. The economy of the community, according to chief and elders, had declined. *“Did you see many people as you walked through the town?”* one elder asked and added that *“a large number of inhabitants have left this village to look for jobs elsewhere”*.

Farming

The yields of the various crops cultivated in the community are said to be on the decline. The people said the yield of the coconut is not as it was about a decade ago. The production of cassava is also low due to poor fertility of the soil. They complained of the unavailability of farm lands which make them plant cassava among the rows of coconut trees. Coconut farmers expressed their desire to re-plant the coconut plantations if they are given the support.

Coconut oil processing

The processing of coconut for oil used to be one of the brisk businesses in the community. This industry is on the verge of collapse. This is because the copra is not available due to the low yield of the coconut trees. Again the price of the finished product had gone down on the market thus making production unattractive. Consumers prefer vegetable oil types on the market to this rather not very well-refined one.

Livestock production

Pig rearing was a common venture in the community in the recent past. This had gone down due to the difficulty in feeding them. The main feed which is coconut chaff from processed oil is no longer available due to the decline in the industry. The alternative feed is wheat bran was said to be too expensive. It also expensive and difficult to access the services of Veterinary Officers to conduct periodic checks on the animals, the pig farmers remarked.

Tourism

A beach resort is being built between Akonu and Ampain communities. The sea and the Amanzule lagoon are on both sides of the resort. Some of the structures are being built on the lagoon. With a swimming pool and other modern facilities being put in place, the resort promises to be the best in the district if not the region.

Fisheries

There are 4 canoes in Akonu with all them being wooden paddle-propelled. The common gear used is the beach seine net. The canoes are on the average 18 yards in length. The average crew per canoe for an expedition is 6-8. About 25-30 fishers haul the net after the casting. Species caught include *Eban*, *Akole*, *Amoei* and *Manye*. The fishers reported that, three decades ago, they could fish within 9 yards from the shore. Now (2010) they have to go as far as 700 yards from shore.

Fish processing is undertaken in settlement areas by smoking. The major marketing centres for harvested fish are Agona-Nkwanta, Tarkwa, Ainyinasi and Asasetre.

Regarding the sharing of fish proceeds, sales are divided into two parts. One part is reserved for maintenance and repair of gear while the other part is shared among the crew-members and the canoe owner.

Environment

The people said they used to see marine turtles on the beaches. They spoke of volunteer guards that dissuade people from catching or eating the eggs. Dolphins are occasionally seen between October and November.

Local Institutions and Governance

The community people described the interaction between them and the District Assembly as very irregular. *"They hardly come here"*, they said. According to them, they had complained about the conditions of their toilet and the water supply to the Assembly member on several occasions yet no action had been taken on them.

On the management of the coast and fisheries issues, they have a chief fisherman who is in control. There was no 'konkohen' (queen of fishmongers). There was no official association of women in the community.

Key Fisheries and Coastal Issues

Decline in fish catch

They said they were experiencing lowest fish catch in many years. This was attributed to factors like the increase in the number of fishing activities in the sea. They said there were more boats on various beaches as compared to about 20 years ago. They also complained vehemently about an algae bloom, which is locally known as “green-green” and a substance – ‘jelly-fish’, which they also called “sea nose”. These interrupt the fishing activities as they fill nets and tear them when it is dragged.

Coastal erosion

The elders in the community affirmed that the sea had eroded part of the land to the extent of about 300 metres. They attribute it to the construction of the Takoradi harbour as the principal cause. They indicated places they used to play that had been submerged by the sea erosion. Bakanta, a community across the lagoon, was founded as a result of high tides of the sea and also flooding of the lagoon. Remnants of buildings and coconut trees that had been destroyed by the two water bodies were found all over the place.

Incidence of algae bloom

The algae bloom popularly known as “green-green” had been a bane in the lives of both fisherfolks and non-fisherfolks alike. These cotton-like substances fill the nets of the fishermen and make it difficult to pull. This destroys the nets letting all the catch made for the day escape. It was first seen in 1993 and had since been re-occurring annually. There is another jellylike substance that fills the nets of the fishermen. Again the weight makes it difficult for the nets to be pulled ashore.

Unsustainable fishing practices

Another key coastal issue that was of concern to the fishermen is the use of light for fishing. The light, they said, attracts both big and small sizes of fish to it. They then throw dynamite which kills every fish within the appropriate radius. Other people also use carbide to kill the fish. These and other practices, they said, contribute to the reduction of fish stock in the sea.

Lack of access to capital and credit

The women in the community are mainly fishmongers. They buy fish with ready cash from the fishermen. This sometimes is difficult for the women as they hardly access any form of credit facility from any quarters. They complained of the poor business nowadays. It was said that lower fish catch in the community affects the life of the entire village.

They proposed to enter into various businesses like the sale of bread, rice and also to operate traditional catering services to supplement their incomes, should they have the support.

MPAIN

History

The people were originally living on a large island on the Amanzule where chiefs of the Nzemas used to camp in times of war in the past. Community lived on the beach in the 1800s. There were only 2 roads leading to Takoradi, Nzuleloano and Asasetre. The present site was a crossing point. The people were palm wine tappers and fisherman. History has it that, people walking from Atuabo which is far away from the community on their way to other places got very tired on reaching Ampain. As the community is almost surrounded by the Amanzule and Ebi lagoons, travellers were encouraged to “stay over and relax before continuing their journey”. In the process, the travellers are fed lavishly with meals with plenty fish and palm wine. “*Amgbenu*” which means ‘forced-fed’ became the nickname of the community and later transformed to “Ampain”.

Physical Characteristics

Ampain is situated on a flat sandy topography. The closet town on the west of the community is Bakanta while Nzuleloano is bordered on the east. On the north is ‘Old Ampain’ which is bordered by the Takoradi-Esiam-Elubo highway. The Amanzule lagoon separates the community from the shore. The beach is accessed by using a canoe across the lagoon. No serious fishing is done on the Amanzule lagoon. Along the coastline lies an open sandy beach. The ocean areas are open with pounding surf. The beach is also characterised by coconut plantations about 20m from the shoreline.

Demographics and Settlement Patterns

According to the last national population census in 2000, there were 730 persons living in Ampain.

In terms of ethnicity, the community comprises the native Nzemas and Fantes with the former forming about 98% of the populace. Some of the Nzemas double as farmers and fishers while the Fantes are mainly fishermen. Radio stations listened to in the area are Ankobra FM, Twin-City Radio, Space FM, Good News FM and Pure FM. The community was connected with electricity 5 years ago. Women in the community are fishmongers, petty traders and farmers. There is a marketplace in town, but it is usually empty because people prefer selling from the front of their homes, in kiosks or shops.

Education

There is one basic school in the community. Many children in the community have to labour to pay for their school fees. Chief and elders of the community are very strict about teenage delinquency. Television watching by children in public places outside school holidays is strictly prohibited.

Health

There is a health post at Kamgbulley which is about 2km-3km away to the north-west of Ampain. There are two trained Traditional Birth Attendants in the community. Most common

disease people suffer from is malaria. The community is visited by the Community Health Service nurses periodically to offer services in Maternal and Child Health Care.

Water and Sanitation

There are two hand-pumped boreholes and a hand-dug well. One of the boreholes is out of services and an amount of GH¢2,000 for repairs, remarked the Chief of the town. A third borehole is however under construction. There is a 12-seater KVIP in the community. There is a clearly demarcated place for disposing of household waste. Community is divided into zones and cleaned periodically. The beach was very clean and was under the care of Eco-brigade. The workers complained bitterly of not receiving their salaries for six months.

Land tenure

Land in the community is owned by families. There are also female land owners.

Economy

The people of Ampain depend on fishing and farming for their livelihood. Some residents also earn a living from pig farming. During the major fishing season (June-September), most of the economically active population indulge in fishing. Subsistence cultivation of cassava is however is widely practiced during the minor upwelling seasons.

Farming

Majority of coconut trees have been stricken by Cape St. Paul's Wilt disease about 20 years ago. This has affected the once vibrant coconut oil processing industry. According to Chief, the Ministry of Agriculture destroyed the affected coconut trees to halt the spread of the disease, but this failed.

Livestock production

Pigs, sheep, fowls and goats are reared domestically and also commercially. Pig farmers get their feed (coconut chaff) from Kamgbulley

Fisheries

Four canoes line the shorefront in Ampain during the appraisal. None of the canoes utilize outboard motors. These canoes are 18 yards in length and 3 yards in width and depth. They are usually constructed from wawa. The beach seine of mesh size of 2, 1.5 and 1inch is the only fishing gear operated by fishers. About 20-30 persons help pull the net ashore.

Different types of fish are caught. These include *Sukwei*, *Nkanfran*, *Anokum* and *Ekan*. During fishing expeditions, particular trees are used as landmarks that guide fishermen.

Fish proceeds are divided into 2 and shared equally between crew and canoe owner after deducting expenses. Sometimes, fish is sold to poor women on credit, said the chief fisherman.

Harvested fish are smoked or sold marketed fresh. Marketing centres include Tarkwa, Kumasi and Agona-Nkwanta.

Environment

According to the community members, islands around in the Amanzule lagoon are habitats for monkeys and deer. The fishermen said they protect sea turtles which they used to eat in the past. Sea turtles lay eggs on the shore around August and September, he added. Observation of whales in the marine areas is common in August-December. There are crocodiles in the Amanzule lagoon according to community members.

The Amanzule lagoon is freshwater (including the village of Nzulenso which is built on stilts in the lagoon), the flood-plains of the Amanzule River, the coastal Amansuri lagoon and estuary, and the sandy Nzuleloanu-Esiama estuary. The lagoon covers all the communities on the coast of Ellembelle District except those situated east of Esiama (Kikam, Asemko, Bobrama, Asanta and Sanwoma). The wetland is a black-water system. The vegetation in the catchment is Wet Evergreen Forest, with swamp-forest in wetter parts. The most common tree in the swamps is the Raffia Palm (*raphia vinifera*), which grows in almost pure stands. The large spiny aroid *Cyrtosperma senegalense* grows along the edge of the raffia while the drier patches support mainly sedges and grasses. The area is subject to seasonal flooding and the nature of the terrain is such that access is very difficult and, as a consequence, large areas are hardly touched.

Amanzule wetland is the largest stand of intact swamp-forest in Ghana and its value is further enhanced by the fact that large areas are still in a relatively pristine condition. The fauna of the site, as with most black-water areas, is species-poor; however, the communities present are distinctive. With current rates of population growth and development, unless action is taken now to safeguard this unique area, it is likely to suffer the fate of numerous other coastal wetlands, which have become completely degraded. The area is being considered as a Community Nature Reserve, with the possibility of Ramsar designation, under a project being implemented by the Ghana Wildlife Society (BirdLife International, 2009).

Key Coastal and Fisheries Issues

Dwindling fish landings

Fisherfolks said there were more fish catches 20 years ago than present. They attribute the current situation to light and chemical fishing. They said fishermen from other communities, especially Axim engage in light fishing in waters of the Ampain coast. They also stated that sound of outboards motors drive away the fishes into the deeper waters.

Incidence of algae bloom

The presence of the bloom in the near-shore has stalled fishing activities since December 2009

Weak local institutions for coastal governance

The community people described the interaction between them and the District Assembly as very irregular. "*They do come here*", was stressed. The Zoil Ecobrigade maintains sanitation on the beaches. The Chief fisherman regulates fishing activities on the beach. There was no 'konkohen' or leader of fishmongers in the community. There was an absence of an official association of women in the community

NZULELOANU

History

Nzuleloanu, otherwise known as Azulenuano in Nzema means the 'mouth of a river'. The community got its name from the fact that it is situated at the estuary of the Amanzule River and the sea; and the confluence of the Amanzule River and the Amanzule Lagoon. According to oral tradition as narrated by the chief, their grand ancestor, a fisherman came from La Cote d'Ivoire and settled at the place where two rivers met. Where they initially settled has been eroded by the sea and as far back as 1954, they resettled to their present location.

Physical Characteristics

Azuleloanu is about three kilometres from Esiama. It is bounded on the East by the Amanzule River. There is a narrow strip of sand separating the community from the sea. It has a lot of coconut trees that form a sort of forest in the town.

Demographics and Settlement Patterns

Community is made up of Nzemas and some migrant Fantes for the Central Region of Ghana. The population is estimated at 600 people. They have co-existed peacefully for many years.

Education

There is a nursery, primary and a Junior High Schools in the community. Performance at the BECE had not been encouraging at according to the headmaster. Passes had never crossed 10% for a very long time. He also complained that parents do not consider educating their children as a priority. They do not attend Parent-Teacher-Association meetings and also fail to provide the educational needs of their children. The children on the other hand prefer cracking copra, hunting for crabs and also watching films. Most of the girls help their mothers in the fishing business.

Health

The village has no health facility. They access medical services at Esiama and Eikwei.

Water and Sanitation

The town has only one borehole. There are neither toilet facilities nor refuse dumps. The people use the bushes around the community to ease themselves and also for the dumping of domestic waste. This situation, the people observed pose a health threat to them.

Economy

The economy of Azulenoanu rests on farming, and fishing. The farmers mainly plant coconut, cassava and vegetables. The outputs from the aforementioned crops, according to the people have reduced over the years. Fishing, the heart-beat of the economy of the community, has seen a dramatic decline. The decline in fish catch, decline in crop yields and also decline in the coconut oil industry have caused a serious negative impact on the economic activities of the community.

Coconut oil processing

Coconut oil processing which traditionally had been a keen economic activity in the community is also on the decline due to the low yield of coconut which has come about partly as a result of the Cape Saint Paul Wilt disease which has caused the death of most of the coconut trees; and also due to the overage of some of the remaining trees. Moreover, oil produced in the community is not well-patronised on the larger Ghanaian market because of the prevalence of superior brands produced in factories, well-branded and cheaply priced.

Tourism

The estuary of the great Amanzule River and the confluence of the river and lagoon at Azulenoanu is so picturesque that when developed could attract tourists.

Environment

At the beach side, according to the chief it is possible to see whales at 6.00am.

Local Institutions and Governance

The Assemblyman serves the community and a few others in the locality. The community said the District Assembly does not serve them in anyway except visit them when it is elections time. They said rapport between them and the Assembly as minimal. There is neither CBFMC nor any other formal institution in the community.

Key Fisheries and Coastal Issues

Decline in fish catch

Fishermen have endured very low catches for the past few years. They attributed the situation to factors like the increase in the number of fishing activities in the sea. They said there were more canoes on the beaches now compared to about 10-20 years ago. They also raised the issue of algae bloom and 'jelly-fish' with passion and sea them as their main 'competitors' as they do not only prevent them from catching fish but also destroy their nets.

Coastal erosion

According to the chief and his elders, the sea had eroded portions of the coast to about 100 metres in the past 30 years. The Amanzule River and Lagoon forms a confluence at and enters the sea between Azuleloanu and Esiama. Heavy rainfall and higher sea levels is rapidly eroding the estuary. The beach front has eroded by 100m since the last three decades

ESIAMA

Physical Characteristics

Esiama is a coastal town which is bordered on the west, east and north by Azulenoanu, Kikam and Nkroful respectively. The *Nobaya* and *Franza* rivers run on the north of the town. In between these water bodies are dry wetlands. The eastern and western perimeters are characterised by coconut plantations.

Demographics and Settlement Patterns

Esiama is a cosmopolitan town, but it is dominated by the indigenous Nzemas. According to the census conducted in 2000, the total population of Esiama was estimated at 6,513 comprising 3,208 males and 3,305 females. The total houses recorded were 599 with an average household size of 4.

The housing units are principally built with cement and roofed with aluminium sheets especially in the high population density areas towards the northern part. There are however temporal structures along the beach which are inhabited by migrant fisherfolks. These structures are made of palm fronds and are thatch- roofed.

Along the principal road are the Esiama Secondary-Technical School, the commercial centre and the Ghana Private Road Transport Union (GPRTU) Vehicular Terminal and Taxi Station. Other significant landmarks sited along the main road include Sunny Lodge Guest House and a fuel dispensing station. There are also a lot of small shops lining the main road. Approximately 50 metres from the main road towards the south-west is the pre-mix depot closely located by the Catholic Church. About 2km from the main population vicinity towards the north is an abandoned coconut oil processing plant.

Majority of inhabitants are Christians and constitute about 75%. Muslims forms about 10% and Traditional African Worshippers comprises 5%. The rest consist of the other religions groups.

Migration in this town is experienced mostly in the major fishing seasons. Gold ore deposits in Nkroful, which about 6km from Esiama also induce influx of small-scale miners from other communities notably, Tarkwa, Prestea, Nsuaem into the town and also, multi-national mining companies employees.

Education

Educational standard were reported to be declining due to students not paying much attention to their books. A number of basic schools exist in the town. Esiama Secondary-Technical School is the only second –cycle school in the town. There is also the Community Health Workers training school which is a tertiary institution. It should be noted that majority of students in these two last schools are from outside the community.

A community library facility has been commissioned at Esiama in July 2010 with support from the USA. The library is christened after a school in the United States of America (USA) “Granville Saint Mary’s”, is stocked with assorted books through the benevolence of the US partners under the leadership of Mrs. Diane Snyder of the Ghana Education Service (GES) Resources Project Group.

The library is stocked with 4,500 books, which comprised English, History, Physics books among others, and that 1,500 other books for teachers are included.

Health

Esiama Health Centre is the only public medical facility in the town and it is manned by a Medical Assistant. The commonest disease recorded at the Out Patient Department is malaria.

Water and Sanitation

Sanitation in the community is poor. The drains along the main the road are filled with solid waste, especially plastics. Even though communal containers exist at designated areas, indiscriminate of solid waste disposal is prevalent in the highly populated areas.

The community has four public latrines. There are also a few toilets in individual households.

There is only one community hand-pumped borehole sited at Esiama Secondary Technical School. There are 17 wells situated throughout the community. Some few places are served with pipe-borne water.

Economy

Esiama is most economic vibrant town in Ellembelle District followed by Ainyinasie. Fishing, farming and petty trading are the major commercial activities. Nzemaman Rural Bank is the only financial institution in Esiama. There are many small shops dotting the main roads in the town.

Farming

The main crops grown are coconut, cocoa, oil palm, cassava, plantain and maize. Many of the coconut plantations have been affected by Cape Saint Paul's wilt disease.

Coconut oil processing

An oil processing plant used to be here but has collapsed. Nigerian buyers purchase copra. Coconut oil processing is mainly practiced by women. Coconut production has decreased due to long age.

Livestock production

Pig farming is a big venture in the town. The practice is mainly done by women and it was indicated about 80% of fish mongers are engaged in the business. The principal feed of the pigs, which is coconut chaff, is accessed from Asasetre, Ainyinasi and Kamgbulley communities. The women expressed that fish meal, wheat bran and corn chaff is mixed with the coconut chaff to feed the pigs. They noted of regular visit by veterinary officers. The pigs are mostly marketed in Asanta and Kumasi.

Tourism

There are three lodging facilities were found in the town with total accommodation facilities numbering 45 rooms. There are two restaurants serving local and Chinese dishes. There are also numerous local eating places known as 'chop bars' offering only local dishes.

Fisheries

Esiama has a fishing fleet of 22 canoes with 15 of them powered by 40HP outboards. According to the chief fisherman, there were 6 canoes in community as at 1980. Only two of these canoes were motorised then. Harvested fish in the community regularly include *eban*, *sukuei*, *opae*, *ekan*, *ntatamena*, *tuna*. Fisherfolks indicated that, fishing grounds have changed from 24 yards to 700 yards. Fishing gears employed are gill net, ring net and bottom-set net. Fishing is not done on Sundays.

Fish landings are mostly smoked and sold in Ainyinasi, Elubo, Asasetre and Agona Nkwanta. It was indicated that, smoked fish can be preserved for 1-2 months. The fishmongers remarked that imported fish is bought from Takoradi and processed in times of low fish catch. They said that GHc 2.00 is paid for every box of fish as transportation fare.

Environment

About 2.5km to the north of the town are forested areas. Franza and Nobaya rivers run on the north of the town. Whales and dolphins are observed during December and January. The beach is nesting and feeding grounds for marine turtles. It emerged that marine turtles were not harvested because of education on the ecological importance.

Local Institutions and Governance

The community has a Landing Beach Committee, but no CBFMC.

The town has by a chief who exercises traditional jurisdiction over the community. There is a Chief fisherman and *Kokonhene* who regulates activities concerning fishing in the community.

Key Fisheries and Coastal Issues

Dwindling fish catch

Fish catches have declined greatly according to the fishers. Harvested fish of species such as *eban* and *ntatamena* have reduced from 150-200 pans to 30-50 pans over the last three decades. The reduction of fish landings were attributed to increasing fishing effort, bad fishing methods, pair trawling and algae bloom.

Inadequate supply of pre-mix fuel

According to the chief fisherman, pre-mix fuel is not easily accessed for fishing activities. Supply from the Esiama depot is woefully inadequate. There is also black marketing of the product. The commodity is sold on black market at GHc5.20 instead of GHc2.80.

High cost of fishing inputs

The cost of fishing inputs has increased significantly since the last two years. As at 2008, the cost of a 40HP outboard motor was GHc 2,700, but the price is currently GHc 5,300. According to the fishers, the cost of fishing gears has shot up considerably. The drastic increase of these inputs is hampering fishing activities, the fishers complained bitterly.

Exchange of sex for fish

This practice does not occur in Esiama, the fishers remarked.

Lack of access to capital and credit facilities

Fisherfolks complained of the difficulty in accessing loans from financial institutions to expand their business, because of lack of collateral. They also indicated that in the event one gets access to a loan, the interest rate is higher.

Coastal erosion

The Amanzule River and Lagoon enters the sea between Esiama and Azuleloanu where heavy rainfall and sea rise is quickly eroding the estuary at an alarming rate. The beach front has eroded by 100m since the last three decades. Some settlements and coconut trees have been washed away by the sea during this period. Commercial sand mining and the construction of the Takoradi harbour were contributory factors for the massive erosion, the residents noted.

KIKAM

History

The people of Kikam, led by Adu-Kuganga and Kama Betuw, migrated from the present Northern Ghana and settled at Meigyina and spread along the coast and kept pushing till they got to Asemko and finally to Kikam. The earlier settlers were salt producers who carried sea water deep into the bush for fear of being arrested for distilling of *akpeteshie*¹ (a local gin). In the course of carrying the water, they passed through some bush that was very itchy. The word itchy which in the Nzema language means '*kika*' became the name of the community. Kikam later expanded and got closer to the sea and started to trade with Europeans where they practiced barter system of payment for goods and services.

Physical Characteristics

Kikam lies on the main Takoradi-Half Assini road some few kilometers from the Ankobra Estuary. It is bounded on the west by Esiama, east by Asenta and in the north jointly by Salma, Teleku Bokazo and Aluko. The chief's palace is on the right hand just at the middle of the town. There are six churches and a shrine located on the west coast of the community. The houses are built in rolls with well layout patterns that make every part of the town accessible to vehicles. The town boasts of very old yet fashionable buildings that are still habitable.

Demographics and Settlement Pattern

Kikam is the second most populated coastal community in the Ellembelle District. It has 1,891 men and 2,081 women totalling 3,972 as by projections for 2010. The inhabitants are mostly Nzemas, Fantes and Ewes.

Education

The community is endowed with three Basic schools and two second cycle institutions. The basic schools are Methodist, SDA and Ackon Educational Complex. All these have nursery, primary and junior high schools. The Ackon Educational Complex, which is of a private ownership, ends at Stage four. The performance of the schools, according to the Safohene, had been low. Factors like poor attitude of pupils to education, lack of commitment to education of some parents and non-performance of some teachers. There are also large numbers of untrained teachers in the schools as well as lack of teaching and learning inputs.

The second cycle institutions are Kikam Technical and the Seventh Day Adventists (SDA) Medical Assistants Training Institutes. These are post-Junior High School institutions which admit students not only from the district but also from all over the country.

Health

There is no health facility in Kikam. The people access healthcare from the Esiama Health Centre (2km away) or Axim Government Hospital (15km). The commonest disease of the people is malaria.

Water and sanitation

There are three hand-dug wells with pumps. Water from these wells is of poor quality. They turn any white material into blue within a few minutes. Fortunately, the community is benefiting from the Small Town Water Project and was in the completion stages.

There were two public toilets in the town. These were not well maintained because the people are reluctant to pay for usage. For that reason, no one is prepared to keep the place clean.

There is a place for the dumping of refuse it was full and creating nuisance and health hazards to the people. They hoped a skip, which would be evacuated periodically would solve that problem.

Economy

The economy of the community is moved by farming, fishing, buying and selling and a few in the services. The economy, according to the discussants, had not been as swift as before. This was attributed mainly to the downturn in the fishing industry.

According to the chief's representative, part of the land of Kikam had been ceded to the Adamus Resource, a gold mining company, to explore and mine gold. This, they hoped, would rekindle the economic life of the town in the nearest future.

Farming

About 80% of the people of Kikam are into farming. They cultivate both cash and food crops. These include oil palm, coconut, cocoa, plantain, maize and cassava. The farmers confirmed that their lands are very fertile for the cultivation of any crop. They, however, regretted the outbreak of the Cape St. Paul Wilt disease which attacked their coconut trees in the 1990's and had since destroyed large plantations of what used to be the main cash crop of the area.

Tourism

The people had it that there is a big tree on the west coast of the town that was worshiped. There are old stools under the tree and every year, fundraising activities are organised. At the height of the celebrations, a big black snake appears which the people worship. This attracts a lot of people from far and near to the town. These elders said could be advertised for people to come and watch.

Dolphins and whales come very close to the shore at certain periods of the year. Specific periods and locations could be studied as a tourism potential.

Fisheries

Though not done on a very large scale, fishing holds a greater portion of the economy of the people of Kikam. The fishermen use beach seine (drag net) for their fishing activities. There are three boats on the beach. According to the chief fisherman, the fishing business has experienced a tremendous fall in recent times. He attributed this to factors like 'green-green', light fishing, pair trawling, and other illegal fishing practices. Lower fish catch over the years prompted the Member of Parliament of the area to send rice and other things to be distributed to the fishermen but unfortunately not even a particle got to Kikam.

The prices of fish goes down during bumper harvest and the vice versa. The fish-mongers indicated that the prices of fish have increased due to poor catch. Women use smoking, and

frying as the processing methods used by the women of Kikam. They complained of 'bad business' nowadays due to low fish catch.

Environment

Marine turtles are normally seen in December as they come to lay their eggs. The people used to hunt and eat it but since being educated by the Wildlife Division to desist from that attitude though they demanded some forms of compensation with the reason that the turtles do sometimes destroy their nets when they are caught. They argued that if they let them go without any compensation, they lose too much.

Local Institutions and Governance

Kikam has a Chief who exercises authority over the entire village. There is also a Chief fisherman and an Assembly member. There are no CBFMCs or Landing Beach Committees in the town. There are also no formal associations.

Key Coastal and Fisheries Issues

Coastal Erosion

The sea, according to the people, had eroded about 300 yards over the last thirty years. They indicated specific points where they used to play and where coconut trees were. They could not identify the reasons for the erosion. All they could say was "everything in this world is changing".

Incidence of algae bloom

Popularly known as 'green-green', the bloom was first seen about eight years ago and had since been throwing them out of work anytime it resurfaces. It works by filling the nets making it difficult for them to drag. These sometimes tear the nets thereby releasing the little catch they make. The chief fisherman lamented that they had not gone fishing for the past four months i.e. between January and April 2010.

Lack of Family Planning services

Family planning, it was said, was at the discretion of individual women and their husbands. They however admitted that many women are not in the practice considering the number of children couples have. It was also admitted by both men and women that 'sex for fish' exist in the community.

The women requested for financial and/or input support for the expansion of their businesses.

ASEMKO

History

Asemko literary translated to mean message travels far. The earliest inhabitants settled along the sea. It was not clear where they migrated from but it is believed that they settled here 300 years ago. One of their ancestors- Maame Bozoma left the coast and settled at the present Asemko. She was later joined by a group of Fantes salt producers. This group of people stayed here and produced salt for sometime before migrating to Agona Nkwanta. During their stay people came from a far to buy salt. They asked the question how you got to know of us. It is true that "message travels far".

Physical Characteristics

Asemko is community located in the south-eastern coastal zone of Ellembelle District. It is situated on the Takoradi-Elubo international road. The community has no proper planning schemes or lay-outs. There is no drainage system. Majority of the houses are built mud and raffia roofed with either thatch or iron sheet. The community is bounded on the by Asanta, west by Kikam, north by Teleku- Bokazo and Salma and the south by the Gulf of Guinea.

Demographics and Settlement Patterns

The population is basically Nzemas with few Fantes totally about 300. It is perceived that females are more than male. The number of houses is estimated to be about 60-65 with a household size of 4-5. The population of the area do increase during the fishing seasons due to people visitors who come there for fishing and trading.

Education

The community has a Kindergarten and primary 1-4 which were built by the community. The community complained of the assembly's slow pace attending to their problems.

Health

There are no health facilities in the community and the people access medical services at Esiama and Axim Government Hospitals.

Water and Sanitation

The community has a 10-seater KVIP constructed by the district assembly. The community has created a refuse dumping nearby wetland with the intension of reclaiming the land for other purposes. The community has no visible drainage system. There are two boreholes but only one is functional and one public stand pipe which is ran on commercial basis. It was indicated by the care taker that patronage for stand-pipe is low due to its commercial nature.

Economy

The community is not commercially active. The major economic activities of the area are farming and fishing. Farming is mostly done women and old men. Thus the youth are not interested in farming the reason being that farm proceeds are not immediate as compared to fishing. Commercial activities are not brisk during the major fishing season.

Farming

Farming in the community is quite low. There is enough evidence to prove that coconut farms had been completely destroyed by the Cape Saint Paul wilt disease. Inhabitants indicated this resulted in many deaths and has lowered the quality of life of the people. Farmers have resorted to the cultivation of oil palm, rubber and cocoa. The major food crops are cassava, maize etc.

Coconut oil processing

Coconut oil processing industry has collapsed totally in the community since there is no coconut for the industry. The implication is that the quality of life of most women had dwindled.

Livestock production

Livestock production is very low in the community though individual households rear various kinds of farm animals-chicken, goats, sheep. The purpose is domestic consumption but for sale though it is sold in times of need to raise money. Pig farming which was once a brisk venture has fizzled out due to advent of the Cape St. Paul Wilt disease, depriving farmers of feed for the animals.

Fisheries

Fishing is done all year-around with major season between July-September with the lean season occurring in November-January. There are 3 canoes in the community. Residents indicated that economic activities in the community are very brisk during fishing major season with a lot of migration into the community.

Environment

The sea is full of algae bloom near the shore and fishermen complained about it hampering their work.

Turtles are observed on the beaches during August and September to lay eggs.

Dolphins and whales can also be sighted usually between December and February.

Local Institutions and Governance

There is no CBMFC in the community which over see fishing activities, for instance, protection of fish stocks and enforcing fisheries bye-laws.

Key Coastal and Fisheries Issues

Coastal erosion

Shoreline erosion is an issue in the community. According to the group, the coastline has eroded over 120m of land for the past 15-20 years.

BOBRAMA

History

Bobrama was named after Papa Bobri who lived in a hamlet with his 'beautiful' daughter Ama. All the young men in surrounding communities regular trooped there trying to win Ama's love. They referred to the place as where "**Bobri ne neba Ama**" lived. This evolved into Bobriama. According to the chief, the community was founded before Axim castle was built in 1515.

Physical Characteristics and Environment

Bobrama is bordered on the north by the Takoradi-Elubo highway across which there are farms and forested hill. The community itself is on a flat sandy terrain. The sea is to the south with a white sandy beach. Between the community and the beach is a marshy ground with dense vegetation full of coconut trees about 40 acres in size. Towards the east 2km away is Asanta. On the west is Kikam. The community is dotted with mainly cement plastered houses.

Demographics and Settlement Patterns

Bobrama is inhabited by the native Nzemas and Fantes. The Nzemas are predominantly farmers cultivating coconut, cassava and vegetables. Both Fantes and Nzemas are fishermen. Annually, the Divine Healing Church brings pilgrims and worshippers to the community for conventions. They spend about a week at Easter and return the next year. Family sizes are large with polygamy common and 4-5 children per woman. Teenage pregnancy is not common. There is no serious inflow or outflow of persons because of fishing.

Education

The community has only a nursery. For primary and JHS, kids tread on foot to Asanta everyday.

Health

Bobrama has no health post. There is the Axim Government Hospital which is about 11km to the east of the community which the people visit in case of need for expert health services. Periodically, Community Health personnel do provide services on Maternal and Child Health (MCH). The most common disease in the community is malaria. There are herbalists in the community who claim to cure diseases like prostate cancer, asthma and kidney problems.

Water and sanitation

There is a 12-seater KVIP toilet in the community with a broken roof. There are no household toilets. Some people use the spaces among the coconut trees and the bush as their places of convenience.

There is one hand-pumped borehole in the community.

Economy

Fishing on the sea and farming are the main activities in the community. There is also, coconut farming but this has been severely disturbed by the Cape St. Paul's Wilt disease which has destroyed a lot of coconut trees.

Algae bloom in the ocean has affected fishing activities for the past 4 years badly affecting life in the community. According to residents, standard of living has dropped due to decline in fish catch and low agriculture productivity and high cost of living.

Farming

Crops cultivated are mainly coconut, cassava, vegetables. Cultivation of cassava, oil palm and tomatoes on the subsistence level are mainly done to the north of the community. Coconut plantations are on the beaches.

Farmers complained of over-cultivation of farmlands which has affected fertility of the land. The over-aged coconut plantations (estimated at 100+ years) and Cape St. Paul's Wilt disease has affected coconut trees.

Coconut oil processing

Coconut oil processing business is not big business in Bobrama. Activities are concentrated on fishing and subsistence agriculture.

Livestock production

Livestock activities are only limited to keeping of poultry for household consumption.

Tourism

The community has no lodging facilities.

Fisheries

There are 3 canoes in the community. Only two are seaworthy. The SDA church bought 2 of the canoes for its members to work (only one is in good shape). The church also bought a beach seine net for its members to work. About four years ago, "green-green" (*algae bloom*) forced many fishermen to stop fishing. Each canoe takes a crew of between 10-22. The beach seine net is widely used. When a canoe from outside the community comes to pitch camp there, it is 'officially' levied by the local Chief Fisherman so that it can operate there. This arrangement is renewable annually.

Though light fishing is not allowed, fishermen come from Axim come to fish in the community's waters using light. "The fishermen in Axim do not have off season. They fish all-year round" complained the fishers here.

Fish is sold on the beach after fishing and money shared. The church as 'net owner' and 'canoe owner' gets its due of 30%. The crew gets 40%. The remaining 30% is shared amongst the crew and netowner (church); and those who helped on the shore but not part of the crew that goes to sea.

Environment

Sea turtles do not nest at the beach, but dolphins and whales are sighted come during December and January.

Local Institutions and Governance

There is no Landing Beach Committee in Bobrama because pre-mix is not used here. There is no CBFMC. The Chief complained that the District Assembly has 'abandoned' the community and does not implement any development projects. The Chief fisherman settles disputes on the beach, but community problems are settled at the chief's palace.

Key Coastal and Fisheries Issues

Decline in fish catches

Fish catches have declined says the fishers. They used to harvest about 20-35 headpans after each trip 7-8 years ago but it is now difficult to get anything near two.

They attribute the decline in fish catch to 'green-green', pair trawlers and light fishers.

The Chief Fisherman, who says he has been in the business for 25 years, says the decline can also be attributed to more canoes that are chasing the same amount of fish. He adds that, during the seasons, they are able to get plenty fish. For him, there is no real reduction in fish stocks in the sea.

Illegal fishing activities

They mentioned that fishing boats and pair-trawlers come close to the shore far outside their zones. Other fishers using Fishermen expressed worry about their colleagues using light and its effect on the fishing industry.

Incidence of algae bloom

'Green-green' destroys their nets and prevents them from catching fish. It fills their nets when they cast it. Its presence makes it difficult for drag net fishers to work.

Coastal erosion

The coastline has pushed inland for about 20 metres since the last 10 years. Sea erosion is no problem here.

Sand winning is prohibited in the community and the directive is strictly enforced. It is however allowed to fetch sand from the beach for communal projects.

SANTA

History

Asanta literally translates as, '**except Atta**' or '**only Atta**'. A story is told about how in the very early days of the community, there was a quarrel between the chief and a group. He was not a very popular chief so the whole community except Atta Kpanyili (senior twin) ganged upon and beat him up. The chief's name was Akpo Kpanyili. When he was asked who the culprits were, he answered "everyone except Atta".

According to a former assemblyman of the community who is also the regent, the community was founded before the castle in Axim was built in 1515 by the Portuguese.

Physical Characteristics

Asanta is a coastal community lying approximately 4km to the west of the River Ankobra estuary. It has a flat sandy topography. Areas close to the beach are a mixture of marshes and sand. The eastern and western borders are fringed by coconut plantations. The areas to the north are forested. On the community's east lies Sanhoma town which is close to the estuary of River Ankobra. 2km west of Asanta is another fishing community known as Bobrama.

Demographics and Settlement Patterns

Asanta comprises the native Nzemas and Fantes. The Nzemas are predominantly farmers cultivating coconut, cassava and vegetables. The Fantes and some Nzemas are fishermen.

Men used to marry at least 2 wives so that they could produce children to help them on the farm. But that has changed with people having fewer children. Average household size is now 6-7 persons.

Teenage pregnancy is quite common. Many school boys go fishing to earn money. They entice the girls with money to have sex with leading to pregnancy among the school girls who then drop out.

In the past, there were a lot of migrants in the community. They came from Liberia and the northern Ghana. Those were the times of plenty food and these migrants worked the farms.

Education

The community has 4 primary and Junior High Schools. There is also a nursery school.

There is a Nursing Training College located in Asanta which attended by students from all over the country. Many teenage girls drop out of school because of pregnancy.

Health

Asanta has no health post. The nearest health facility is the Axim Government Hospital which is about 9km to the east of the community.

Water and Sanitation

There is a 20-seater KVIP toilet in the community. About 22 households in the community have toilets. Some people also attend nature's call among the coconut trees on the beach and also in the forest areas to the north. Eco-brigade cleans the beaches and enforces sanitation regulations.

There are 4 boreholes in the community, but only one is in good working condition. There are also 8 hand-dug wells with 3 of them privately-owned. The only pipe-borne water stand in the community is commercially-based.

Land tenure

The lands in community are mainly family-owed. One has to see the rightful owner of a land when one seeks to acquire an interest in the land for any project. Shared-cropping system (*Abunu*) where farm produce is shared equally between farmer and the land owner is practiced.

Economy

Residents of Asanta depend on fishing on the sea and farming for their livelihood. Coconut farming has been severely affected by the Cape St. Paul's Wilt disease. This disease has destroyed a lot of coconut trees. Many farmers adopted cocoa cultivation about 10 years ago. Others also cultivate oil-palm. Few women indulge in petty trading.

Algae bloom in the ocean has affected fishing activities. This phenomenon has had a bad effect on economic life in the community. According to residents, quality of life has dropped due to low fish catch, poor agriculture productivity and high cost of living. Many persons said they are hungry and cannot cater for their families. They added that teenage girls are lured with money by illegal small-scale miners. Some married women also fall prey to money-wielding men because their fisherman husbands cannot take care of them financially.

Farming

Crops cultivated are mainly coconut, cassava, vegetables. Cultivation of cassava, oil palm and tomatoes on the subsistence level are mainly done to the north of the community.

Coconut oil processing

Coconut oil processing is not big business in Asanta. Activities are concentrated on fishing and subsistence agriculture.

Livestock production

Almost every household in Asanta keep poultry at subsistence level. Sheep is also reared.

Tourism

There are no hotels and guesthouses in Asanta.

Fisheries

There are 7 canoes in the community with only 2 being seaworthy. None the canoes are powered by outboards. The fisherfolks only use the beach seine net for fishing. It was remarked that many fishermen have been forced out of business due the incidence of algal bloom. Some of the fishers have left the community to seek for jobs elsewhere while others are still idle.

Fish sales are shared among fishers at the beach into three parts. One part is deducted to cover the maintenance of the canoe and gear. The other two parts are shared equally among the canoe owner and the crew members. It was indicated that in the past, only a small part of fish sales was distributed among the crew. The rest was saved and shared at the end of the year. The older fisherfolk remarked that the younger crew members have grown impatient and can no longer wait for receive their money at the end of the year.

Fish landings are mostly smoked and fried. They are then sold in Esiam, Bekwai, Kumasi, Enchi and Agona-Nkwanta.

Environment

The beach front is open with pounding surf. Algal blooms dominate the nearshore areas. Sea turtle nest on the beach around August-September. Dolphins and whales are sighted December and January.

Local Governance and Institutions

The chief fisherman is powerful in regulating activities at the landing beach. There is a CBFMC whose members have received training from FoN. They also participate in FoN programmes. There is no Landing Beach Committee in Asanta because fishers do not use motorised canoes. There is apparent in the tension between the local tradition council and the community members. Residents suspect the Chief and his elders have given permission to business men in Esiam to win sand at the beach. This development is a recipe for conflict in the community, some locals said.

Key Coastal and Fisheries Issues

Decrease in fish harvest

Fishers indicated of dwindling fish landings. They reported that 25-30 headpans of sardinella were harvested per trip about 6 years ago, but it is now difficult to get even 2 headpans. The decline in fish catches was attributed pair trawling, light fishing, increasing fishing effort and algal bloom.

Unsustainable fishing practices

The fishermen expressed worry about some their colleagues using light to fish and its effect on the fishing industry. Though light fishing is not practiced among Asanta fishermen, they alleged that their colleagues for Axim engage in the act in Asanta waters.

Incidence of algae bloom

Dragging fish gear is very difficult because of the presence of the bloom, thereby hindering fishing activities, the fishers remarked.

Exchange of sex for fish

Though the majority of the women say they are not pestered with demands for sex by fishermen, a few said the act exists in the community.

Coastal erosion

Interestingly, the fishermen said construction of the Takoradi Harbour made the community gain about 300 metres of land at the beach. That is the beach front had accreted that much. However, 100 metres of the beach front has been lost due to erosion over the last decade. There was active sand winning on the beach when the research team visited. Truck-loads of beach sand were being carried by tipper trucks. Residents said they do not know from whom or where the perpetrators got permission. They however, suspected the Chief has connived with the drivers (who come mainly from Esiama) to undertake this activity. (*Sand winning is a recipe for conflict in the community*).

SANWOMA (ANKOBRA)

History

History has it that, the hat of the infamous king of the Nzemas, Kwaku Ackah was blown off from his head when he was crossing River Ankobra at the estuary. On getting down from the logs on which he sat to the other side, he was said to have stood there for a moment and remarked “*saanwoma*” meaning ‘its only the wind’. This became the name of the place. Some people simply call the place Ankobra. These two names are used interchangeably.

Physical Characteristics

Sanwoma is on the Ankobra on the main Takoradi-Elubo road. It is bounded on the south by the Gulf of Guinea, east by the Ankobra River, west by Asanta and the north by Nkroful and Salma. The beachfront of the community is sandy and characterized with coconut trees.

Demographics and Settlement Patterns

Sanwoma has a population of about 2000 with women and children constituting an estimated 75%. The people are made up of Fantes, Ewes and the native Nzemas. While the Fantes live among the Nzemas, the Ewes, majority of who come from Popo in the republic of Benin, live at a place called Anlo-Town near the beach. The community occasionally encounters ‘nomadic’ fishermen who use the shores of Sanwoma as landing sites for their expeditions. This, though momentarily, increases the population of the community and has dual implications on the community. The women in the community are mainly fishmongers. Catch of the visiting fishermen are sold to the women in the community. This boosts the economic life of the women as well as the entire community.

There are three main churches in the community. These are the Roman Catholic, the Methodist and the Twelfth Apostolic Churches.

There are two drug stores, a market and a palace.

A few drinking spots dot the community’s landscape.

Houses at Sanwoma are mainly built with raffia palm fronds in neatly demarcated rows making it easy for human and vehicular movements. There is a toll booth on the Ankobra Bridge which oversees the town and many women vendors from the community seize the opportunity to sell food items particularly seafood (squid and shrimps) to motorists and passengers using the road.

Education

Formal education in the community, according to its members, was initiated by one J. A. Atobra in 1936. Currently, there is a kindergaten, a primary and Junior High Schools. The primary and the kindergaten are beneficiaries of the Ghana School Feeding Programme. This, according to the authorities, has increased the enrolment levels of pupils, especially, at the KG.

The performance of the students, however, was said to have gone down. The general results of the students at the BECE level had not been at all encouraging. One major reason assigned to this was the fishing industry. The youth, both boys and girls prefer loitering on the landing sites to going to school. Another reason was the excessive watching of television, films and video games. It was also said that the fathers do not show interest in the education of their children.

They do not even attend Parent-Teacher -Association (PTA) meetings. Everything about the children are left in the hands of the mothers. One opinion leader among the discussants said, "Some parents don't even know where their children sleep".

Health

Though there is no health facility at Sanwoma. The community is very close to facilities like the Axim Hospital. Other accessible facilities are the Esiam Health Centre, Kamgbuli Clinic and the Eikwei Roman Catholic Hospital. The major disease of the people suffer from is malaria. This was attributed to the many breeding grounds of mosquitoes in and around the community.

Water and Sanitation

There are four boreholes and two hand-dug wells in the community. There is no refuse dump in the town and as with many a coastal community, the people dump refuse wherever they deem fit. One major dumping spot is the beach front between the Ankobra River and the sea. The area in question is the landing site of the Fante and Nzema fishermen. This is an eyesore! The community has 16-Seater KVIP toilet. With a population of about 2000, the toilet facility was described as woefully inadequate. The District Assembly had been approached on several occasions on the issue but had been turned down.

Economy

The people of Sanwoma are into fishing and farming, but fishing is the main livelihood activity of the community.

Farming

The farmers grow cassava, maize, plantain, oil-palm and cocoa. Incidentally, coconut is virtually swept off from the community. The Saint Paul Wilt disease which attacked coconut plants sometime ago succeeded in killing almost all the trees. Few plants are found at the beach. At the northern side of River Ankobra, the people grow cocoa and other farm crops. Though the crops do well, farming is done on subsistent basis. There are no commercial farming activities at Sanwoma.

Tourism

The Ankobra River Estuary offers a scenic but boisterous natural scene that can be designed into a regular tourism programme in conjunction with the nearby Ankobra Beach Hotel. There are no tourism sites close by but the people said the upstream of the Ankobra River could be developed and linked with other sites in the Western region. The community spoke of wide stretch of mangroves on both sides of the river.

Fisheries

There are thirty canoes decked on the landing base which is about 120 metres off the estuary towards the upstream of the river. Bigger canoes fish on the sea whilst smaller ones fish on the

river. Fish caught is fried, smoked or sold fresh locally or in Axim, Agona-Nkwanta, Takoradi and Anyinasie. Squid, shrimps and lobsters are fried and sold to motorists and passengers around the toll booth of the bridge. Live crabs from the river are also sold by young boys around the toll booth.

Environment

The mangroves around the Ankobra River are under serious threat. Some gentlemen in the community cut the mangroves, dry them and sell to fishmongers as fuel wood. This is what the women use to smoke and fry their fish. According to one of the practitioners, each of them is able to cut over an acre of land within a year. He admitted that though he knew the harmful effects of their business, they cannot stop because there is no work for them to do. They had employed workers whom they had provided with rain coats, wellington boots etc. to facilitate the work.

Local Governance and Institutions

It was reported that the interaction between the Sanwoma Community and the District Assembly had not been very regular. There was the feeling that the Assembly member is not able to present their concerns to the Assembly in a manner that could bring development to them. There is a chief and a number of elders in the community. There is a chief fisherman but no 'konkonhene'.

There is also no pre-mix committee. The fishermen complained of the difficulty they sometimes go through before they could assess pre-mix for fishing. They at certain times had to buy regular petrol and mix it with engine oil before they could go fishing.

Key Coastal and Fisheries Issues

Decline in fish catch

Fish catch, according to the people had gone down. They attributed this to, among others, the increase in the number of nets and canoes, light fishing and the application of other unsustainable methods of fishing. These were mentioned as dynamite, carbide and DDT.

Incidence of algae bloom

The Ewe community specifically, mentioned alga bloom ('green-green') in the sea as a great bother and a threat to their business. Besides the algae bloom, they also complained of pieces of wood, logs, bamboo and other materials that fill waters in the area around the landing site. These materials, they said come upstream of the river Ankobra and are driven downstream during the rainy season (between May and July) when the river gets flooded. They fill the nets and makes dragging very difficult.

Coastal erosion

The sea, according to the people, had eroded buildings and coconut trees on the shore in the last twenty years. The constant threat posed by both the sea and the river has made some people acquire lands beyond the main road for residential purposes. The town gets flooded at the slightest increase in tides.

Poor solid waste disposal

Most waste in the community is disposed off right on the banks of the river. The intention is to use the refuse as an embankment to prevent both the sea and the river from entering the community. This has rather soiled the beachfront to an unappreciable degree.

Lack of access to credit facilities

The fish-mongers complained of the difficulty in accessing credit facilities to enhance their businesses. They also expressed their dissatisfaction of the attitudes of their husbands and men in general in the community. This was in relation to the upkeep of their families.

Lack of Family Planning services

On the issue of family planning, some women said very few of them are into various forms of birth control. "Most of our husbands are not in favour of family planning", they said.

Transactional sex for fish

Transactional sex, takes place especially among the local girls and the 'foreign' boys/men who, have money on them during bumper fish harvests.

8.0 Rapid Assessment of Coastal Communities in the Western Region: Summary of Findings for the Jomoro District Assembly

Background

This report for Jomoro District Assembly has been prepared through a rapid appraisal conducted in seventeen coastal communities in the district between February 24 and March 16, 2010.

The communities covered were: Avolenu (New Town), Efasu, Mangyea, Enzimitianu, Mpeasem, Buakwaw, Alomatoape, Jaway. Matika, Half Assini, Ekpu, Edobo, Atwebanso, Ahobre No.2, Ahobre No.1, Egbazo, Old Kabelasuazo, Bonyere, Ezinlibo, Allengenzule, Agyeza, Twenene, Kengen, Eloyin, Ngelekazo, Beyin, Ekabaku.

The purpose of this assessment was to generate primary information that will ultimately contribute to establishing the overall baseline coastal conditions for characterization of the coastal communities. This appraisal collected mostly qualitative information and some quantitative data on issues relative to fisheries, community infrastructure, governance and institutions, local habitats and perceptions of resource management.

The research team which comprised five members was divided into two with each team spending an average of one day in each community. Data was collected through focus group discussions, participatory mapping, direct observations and key informants interviews. Information was also gathered from secondary sources to complement the primary information collected.

This report summarises the key findings from the Jomoro District under the topics: Physical characteristics, Economic Activities, Demography, Key Coastal and Fisheries Issues and Community Needs Prioritization.

Profile of Jomoro District Assembly: Brief History

The Jomoro District Assembly was created by the Legislative Instrument (LI) 1394 in 1988, (PNDC LAW 207). It was carved out from the Nzema District; which was made of now Nzema East Municipality, the Ellembelle District and the Jomoro District.

The Physical Characteristics

With a land area of 1,344 square kilometres, Jomoro District is located in the south-western corner of the Western Region of Ghana. Jomoro constitute 5.6% of the total area of the region. It shares boundaries with Wassa- Amenfi and Aowin-Suaman districts to the north, Ellembelle District to the East, the Republic of La Cote d' Ivoire to the West and the Gulf of Guinea to the South.

The district is on a mixture of flat and relatively hilly and undulating landscapes. Coconut trees characterise the 70 kilometre long sandy beaches and hosts a variety of mangroves along the numerous lagoons and rivers in the district.

The estuaries at Old Kabenlasuazo, Enzilibo, Elonyi, Kengen and also the Amanzule Wetlands are a delight to watch

Demographic Characteristics

The population of the Jomoro District Assembly has been increasing over the years. The population of the District grows at the rate of 3.2%. The table below paints a picture of how the population has evolved in the past years to the present time.

Table 1: Population Trends in the Jomoro District

1960	1970	1984	2000	2006	2007
37,682	45,162	70,881	113,348	134,917	139,304

Source: Jomoro District Mid-Term, Development Plan, 2006 – 2009

Increasing population trends was said partly to be due to the stability in the price of copra on the local market which did not act as push factor for massive out-migration.

Another possible factor to the population increase could to be due to the completion of the international highway linking Ghana to La Cote d'Ivoire between late 1980 and early 1990s. The road brought an increase in commercial activities in the district and had therefore attracted outsiders, Ghanaians and non-Ghanaians alike to be permanent residents in the district.

As with the national and regional situations, women, by far, outnumber the men in the district. There is, however, a chunk of the population that falls within the youthful age bracket of between 15 and 40 years. The district is inhabited mainly by the native Nzemas and migrants. The migrants are Fantis from the Central region (10.3%), Ewes from the Volta region (3.9%), Asantis from the Ashanti region (2.8%) and smaller pockets of people of other tribes. The Fantis and Ewes are mostly fisherfolks and are thus concentrated on the coastal belt of the district. It is worthy of note that despite the heterogeneity of the tribes and people, there had been, for a longer period in history, peaceful co-existence among them.

Governance Systems

Local

The District Assembly is the highest administrative and political authority in the district. Under Section 10 of the Local Government Act, 1993 (Act 462) the Assembly exercises deliberative, administrative and executive functions in the district. It is responsible for the overall development of the district. The functions include:

Formulating and executing plans, programmes and strategies for the effective mobilisation of the district's resources

Promoting and supporting productive activity and social development in the district

Initiating programmes for the development of basic infrastructure;
Developing and managing human settlements and the environment
Ensuring ready access to courts in the district for the promotion of justice; and
Co-ordinating, integrating and harmonising the execution of programmes and projects under approved development plans for the district and other development programmes promoted or carried out by Ministries, Departments, Public corporations and other Statutory bodies and non-governmental organisations in the district.

The political and executive head of the Assembly is the District Chief Executive. Under section 20(2) of the Local Government Act, 1993 (Act 462), the DCE is the Chairman of the Executive Committee of the District Assembly and is also responsible for the day-day performance of the executive and administrative functions of the Assembly and the supervision of its various departments.

The Executive Committee of the Jomoro District Assembly, in compliance with section 24(1) of the Local Government Act, 1993 (Act 462) has established the following sub-committees:

Finance and Administration

Works

Social Services

Development Planning

Justice and Security

Agriculture and Environment; and

Disaster Prevention and Management

Under section 25 (I & ii of Act 462,) every sub-committee is responsible for collating and deliberating on issues relevant to it and shall submit its recommendations to the Executive committee of the Assembly.

The Jomoro District Assembly has 10 Area Councils namely;

No.	Area Council	Headquarters
1	Half Assini Area Council	Half Assini
2	Takinta Area Council	Takinta
3	Gwenye Area Council	Gwenye
4	New Town Area Council	New Town
5	Bonyere Area Council	Bonyere
6	Mpataba Area Council	Mpataba
7	Tikobo No. 1 Area Council	Tikobo No. 1
8	Tikobo No. 2 Area Council	Tikobo No. 2
9	Elubo Area Council	Elubo
10	Benyin Area Council	Benyin

Unit Committee

Unit Committees for the base structure of the New Local Government System. They are expected to play important roles in educating and organizing communal labour, revenue mobilisation, ensuring environmental cleanliness and implementation and monitoring of self-help projects. There are 113 Unit Committees in the Jomoro District. *(Source: Mid-term Development Plan, 2006-2009, Jomoro District pp 62-65)*

Traditional

Traditionally, the district has one paramountcy under the Western Nzema Traditional Council. It has its headquarters at Benyin which is closer to the famous Nzulezu Stilt Village.

Economic Activities, Livelihoods and Quality of Life

Agriculture accounts for 65% of the economic activities in the District. This includes crop farming, fishing, livestock and agro-processing. The rest of the population are in the buying and selling business and also in the public sectors.

The farmers grow mainly coconut, cassava, vegetables, oil palm and cocoa, which is found in the north of the district. There are also a cross-section of the people who are engaged in coconut oil processing and livestock rearing mainly in piggery.

The fishermen, on the other hand, do artisanal fishing.

There are three major market centres in the district. These are located at Jeway Wharf, Tikobo No. 1 and Ellubo. As the district has both coastal and inland zones, the markets, which are celebrated weekly and in turns, are usually stuffed with fish and farm products. Typically with the Jeway Wharf and the Ellubo markets, cosmetics and textile products are brought from La Cote D'Ivoire. It must be noted that Ellubo is the official southern entry and exit point to and from La Cote d'Ivoire.

The economy, according to the people in the district, had not been as swift as before. This was attributed mainly to the downturn in the fishing and the coconut industries.

As stated earlier, agricultural production in the Jomoro District in the staples; maize, cassava, plantain, vegetables, etc is at subsistence levels. The major cash crop used to be the coconut. These had suffer major setbacks and had thus brought untold hardships to the majority of the people who heavily depended on farming. At certain points in time, almost every piece of land in the Jomoro District was part of a coconut plantation. This phenomenon reduced the land size left for food crops. The little land left was thence over-cultivated and so lost the relevant nutrients in the soil. The situation is worse in the coastal communities towards the west of Half Assini. The sandy nature of the soil there does not allow the cultivation of any crop. It is worthy of note that greater quantity of cassava, plantain, banana, maize and others consumed by the people in the district are those from La Cote d'Ivoire.

The coconut plantations which once provided a source of livelihoods to a majority of inhabitants in the district have been devastated by the Cape Saint Paul Wilt disease. Several thousands of acres of plantations in the Western Region and for that matter the Jomoro District, have been lost in the last thirty years when the disease started infesting coconut plants there. Some coastal communities, but for the beachfront, have lost every single tree to the disease. The farmers complain that the land of the destroyed coconut plantations does not favour the cultivation of food crops due to the roots of the coconut plants and also loss of fertility.

The rippling effects of the epidemic are that the coconut oil processing industry which was so vibrant in the 1970s has virtually collapsed. This has reduced the livelihoods of mainly women as the oil business was in their domain and control. The other, indirect effect is the near collapse of pig rearing in the district. The main reason to this is that the main feed of the pigs is the coconut chaff, the residue from the production of coconut oil.

Another major economic activity of the coastal zone of the district is fishing. As with the food crop farmers, fishing in the district is artisanal. They use vessels that range from the small sized paddle and service canoes, to motorised canoes. Gears used include lobster net, set net, ali/poli/watsa net, *ali net*, drift gill net, ring net, hook and line, trawl net, purse seine, cast net, crab traps. The motorized canoes use 15, 25 and 40HP outboard motors.

The main species caught include sardinellas, burrito, big eye grunt, bumper, barracudas, ribbon, cassava fish, king fish, tunas, sole, lobsters, shrimps, quid, snapper, sea breams, sting ray, red pandoras, mackerels, atlantic tuna, yellow fin tuna, sword fish, groupers, and many others.

Fish-catch, according to the fishermen, had reduced over the last 20 years. Attributable to this are the general reduction in fish stock, presence of algal bloom in the sea, increase in fishing effort and the use of unsustainable fishing methods like light fishing, carbide and dynamite by some of the fishermen.

The above negative situations have brought about untold hardships on to the people thereby deepening their poverty levels which have subsequently reduced the quality of life of the people.

Environment

Natural Environment

Drainage

Mainly the Tano, Ankasa, Suhwen, Elloin and Amanzule rivers and their tributaries drain the district. The other water body of importance is the Dwenye Lagoon. (*Medium Term Development Plan, 2006-2009, Jomoro District*)

Forests, mangroves, wetlands

The district lies within the forest belt of Ghana. The celebrated Ankasa Rain Forest Reserve, which hosts varied species of animals, trees and birds is in the district. The constant rains are characterized by evergreen scenery throughout the district. The Jomoro District also abounds in large tracks of mangrove forests. These are located on the banks of the various lagoons and rivers in the districts. There is also a large stretch of swampy land which had not seen cultivation due to their water-logged nature. The village on Stilt, Nzulezu, a famous tourism site is located near Beyin in the Jomoro District.

Timber extraction, fuel wood as main source of domestic energy as well as the slash and burn method of farming are gradually having a deleterious effect on the natural environment. Apparently, there are no explicit laws, norms, taboos or regulations that specifically restrict mangrove harvesting in the district. Even where they exist against lumbering, enforcement is very weak so the practice has been 'normalised'.

Biodiversity

The about 50km stretch of sandy beach from Ekabaku to Avolenu is a nesting habitat for world's most-famous species of marine turtles like leatherback, Olive Ridley, and Green Turtles. These are of global conservation interest. Kengen, Elonyi, Beyin and Matika are famous turtle nesting destinations. (Ghana Jubilee Field Phase 1 Development, Draft Impact Assessment, ERM and ESL, 5 August 2009, Section 4, p55)

This presents significant prospects for conservation of endangered species and developing eco-tourism-based-livelihoods.

It was, however, found out that turtles are usually trapped and consumed in the district despite warnings by the Wildlife Division of the Forestry Commission.

Coastal erosion

There is severe coastal erosion in most communities in the district. It was found that within the last fifty years, the sea has eroded an average of about 100 metres. This was evidenced in the removal of between three to five rolls of coconut along the coast as well as the submergence of some houses. The people posited that the coastal erosion was mainly due to the construction of the Takoradi Harbour and Naval Base Wharf at Sekondi.

Commercial sand winning in some of the communities coupled with global climatic changes was also pointed as attributable factors to the problem. In anticipation of possible hazards that the sea may cause, people in some of the communities are being encouraged to relocate and some have even acquired lands towards the north where it was felt safe from the sea at least in the foreseeable future.

The District Assembly, in collaboration with the chiefs of various communities, has issued restrictions to commercial sand winning on the beaches and has also instituted strict measures to deter people from building closer to the beachfront.

Built Environment

Sanitation

The general sanitation in the district is of poor quality. Fewer people have access to toilet facilities. 70.4% have toilet facilities outside their houses i.e. public toilets. The use of bush (under coconut trees) and the beaches as places of convenience is very common. (Medium Term Development Plan, Jomoro District, p 32)

Solid and liquid refuse disposal is largely through unorganised open public dumping again under coconut trees, bushes and water bodies. The filth from these refuse dumps wash into streams and rivers which are sources of domestic water for 20% of the people. This unhealthy situation dispose the people, especially children to various disease infections.

The Eco-brigade division of the National Youth Employment Programme, though is ensuring sanitation, is only at the landing grounds in the communities. They lack the resources and the ability to have much control on the people in ensuring general sanitation in the communities.

Eco-Tourism

The District abounds in a number of tourism potentials. These include:

Beautiful sandy beaches from Ekabaku to Avolenu

Pristine Wetlands at Amanzule (Beyin), Domuli (Old Kabenlasuazo), and Abbey (Jaway Wharf)

Nzulezu Stilt Village near Beyin

Dwenye Lagoon ideal for boat riding

Historical Sites at Beyin (Fort Appolonia), Miegynla, Captain William's Tomb (Half Assini),

Mystery Site (Kengen)

Ankasa Rainforest Reserve and the Ninisuhien Natural Park (13,245 sq. miles)

Festivals

These could be tapped to enhance the socio- economic development of the District.

Land Use

Lands in the district are mainly owned by traditional stools, by clans/families and also by private or individuals persons.

The primary use of land in the district is settlement. Other major uses are for cash and food crop farming, landing sites and for fish processing. Beach resorts, hotels, restaurants and bars are

other uses of land in the district. Quiet a sizeable portion of land in the district is used for educational, health livestock, coconut oil processing and recreational purposes. Mending of boats and other fishing gears, markets, cemeteries and waste disposal are all some of the uses of land in the district. A parcel of land has been acquired at Bonyere for a gas processing plant.

With the oil find in the district, land issues have become very paramount. Lots of oil extracting and haulage companies are clamouring for land, especially in and around the coastal communities for diverse purposes. Land related conflicts are already emerging among various stakeholders of land.

Tullow Oil, one of the oil explorers has announced its presence in the district by providing water and educational facilities and resources to communities closer to the rig. The famous Osagyefo Badge, a complementary energy source is located between Mangyea and Effasu.

Key Coastal and Fisheries Issues in the Jomoro District

Out of the 27 fishing communities Community-Based Fisheries Management Committees (CBFMCs), exists only in two of them. The Committee's role is to address emerging conflicts and other fisheries issues. The emergence of algal bloom in the early 1990's has become a bane to fishing activities. It was obvious from the communities of reduced fish stock attributed, among other things, to unsustainable fishing practices

Fisheries Issues

Declining fish catches.

There was consensus among Chief fishermen, fishmongers, fisheries data recorders, opinion leaders and other key stakeholders regarding the decline in fish catches. It was expressed that quantity landed per unit effort in the artisanal sector has consistently decreased in the last decade. Various reasons were ascribed to this decline. Key among these were increasing fishing effort; practice of light fishing, use of destructive fishing methods such as dynamite, carbide and DDT and high by-catch in the industrial sector.

Use of unsustainable fishing methods

Although most artisanal fishers admitted to the destructive impacts of light, carbide, dynamite and DDT on the fishery, they justified their use of these methods by referring to equally unsustainable practices adopted by semi-industrial and industrial fleets. Hence artisanal fishers expressed their willingness to stop the use of these methods only if pair trawling by industrial vessels and light fishing by semi-industrial vessels is completely outlawed by the government.

Incidence of algal bloom (green, green) in the marine artisanal fishery.

The algal bloom, popularly known as 'green-green', according to the fishermen, was first seen in the sea in 1993. This had, since caused lots of damage to the fishing industry in particular and a negative toll on the socio-economic life of the community in general. The cotton-like material fills the nets thus makes dragging very difficult. It sometimes destroys the nets. There had been

various speculations as to the source of the algal bloom. Most of the speculations point to La Cote d'Ivoire.

Some of this material had been sent to the Centre for Scientific and Industrial Research (CSIR) and also to the Bio-chemical Department of the Kwame Nkrumah University of Science and Technology in Kumasi but nothing had come out of it.

Declining roles of traditional fisheries management institutions

Issues of Fisheries in the district are managed by various chief fishermen and his elders in the individual communities. The traditional role of the 'konkohene', queen of fishmongers, has eroded in recent times. She used to fix prices of fish before they were sold. However, with low fish catch coupled with high cost of fuel and other fishing accoutrements, the fishermen determine their own prices.

Politicization of pre-mix management and supply

Traditional institutions for fisheries management had been infiltrated by politicians and have succeeded in weakening them. Membership to pre-mix fuel Committees are politically influenced and controlled.

Coastal management issues

The day-to-day sanitation on the coastlines is being managed by ZOIL, a subsidiary of the Zoomlion Company Limited. The workers, however, indicated poor conditions of service like non payment of their salaries since 2009. Being natives of the locality, they are compelled to stop the work and engage in farming, fishing and other activities.

Most lagoons, rivers and other water sources enter the sea in the district. These estuaries, especially those that are in the communities had been turned into refuse dumps due to lack of properly demarcated sites for the dumping of refuse.

Another issue of concern in the coastal communities is erosion. This had been attributed partly to sandwinning. According to the people the sea had eroded greater portions of the beachfront of between 50 to 200 metres. This was affirmed by the number of houses destroyed coconut and the size of play ground that had been engulfed by the sea.

Other Development Issues of Concern in Coastal Communities

Inadequate attention to development concerns of coastal communities by district authorities

The coastal communities, one after another, described the interaction between them and the District Assembly as very irregular. They complained bitterly that their concerns are hardly given the necessary attention. The assembly people, they said, are only seen during electioneering periods. "We vote for them, they go and we don't see them again" said one respondent. It was stated that though they were aware of a fisheries officer in the district, his impact on their work is not adequately felt. Furthermore, educational, health, water and sanitation facilities, which are supposed to be provided by the District Assembly, are inadequate in the coastal communities.

Community Needs Prioritization

The following were some key development needs and recommendations to the challenges in the communities as mentioned by key stakeholders at the community and district levels.

- Provision of adequate waste disposal facilities and toilet facilities in coastal communities.
- Government to step up with the research and solution of the algal bloom “green-green” problem
- Support for the re-planting of coconut plantation
- Provision of fertilizer to improve the fertility of the soil to enhance crop production
- Institution of local laws to ban pupils from attending video shows
- Provision of credit capital with minimal or no interest for fishmongers.
- Introduction of equipment for detecting fish harvested through unapproved means.
- Need for government to outlaw the use of inappropriate fishing gears, particularly small mesh sizes.
- Government should consult chief fisherman on regular basis for update on emerging fisheries problems in their areas of jurisdiction and collaborate with chief fishermen to redress such issues.
- Specific sites should be earmarked for pair trawling.
- Diversification of livelihoods, particularly during the lean fishing seasons.
- Banning the use of light fishing methods.
- Implementation of skills training programmes such as hairdressing for particularly the female youth in coastal communities.
- Construction of community centers.
- Expansion of the fishing harbour.
- Need to adapt fishery laws and regulations in Cote d’Ivoire to the Ghanaian context.
- Capacity building of fisher folks on savings and investment.
- Formation and strengthening of CBFMCs in the fishing communities to address fishery issues.

References

Ghana Jubilee Field Phase 1 Development, Draft Impact Assessment, ERM and ESL, 5 August 2009, Section 4, p55)

(Source: Mid-term Development Plan, 2006-2009, Jomoro District pp 62-65)

Medium Term Development Plan, 2006-2009, Jomoro District

(Medium Term Development Plan, 2006-2009, Jomoro District, p 32)

Appendix 1: List of Key Community Contacts

Community	Contact Persons	Position	Telephone Number
<u>Agyeza</u>			
Egya Kabenla Nuri 675199	Nana Kojo Kabenla	(Chief)	0248-616344
	Chief fisherman Isaac Kwansa		020 9646687 0245
Ahobre No 1			
Nana Joseph Anane			0275-080213
Samuel Kwesi			0279-643352
Ahobre No. 2			
Kwesi Sarpong	Assemblyman		0208309429
Nan K. Kaya	Chief fisherman		0540974205
Emmanuel Miah	Headteacher		0279301071
Allengenzule			
Paul Ndah	Chief's palace		0271-202737
Auntie Grace	Chief's palace		0271-638387
<u>Alonmatoape</u>			
John Bismark Ackah	School Teacher		0275271883
Hon Thomas Assuah			0271124645
<u>Atwebanso</u>			
Nana Elea IV	Chief		020-3968071
Egovi Essuah	Tufuhene		020-3968071
Philip Ato Eshun	Pig farmer		020-1922843
Nzeh George	Tailor		0279-316165
Kaku Ackah Mele	Pig farmer		0279-065124
Patrick Yankey	Fisherman		020-7236163
<u>Beyin</u>			
Samuel Kojo	(Chief fisherman):		0247 788133
Kobina Badu	(Fisherman):		0542 486316
Joseph Kojo	(Fisherman):		0540 961102
Bonyere			
Kofi Alia Buah	Fisherman		248 617178
Joseph Nyamikeh	Assemblyman		765100
Mrs. Gifty Erzoah-Bebodu	Assemblywoman		0245 934974
Peter Nweah	Assemblyman		0542 015222
Ekua Kwansima Quansah	(Oil processor)		0275 322229
Nicholas Fenyi	(Oil processor)		0245 463959

Edobo

Helena Arthur, 020 8744046
Josephine Arthur, 0209030783
Olymen Sam 0207031606
Olymen Abdula 0209049564

Efasu

Paul Ndah - 0271-202737 (Chief's palace)
Auntie Grace - 0271-638387 (Chief's palace)
Emmanuel Koomson - 0274-637874 (Outboard motor mechanic/Teacher)
Kwesi Otobil - 0279-065124 (Fisherman; canoe-owner)
Kwabena Yeboah - 0275-235173 (Fisherman; canoe-owner)
Raymond John Mbea - 0272-211730 (Chief fisherman; canoe-owner)
Kwesi Abaka - 0275-940059 (Fisherman)
- 0277-210022 (Assembly-member)
Aba Bosua - 0277-419958 (Konkohene)

Egbazo

Assemblyman - 020 8418963
Isaac Mensah - 0271 630381
Ackah Fobatric - 020 1921319

Ekabaku

Nana Tanoe Blay (Chief) -
Naana Ande Aluwa (Queenmother) - 0542 498830
Noba Amo (Tufuhene) - 0240 668826
Stephen Morkeh (Safohene) - 0248 782590
Stephen Mokeh Adjalu (Opinion leader) - 0245 364189

Ekpu

Mohammed Addoagyiri - 020 8344928 (Chief fisherman)
Madam Rhoda - 0543 258516 (Dept of Fisheries)

Ezinlibo

Tufuhene Monyor Boavo (Traditional Council) 0246 010715
Safohene John Bonyah (Traditional Council) 0240 908508
Hon. Andrew Ackah (Ex Assemblyman) 0240 908508

Matika

Rebecca Yao Women's leader 0279-826673
Twenen
Smart Boadi 054-2876250
Nwole Nda Tufohene 020-7373422
Emu Nda 024-8166670
Emmanuel Koomson 0274-637874
Thomas Alehyele Chief Fisherman 0279-065124

Appendix 2: Description of Fishing Gears

Gear Name (English)	Local Gear Name (A, T, F)	General Description	Species Caught
Drift Gill Net (surface)	Ashekon		Tuna, marlin, sharks
Bottom set gill net	Tenga	This gear is operated by 2-6 crew members. The smallest mesh size is 10mm ² . There are also 20mm ² mesh sizes of these nets. These nets target both demersal and pelagic species. It is made from polyethylene material which could be about 200 yard long and 1.5 yards wide. They are set attached to long bamboo poles which are fixed at the bottom with floats that are sometimes reflectors. It is operated from small and medium-sized vessels. They set off at about 3.00 a.m. and land at 2.00 p.m. the same day. This gear is set for about 3-4 hours before it is hauled. They are employed in the minor season.	All species of fish like kanfla., long finned herring, ribbon fish, thread fin, sardines, anchovies and mackerels, barracuda, Burrito, Bigeye grant, Ilisha africana, oil fish, African threadfin, shine nose, common threadfin
Ring Net/small purse seine	Watse	This net has about 20mm mesh size. It is made with thread. They are used by big canoes, semi-industrial vessels as well as industrial vessels. These canoes usually have a small canoe which carries generators for light fishing. The big canoes have 12-25 crew members. They set off at 5pm and land at 8am the next day. They are employed in the major season. They usually target pelagic species but are able to catch demersal species too.	All species of fish Round\flat sardines
Hook and line	Asosow	It targets big demersal fishes as well as large pelagics. They employ 5-10 crewmen	Red fish, tuna, sea bream snapper, grouper, yellow fin
Beach seine	twuii	They employ 30-40 crew members. This gear is the commonest in the district	Ribbon fish, long finned herring, cassava fish, shrimps

Jomoro District Validation
LIVELIHOODS- ETUKU GROUP (1)

Thematic areas	Timelines	Likely causes	Consequences/ impacts	Governance response
Farming	1983-2010	1. Bush fires. 2. Unreliable weather conditions and change. 3. Depletion of soil fertility. 4. Soil erosion by heavy rainfall.	1. Poor harvest 2. Low income 3. High rate of poverty	1. Fertilizer application on coconut by Coconut Sector Dev. Project (2000-2004)
Hunting	1970-2010	1. Bush fires 2. Extension of farms 3. Continuous overhunting of breeding animals 4. Cutting of trees	1. Poverty to hunters 2. Extinction of some species of animals	1. Occasional ban on hunting by the Ghana Wildlife society and Forestry Dept.
Trading	2000-2010	1. Increase in number of traders 2. High cost of goods 3. High exchange rate 4. High transport cost 5. Low productivity	1. Poverty 2. Low patronage 3. Low incomes 4. High inflation	1. Introduction of micro -financing by some NGOs as well as the Rural Banks
Formal sector	2000-2010	1. Establishment of District assembly, Wienco, ZOOLION, ZOIL, Efasu power plant	1. Industrialization 2. Increase in population 3. Building of hotels	1. Youth employment programmes
Wetlands	1970-2010	1. Cutting of raffia sticks	Destruction of the ecosystem	1. Ban on cutting of sticks with wetlands by Wildlife society 2. Ban on building in water ways by District Assembly
Mangroves	1989-2010	Cutting of mangroves for firewood and buildings construction	1. Decrease in fish stock 2. Drying up of water bodies 3. Treat to fish and other wildlife	Ban on catching of wildlife along the water bodies by Ghana Wildlife society

Thematic areas	Timelines	Likely causes	Consequences/ impacts	Governance response
Fisheries	1967-2010	1.Increase in population and fishing activities 2.Presence of algal bloom in the sea (blue-green) 3.Use of explosives in fishing (dynamite) 4.Cutting of mangroves 5.Use of unapproved nets 6. Pair trawling	1.Low fish catch 2.Increase in poverty	1.Ban on illegal fishing activities 2.Sensitization by GWS on cutting of mangroves 3.Intervention by CRC
Forest	1963-2010	1.Felling of trees 2.Bushfires 3.Farming	1.Low yield in crop cultivation 2.Low rainfall 3.Soil erosion	1.Ban on chainsaw operations by traditional authorities and District Assembly 2.Advocacy on felling of trees by CARE
Beaches	1970-2010	1.Sand winning 2.Oil drilling activities in the sea	Sea reclamation of land (sea erosion)	Ban on sand winning by Assembly
Lagoon	1969-2010	1.Invasion by aquatic weeds such as water lily 2.Deposition of refuse along the sea	1.Drying up of lagoons 2.Low fish catch	EPA working on removing water Hyacinth in the Juen lagoon.
Land use				
Farmland	Fruitlessness (30yrs)	1. Due to the oil find and seepage of oil.	1.Erosion 2.Flood 3.Reducing land mark	No response
Shorefront	About 15yrs	1.Fetching of sea sand for construction 2.Destroying the ozone layer	For recreational centres	1.Using refuse to block the sea 2.Assembly ban people from fetching sand

Thematic areas	Timelines	Likely causes	Consequences/ impacts	Governance response
Education	No specific policy on education since 1987 to date	<ol style="list-style-type: none"> 1. Poverty rate is high 2. Poverty alleviation does not reach the right people 3. Parents are unable to pay fees in second cycle institutions. 4. Parents feel reluctant to pay wards fees 	<ol style="list-style-type: none"> 1. Crime rate went high 2. Standard of living went down 3. Social vices shot up 4. child labour also increased 	<ol style="list-style-type: none"> 1. Free exercise books 2. School feeding programme
Population	1990-2010	<ol style="list-style-type: none"> 1. Teenage pregnancy 2. Migration 3. Gas find and oil find 	<ol style="list-style-type: none"> 1. High price of commodities 2. High crime rate 3. Increase in cost of infrastructure 	
Health		<ol style="list-style-type: none"> 1. People take advantage of health insurance 2. Lack of qualified nurses 3. High doctor-patient ratio 	High mortality rate and loss of lives	<ol style="list-style-type: none"> 1. Health insurance 2. Free birth

Changes.	Causes.	Response.	Impact.	Time.
Trends in literacy education. 1. Literacy level is getting low in the communities.	1. Poor parental control 2. Indiscipline by children 3. Increase in population.	1. Free and compulsory basic education by the government. 2. M.P response in education with financial support.	1. Increment in the level of enrolment in schools at all levels. 2. Increment in infrastructure at all school levels.	1980s to today.
Health 1. Increment in health problems Typhoid-Malaria.	1. Over application of chemical fertilizers in food stuff 2. Mosquitoes. 3. Low level of income to register with national health insurance scheme.	1. Government response by vaccinating and the provision of food items to the people. 2. National health insurance scheme.	Health condition is not getting better	1970 to date.
Poverty/income poverty level was low in the past.	Low fish catch now compared with the past.	Diversify livelihood to the fishing.	Standard of living is getting low.	1970s to today.
Migration more immigration than emigration in the past but the reverse is the case now.	Low level of economic income activities especially fishing activities.	No response.	Cost of housing rentals have gone up due to the mining activities.	1980s to today.
Shorefront	1950-2010	Sand winning on beaches	Washing of houses into the sea	
Mangrove	1992-2010	Cutting down of mangrove for firewood	Dwindling fish catch and drying coastal waters	Friends of the Nation brought gas but they stopped.

Jomoro District Validation

Livelihood -Group 2

Thematic areas	Timelines	Likely causes	Consequences/ impacts	Governance response
Fishing	1992-2010	<ol style="list-style-type: none"> 1. Increase in number of canoes 2. Small sized nets 3. Light fishing, carbide, 4. Pair trawling 5. Cutting of mangrove around coastal water bodies 	<ol style="list-style-type: none"> 1. Reduction in fish catch 2. Loss of jobs 3. High cost of living 	Government has done nothing about the situation.
Farming	1970-2010	<ol style="list-style-type: none"> 1. Loss of soil fertility 2. Presence of oil in the soil 3. The old age of coconut trees 	<ol style="list-style-type: none"> 1. Low productivity of crops 2. Increase in poverty 	No government intervention/response
Trade		<ol style="list-style-type: none"> 1. Demand exceeding supply 2. Competition between the rich and the poor in trading 3. Lack of loan facilities 4. High cost of transportation 	<ol style="list-style-type: none"> 1. Fall in trading activities 2. High cost of living 3. Inadequate care for children 4. Broken homes 	Provision of small loans for micro-finance
Hunting		<ol style="list-style-type: none"> 1. Increase in farming activities 2. High cost of the gun 3. Animal family planning 4. Weak enforcement of laws 	<ol style="list-style-type: none"> 1. Reduction in hunting activities 2. High cost of living 3. Loss of bush meat 4. Reduction in bush meat catch 5. Reduction in animals 	No government response
Formal sector		<ol style="list-style-type: none"> 1. Increase in education 2. Increase in small jobs like ZOIL 	Increase in formal sector employment	ZOIL, Youth employment, Zoom lion etc.
Forests	1970-2010	Indiscriminate felling of trees	Low rainfall pattern and less crop yield	

Appendix 3: Description of Fishing Vessels in the Jomoro District

Boat Type	Local Name(s)	General Description	Gears Used
Small Canoe (motorized)		This type of canoe vessel is approximately 30m long and 2m wide made from a single dug out log. The preferred wood is Wawa. Above the dugout, the hull is planked. Outboard motors of 40 HP mounted on the read right (starboard) side of the vessel. It costs about 5,500 Ghana cedis. These vessels cost approximately 12,000 Ghana cedis.	Drift gill net (surface). Bottom gill net, hook and line, long line.
Large Canoe (motorized) Semi-industrial (wooden)		They use pre-mix fuel. They do purse seining. There are 25-30 crew members. The nets are hauled by man power.	Ring Net/small purse seine Purse seine nets

Annex F: Coastal Village Summaries for Jomoro District



A group of fishermen pulling beach seine net at Ngelekazo
Photo credit: Randolph B. K. Johnson



Coconut Oil processing at Agyeza
Photo credit: Solomon K. Ampofo



Algae Bloom on the beach of Old Kakbenlasuazo
Photo credit: Stephen Donkor

AGYEZA

History

Agyeza literally translates as 'tripple'. That name came about when in the very early days of settling in the community, the very first yield of maize crops cultivated yielded at least three ears per plant. They had first settled at nearby Ehluaketiameso (*to the east*) where there was famine. Therefore after resettling at the present site and harvesting a remarkable volume of yield in "multiple-triples" (*osan-nsa-nsa*), named the place 'agyeza'. That was around 1800.

Physical Characteristics

Agyeza shares boundaries on the East and West by Twenene and Allengenzule communities respectively; on the north by Ahumasuazo community, and to the south by the Gulf of Guinea. The town has a flat landscape with hills towards the north. The shoreline is characterised by a long stretch of sandy open beach with a long stretch of coconut plantations.

Demographics and Settlement Patterns

The population of the town is estimated at 1,000 projecting from the 2,000 national census with a growth rate of 2.2% per annum. Agyeza comprises the native Nzemas and Fantes. The Nzemas are predominantly farmers (coconut, cassava, yam and vegetables) and also engage in fishing. The settler Fantes are mainly fisherfolks though the women do subsistence farming during lean fishing seasons.

During fishing seasons, people from towns (both near and far) rush to the community to buy fish on the beach. (*This increase in population is temporary and normally does not last more than a day and is not peculiar to just Agyeza, but all the other fishing communities in the district*). Many natives of Agyeza live outside the community in urban areas and return home on festive occasions (Kundum, Christmas and Easter), and during funerals. During such periods, population could stretch to about 1,300.

Education

The community has a kindergarten and a primary school. The children attend the Junior High School at Alengenzule which is 3km away to the west.

Health

The nearest health post is at Twenen which is 2km away. According to residents, they are most affected by malaria. This was confirmed by the health personnel at the Twenen Community-based Health and Planning Services (CHPS).

Water and Sanitation

There are three boreholes in the community of which only 2 are functioning. The other one had been out of use for some time now. There were no decent toilet facilities there. The people, however, attend nature's call at a demarcated piece of land beyond the coconut plantation along the beach.

Economy

Fishing in the sea and coconut farming constitutes the main livelihood activities in the community. The native Nzemas are the owners of the coconut which they sell as copra to Nigerian buyers.

There is also the cultivation of vegetables and cassava by the women as a supplement to the incomes of their families and also for domestic consumption.

Algal bloom in the sea has negatively affected fishing activities and for that matter, the economic life of the community. This has brought untold hardship to the people.

According to residents, standard of living has dropped due to low agriculture productivity attributed to depleted soil and decline in fish catches.

Farming

Crops cultivated are mainly coconut, cassava, vegetables in the forested area towards the north. The cultivation of cassava and vegetables is done on the subsistence. Cassava which is a staple in the area has a high commercial value but the long distances and the bad nature of the road that the farmers had to walk to the farms discourages them to do any large scale production. "How much of cassava can I carry on my head and walk for 3 hours to town from the farm?" asked an elderly man. Coconut trees are also not fruiting as much as they used to in the past 10 to 15 years ago. This was attributed to the over-age of the trees and also the decline in the fertility of the soil.

Coconut oil processing

Coconut oil processing business is done on a small scale. Beside of the fact that the coconut trees bear less fruits in recent times, the farmers also sell the copra to Nigerian buyers for ready-cash. The chaff from grated coconut is sold to pig farmers.

Livestock production

The main livestock activity in the community is rearing of pigs. The pig farmers depend on coconut oil processors for chaff which they use to feed the animals. The decline in the oil business has however affected them severely as they complained of not having enough money to feed them on wheat bran and other feeds. Few persons rear sheep, goats, chicken and ducks on a very scale.

Tourism

There are no hotels or lodging facilities in the community. The nearest is in Tikobo No 1 (approximately 14km away). There is a new resort under construction at Beyin.

Fisheries

There are 20 canoes in Agyeza. Sometimes canoes from other communities land their catch there. Canoes have varied crew sizes of 12, 6 or 8 respectively. Some canoes use outboard motors while the 'tweeyee' (dragnet) fishers use paddles.

September-December and February are the periods the fishermen experience bumper harvest but the 'green-green' is preventing them from catching fish as it fills the nets.

Fishermen here are of the opinion that volumes of fish in the sea has not reduced, but rather more fishermen with all sorts of gadgets are chasing the same number of fish.

As pertains in some other coastal communities, fishing is done all year-round with neither off-seasons nor traditionally forbidden day(s). Major fish species caught in the major (August-November) are from the sardinella species (*Eban*).

Women in the community buy fish for processing and sale from the Fante and Nzema fishermen. The market destination is usually Tikobo Number One and Anyinasie. The women buy the fish with ready-cash. They are sold to them on credit only during major seasons when there is bumper catch.

Fish-mongers want money to invest into their fishing business (wire mesh, headpans and cold store) but have no access to financial assistance.

One woman complained "there are no toilets in the community; we go to the same place as the men do - in open spaces".

Environment

Sea turtles come to lay eggs on the beach around August-September. Lagoons to the sides of the community sometimes join the sea. Dolphin and whales come to the shore from time to time. This according to the people is an omen for good catch.

There is a spring of water that is in the sea, sometimes covered by the waves and yet not salty and good for drinking during low tide. It not salty!

Governance and local institutions

CBFMC has not been formed in the community neither do they have any Landing Base Committee. There is a chief fisherman. Though they had a pre-mix depot, they had not received any pre-mix for the past one year.

Key Coastal and Fisheries Issues

Decline in fish catches

The fishermen have to use larger and larger nets now. They say "we used to cast 300-350 measures of net but now, we cast between 800-1000 but fish size has reduced and population has increased".

Fish catch have declined considerably. They used to harvest about 15-50 headpans after each trip 10 years ago but it is now difficult to get even a head pan.

The research team from met a group of 20 fishermen who had spent 3 days on sea but came home with just a bowlful of crabs and fish (*just enough for a meal for 2-3 persons*).

Decline in fish catch is attributed to 'green-green', light fishing and pair trawling. Fish species like *saka*, *opaa*, *odwedeyee* and *ekwantia* are hardly seen nowadays. Shrimps and lobsters are however gotten during the lean seasons around the rocky portions in the sea.

Illegal fishing activities

The fishermen expressed concern about the effects of light-fishing on the industry. They do not use to do it but may soon join in order to earn some money to make ends meet. Others from as far as Axim come to carry out light fishing in their waters.

Algal bloom

Fishers call algal bloom 'green-green' and say it is destroying their nets and preventing them from catching fish. Its proliferation in the sea has rendered fishing in the sea profitless because no much fish is caught. It destroys the nets. Fishermen say the 'green-green' came from the west more than 10 years ago.

Exchange of fish for sex

There was confirmation of 'sex for fish' activities on the beach though not on a large scale.

Accessibility to premix

Premix fuel is bought from Half-Assini. "We have to go and buy it at almost triple the price at Half-Assini from 'connection men'". They also buy regular vehicle fuel from the filling stations which they mix with engine oil themselves to power their outboard motors.

Coastal erosion

The sea has eroded the shore to as much as about 80 metres since the past 15 years. Many houses and rows of coconut trees on the beach have gone. Annually, about two more rows of coconut trees are washed away.

AHOBRE 1

History

Ahobre No.1 is mainly occupied by Fantes with a few Nzemas. The Fantes recounted that their ancestors were the first settlers in the community, hence the name *Ahorho bea* which literary means 'place for visitors' in Akan. They say this happened over 70 years ago. A smaller group later left Ahobre No I and founded Ahobre No II, a community.

The native Nzemas also have another story to how the community got its name. They claim it was named after the nearby River Ahobre.

Physical Characteristics

Ahobre No I share boundaries on East and West by Egbazo and Ahobre No. 2 communities respectively; on the north by Takinta, and to the south by the Gulf of Guinea. The town has a flat landscape with no hills or valleys. The shoreline is characterised by a long stretch of sandy open beach full of coconut trees.

Demographics and Settlement Patterns

The community is predominantly Fantes whose grandparents settled there so many years ago. The population swells slightly periodically in response to festivities and sometimes bumper fish catch when migrant fisher-folk go there.

Education

The community has no school. Children attend Primary and JHS in Ahobre No. 2, about one kilometre away. This situation has resulted into many school-going age children staying out of school. The community needs a nursery for the younger children as they cannot walk to Ahobre No 1 with the bigger children.

Health

The community has no health post. There is a Community Health Planning and Services (CHPS) Compound at Ahobre No 2. The common disease in the area is malaria.

Water and Sanitation

The community has 2 boreholes. There are however no toilet facilities in the community. The people have demarcated an area among the coconut trees close to the beach where every person is permitted to use as toilet. 'Zoil' Eco-brigade cleans the beaches and enforces sanitation regulations in the community.

Economy

The people of Ahobre No. 1 are predominantly fishermen. They are also engaged in cultivation of cassava on the subsistence level. Farming is mostly done during the low fishing seasons.

Fisheries

Fishermen in the community mainly use beach seine net. There are 9 canoes with each one carrying about 10 members of crew per expedition. Major fish species caught are of the sardinella species, *sukwej*, *edoe*, *nkafran*, *ntatamere*, *kokotoei* and *dwedei*.

Fish harvests are mainly smoked and sold at Tikobo Number One, Ainyinasi and Agona-Nkwanta.

Revenue accrued from fish sales are divided into two after the all expenses have been deducted. One portion goes to the canoe owner and the other portion goes to the crew. But among the “tenga” operators, the fish is divided among the crew members after necessary deductions to cover inputs like fuel; canoe and net maintenance are made.

Governance

The chief fisherman doubles as overseer of coastal issues as well as the head of the community. He rules with selected elders. The community has neither a CBFMC nor a Landing Base Committee. There is no pre-mix committee or depot.

Key Coastal and Fisheries Issues

Decline in fish catches

Fishermen lamented about declining fish catches. They attributed this to bad fishing methods like pair trawling, light fishing and application of chemicals like carbide and dynamite. They also mentioned algal bloom as contributing to the decline in fish catches. Fishermen now go very far in their fishing expeditions compared to 10 years ago.

Illegal fishing activities

Fishermen complained about the effect of light-fishing on their work. Use of light in fishing has badly affected fish catches as it attracts all the fishes (both juveniles and matured). They complained that enforcement of the regulation against light fishing is not actively carried out.

Algal bloom

There is proliferation of algal gloom in the sea which fills the fishing nets and makes them heavier to pull. This destroys the nets and no fish is caught. They mentioned that they started seeing this “green green” about 15 years ago.

Lack of credit facilities

Fish mongers complained of no source of formal credit except from their own friends and family.

They confirmed that there are instances where some women in the community traded sex for fish.

Coastal erosion

The beach front has eroded about 50 metres since the past 20 years ago according to community members. They could not assign any reason to this phenomenon.

AHOBRE 2

History

The Nzemas say that the community was named after the River Ahobre whilst the Fante settlers whose grandparents came there over 70 years ago, contend that their ancestors settled there before the Nzemas and named the place '*ahorho bea*' which translates 'place for visitors' in Akan. The Nzemas say they named it after the River Ahobre.

Physical Characteristics

Ahobre No. 2 is bounded on the East by Ahobre No.1, West by New Edobo, on the north by Takinta, and to the south by the Gulf of Guinea. The town is on a flat landscape with no hills. The community is surrounded by coconut trees both on the long stretch of sandy beach in the north. The Ahobre lagoon lies close to the community on the west.

Demographics and Settlement Patterns

The community has an estimated population of 7,000. This is projected from the census held in 2000 when their population stood at 4000. The main ethnic groups are the native Nzemas, and Fantes. The Fantes are settled along the landing beaches in houses built from raffia palm fronds and roofed with thatch. According to the Chief fisherman, because of the 'green-green', many Nzema youths who work on the beaches as helping-hands during fishing expeditions have left the community for 'greener pastures' elsewhere. "*They want 'greener pastures, not green-green'*".

Education

There is a basic school (primary and Junior High School) in the community. These schools also serve Ahobre No. 1 and Egbazo communities. It was established in 1960 and has an enrolment of 149 pupils. The male/female ratio in the primary school is about 1:2; however, as they move to the Junior High School, the situation reverses. Most of the girls drop out of school mainly due to poor parental supervision and teenage pregnancy. The academic performance, according to the teachers had gone down compared to 10-20 years ago. This was attributed to the fact that the pupils do not take their studies serious. They also mentioned that the pupils concerned themselves with entertainment rather than studies (watching TV and playing computer games etc.) There was an argument between two schools of opinion about childcare in the community. One group said the children are not well-supervised by the responsible adults, whilst the other group said the children themselves go chasing fish and money by working at the landing bases during the seasons (June-September and January-February) and therefore place no value on education.

There is an uncompleted school library building project and an abandoned toilet facility in the school.

Health

The community has a health post. The common disease in the community was said to be malaria due to poor sanitation facilities.

Water and Sanitation

The community has one borehole. There are no constructed toilets whatsoever in the community. People just go into the coconut plantations or into the wild to relieve themselves.

Economy

The people of Ahobre No. 2 are predominantly fishermen. They are also engaged in the cultivation of cassava on the subsistence level. Farming is mostly done during the low fishing seasons. The fishermen declared that quality of life had reduced due to poor fishing seasons. Farm produce had also reduced and had created harsh and poor standard of living.

Fisheries

According to the chief fisherman, there are about 40 canoes in the community. There were about 12 big motorised canoes and other small ones. He said they used “*watse*”, *tenga*, *twuyee*’ and others. The biggest motorised canoes contain a crew of about 60 whiles the ‘small ones’ had between 30 and 40 members.

Fish caught in the community includes *anvolo*, *ekan*, *abonyin*, *ndadamele*, *ela*, *kwasele*’ etc. He indicated that all these fish have no specific period for their catch and that they are caught as when they were found. Major fishing season is June to September whiles the minor season is from March to May

Fish sales are divided into two after all fishing expenditures had been deducted. After the deductions the money is shared equally between the canoe owner and the crew. There are instances where the owner of the canoe goes to sea with them and therefore takes part in the share of the crew.

Environment

They said sea turtles come to nest on the shore around June to September. Previously they caught and eat them but now for the laws and watch-dogs in the community they have stopped that. They also pointed out that whales do appear in the sea and sometimes come closer to destroy their nets during the major fish seasons.

Governance and Local Institutions

Governance of the community rests on the chief and his elders. There is a chief fisherman who enforces law, order, and sanity of the landing beach and fisheries issues in general.

There is no CBFMC, pre-mix committee or a Landing Base Committee in Ahobre 2. The community members interviewed said they do not feel any connection between them and the District Assembly. The Assembly-member had never stepped in the community since he was elected in August 2006.

Key Coastal and Fisheries Issues

Decline in fish catches

The fishermen narrated that in the past their parents used basket for fishing in the sea. This was as a result of abundant fish in the sea. However, they indicated that there has been tremendous change in fish catch. They also mentioned light, pair trawling, dynamite, carbide as fishing methods which had reduced fish stock and algal bloom.

Algal Bloom

The people saw the 'green green' in 1993 and had since been a great worry to the fishermen. The algal gloom fills the nets and makes them difficult to pull. It often times destroys the nets resulting into low or no fish are catch.

Accessibility to premix

The fishermen had no problem in getting premix fuel for fishing.

Coastal erosion

According to the fishermen, there had been drastic change in the shoreline. To them the sea has eroded about twice a football field. Their perception on the erosion was that there is no sea defence while other buildings were built closer to the coast. There had not been any major development on the coast.

ALLENGENZULE

History

Allengenzule means 'crocodile river' in Nzema coming from the combined words *alegen* and *nzule* which means crocodile and water respectively. Two hundred years ago and led by chief Gyangué I, the people settled near the river which was full of crocodiles; thus the 'evolution' of the phrase 'crocodile river'. This became the name of the community. Peculiarly; it is a coastal community where commercial fishing does not take place. There is only one small canoe in the community.

Physical Characteristics

Allengenzule is coastal community on hill about 50m above sea level. It is bordered on the south by the sea, on the west by coconut plantations and Enzinlibo. Towards the east the land slopes to border with the Agyeza community. On the north are farmlands, coconut plantations and forests to share boundary with the Allowuley community.

Demographics and Settlement Patterns

The community comprises solely of the native Nzemas, probably due to the fact that there is neither fishing nor any economic activity that normally attract outsiders to places. Many people there once lived in other urban centres like Kumasi and Accra. The population of the community is estimated to be 800 with the females slightly more than the males.

Education

The community has one basic school- a primary and a Junior High School with an enrolment about 135 pupils.

Health

The Allengenzule community has no health post. The nearest health post is at Twenene about seven kilometres away. It is there that they go for all their health needs. There was no peculiar disease besides malaria.

Water and Sanitation

There are no constructed toilets in the community and so the people resort to the beach and also under the coconut trees to the north of the community. There are three functioning borehole water sources in the community.

Land Tenure

The lands in community are mainly family-owed and so farmed on by the owners. A few farmers hire portions of land from others for farming. The tenant farmers either share the cultivated land into two or share the proceeds accrued from the farm. There is always a mutual agreement.

Economy

Farming is the main activity in the community with coconut being the dominant crop. There is also a sizeable quantity of palm trees though not in plantations. There are vegetables, cassava, plantain and other food crops. All these are on a small, subsistence scale.

Though there is only one canoe in the community, algal bloom in the ocean has affected the rather small scale fishing activities.

Farming

Crops cultivated as mentioned above, are mainly coconut, cassava, vegetables. Coconut plantations are on the beaches and on the outskirts of town.

Farmers complained of over-cultivation of farmlands which has affected fertility of the land. The over-aged coconut plantations (estimated at 100+ years) has affected the yield. Cassava, vegetable cultivation has also been affected because they are mainly cultivated in rows within the coconut plantations.

Coconut Oil Processing

Coconut oil business is on a small scale. Coconut farmers sell copra to buyers who export them to Nigeria and other neighbouring countries.

Livestock

Few persons are into the rearing of goats, sheep and fowls for domestic consumption and also for sale on 'rainy days'.

Fisheries

There is only one canoe in Allengenzule. It is lying abandoned on the beach because the *algal bloom* has forced all fishermen to leave the area. Once in a while, fishers from elsewhere come to land their catches on the beach. The people said others come to fish in their area at night. Some come from far away Axim to fish and return on the same day.

Tourism

There is no hotel or commercial lodging facility in the community.

Environment

Sea turtles come to lay eggs on the beach around August-September while Dolphins and whales come around from time to time. There also exist crocodiles in a river far away in the forest.

Governance and local institutions

The community has a chief who, together with his elders, gather the people to undertake communal activities and also ensure peaceful co-existence.

As there is virtually no fishing activity in the community, neither CBFMC, a Landing Base Committee nor a pre-mix committee exist in Allengenzule.

There are no formal associations or institutions in the community

Key Coastal and Fisheries Issues

Decline in fish catches

Fishing in the past was vibrant but now all fishermen have left for other places partly because of algal bloom and lower fish catch.

Illegal fishing activities

Fishing boats and pair-trawlers come so close to the shore to fish at night. Community people see them in the night but since they are not fishers, they 'do not care' about their activities.

Algal Bloom

'Green-green' has paralyzed fishing into non-existence in the community. Community members do not know the source of it but says it appeared more than 10 years ago. It has made the beach unsightly and ugly. (This material turns white when it becomes dry and the texture is like that of cotton wool).

Coastal erosion

The beach front has eroded about 100 metres since the past 20 years ago. It could be equated to one soccer park's length according to a group of females (traders, fish sellers and farmers) met by CRC-ICFG/FoN).

ANLOMATOAPE

History

After many years of wandering during wars, a group of tired people arrived at the present day site of the community sarcastically saying that, 'aloma toa ope' which in Nzema means "no matter how high a bird flies, it will surely perch". They settled at the place and the statement evolved into the name of the community - Anlomatoape. The people present could not determine when this took place though they said was a very long time ago.

Physical Characteristics

Alomatoape is a coastal community with sand all over the place. It is bordered with coconut plantations all around except on the seafront. The west is also bordered by a lagoon beyond which there are coconut plantations. The Ehuroti lagoon to the east of the community is fished once in a year as decreed by tradition of the community. According to the community, water of the lagoon had reduced within the last 5 years.

Demographics and Settlement Pattern

The community has Fantes, Nzemas and Anlos. The Anlos have been here for over 10 years whilst the Fantes have been here for over 65 years. There are cordial relationships amongst all the tribes. This is evidenced in inter-marriages and other forms of social and economic relations among the people.

Education

There is one basic school thus, KG, primary and JHS at Anlomatoape. The schools lack good supplies of teaching and learning materials. According to the fishermen, the standards of teaching and learning at the stages of the School have reduced to the effect that they were withdrawing their wards from the school to schools in Half-Assini and elsewhere. Attendance to school by both teachers and pupils is not regular. There are no living quarters for the teachers nor electricity in the community so the teachers prefer to live in Half-Assini. The teachers end up coming to school late.

Health

There is no health facility in the community. They go to Half-Assini for all their medical services. According to the people, the commonest disease that affects them is malaria which they attributed to the lack of proper sanitation.

Water and Sanitation

There are two hand-dug wells and two boreholes in the community. There are no toilet facilities; they go everywhere to ease themselves except the beach because the practice had been prohibited by the team from the eco-brigade.

Economy

There are fishers and farmers in community. The farmers cultivate cassava, coconut, maize and tomatoes. The coconut trees, they said do not yield as much as it was 30 years ago. Tomato farmers have resorted to cultivating a species from Cote d'Ivoire that is smaller in size but sprouts plenty. In the past, they used to spend 15 weeks picking up the copra. Now the same farm size is done in only 2 weeks. They used to eat the maize they harvested till the next season but now it lasts for a few months due to lower yields and also more mouths to feed.

Fisheries

The fishing business according to them has deteriorated. Reasons given to this was partly due to bad fishing practices by both locals and foreign fishers.

They catch *ekooko*, *ebue*, *ekan*, *eban* and shrimps. They also catch sharks or *sine*. At a point in time they had 50 canoes but now, they have only 5. There is a traditional law that allows fishing in the two lagoons to be done only once a year. Those flout the law are sanctioned.

The Anlos use dragnet whilst the Fantes use *watse* and outboard motors for their fishing activities.

There were many instances where bigger fishing vessels dragged away the nets of artisanal fishermen. In 2009 a total of 32 nets were dragged away or destroyed. The perpetrators were said to just pick out the lead/weight on the nets to sell and throw away the nets.

The crew on each boat was 4-5 for dragnets and 30 to 60 for motorised boats.

During August there is an increase of canoes and fishermen. They see turtles regularly but do not touch them for fear of being arrested. (*There is a veterinary officer at Half Assini who checks if a turtle died through natural causes or was strangled to death*).

Formerly tall trees far away in the forest belt were used as navigation pointers for landing but those trees have been felled so they use the navigation points of neighbouring towns. The commonest they use in recent times are the masts of various telecommunication companies. They go as far as 80 nautical miles.

The Fante fishermen share the proceeds from their expeditions once a year. They usually travel to their home towns yearly for the purpose. One boat owner said the rationale was to have the parents of the crew, who usually young men had to be present during the sharing as permission was sought from the parents before they were taken away. It is the happiest moments of the year. Proceeds are divided into two after all cost incurred in an expedition are deducted. One half is given to the owner of the boat while the crew takes the other half. The crew spoken to later expressed their satisfaction of the practice.

Governance and local institution

The community members interviewed said they had been neglected by District Assembly for a very long time. They complained of the ineffectiveness of both the Assemblyman and MP. "They only come here when there were going to be new elections", the people said.

There is neither a pre-mix committee nor any formal association in the community

Environment

Dolphins and whales periodically sighted in the ocean. The roosting of turtles on the shores of Anlomatoape is a commonplace.

Key Coastal and Fisheries Issues

Algal bloom

Algal bloom mostly disturb the Anlos because they use drag net. It fills their nets which make difficult to drag ashore. It sometimes tear the nets so had been a source of great worry to them. This they said had been seen for the past nine years and usually comes soon after Christmas. They were of the opinion that they were industrial waste thrown into the sea by textile manufacturers in the Ivory Coast after they had produced lot textiles for the yuletide.

Coastal erosion

The sea has advanced inland due to erosion. The community thinks the creation of the main and the fishing harbours in Takoradi caused it. They think the situation will be worse in twenty years to come.

There no commercial sandwinning done in the community. It had been banned.

Trade of sex for fish

Fish is sold on credit only during bumper catch and/or when there are few buyers. This situation promotes 'sex for fish'. One woman said the practice was preferred to going hungry.

A bowl of fish used to sell for GHc25.00 some few years ago but now the same quantity sells at GHc100.00. This makes it difficult for the women who are not economically well-off to be business especially in the lean seasons.

Family planning

Women in the community have no power in sexual negotiations with their partners. They also hardly practice birth control. One woman has 9 children. Another has 5 and her fisherman husband is pressurising her to have more. The women interviewed said they cannot say no because they depend on the men. Many other women in the community expressed similar sentiments about their situation.

Accessibility to premix

Premix is accessed from Half Assini. This sometimes sold at night and gets finished by morning. They then had to buy from middlemen at almost double the price. As a result of this fishermen cannot afford to buy enough to fuel their canoes especially now that they have to go so deep to catch fish. They said the catch that 5 gallons of fuel could give them, now not even 20 gallons is able to do that.

ATWEBANSO

History

Atwebanso translates as “the wall of the *atwea* clan”. During the Nzema wars against the Aowin people, the great Kaku Ackah who was the chief and war leader pitched his military camp at the place which was then a forest. The name evolved from “*atwea fo banso*” in Nzema meaning ‘where the *atwea* has its wall or camp’ to Atwebanso as we have it today.

Physical Characteristics

Atwebanso is a coastal and sandy community with the sea lying to the south. The north has the major trunk road that runs from Half-Assini to Tikobo Number One. The community has a mixture of rural and urban ambience due to its closeness to the District capital. The heavily forested *Eleshiala* swamp river forms the northern boundary of Atwebanso lands. The east is bordered by the *Anyeko* lagoon after which are coconut plantations. The west is also bordered by the *Tandan* lagoon beyond which there are coconut plantations. The coast which is a flat sandy stretch of land is dotted by pig sties and huts which are ‘camps of nomad fishermen’ who only return during fishing seasons. The beach has a carpet of algal green destroying the otherwise beautiful scenery.

There is a directive from the Traditional Council that no trees should be fallen from along water bodies to which those who fell foul to the directive were reported to the paramount chief (Omanhene) at Beyin.

Demographics and Settlement Patterns

Atwebanso has a population mix of the indigenous Nzemas, Fantes and Ewes. The **Nzemas** are predominantly farmers (coconut, cassava and vegetables) whiles the **Fantes** and **Ewes** are fishermen. There are inter-marriages among the ethnic groups which connotes peaceful coexistence. There are about 120 houses with an average of 7 persons in a house. The females, as in the case of the district situation, outnumber the men.

Education

The community has one JHS which is in a deplorable state. The results of the BECE, as observed by the people, have been going down year after year in recent times. The gathering argued that parents shirk their supervisory roles and allow their wards too much ‘freedom’; therefore they latter do not study but rather indulge in watching films and other forms of entertainment and also in promiscuity.

There is no kindergarten. Construction of community primary school is near completion.

Health

Incidence of teenage pregnancy in the community is as high as 40% annually according to the people at the gathering. Atwebanso community has no health post. The community is periodically visited by the Community Health personnel from Half-Assini and Ahobre No. 2 to provide services on Maternal and Child Health (MCH). All other health problems are sent to Half-Assini which is about 7 kilometres away.

Water and Sanitation

There are two 16-seater KVIP toilets in the community. People also attend nature's call among the coconut trees to the sides of the community and also in the wild to the north because of the inadequacy of toilet facility. Zoomlion's Eco-Brigade presence in the community however ensures that the beach is not desecrated with faeces.

There are 3 hand-dug wells in the community. These dry up during the dry season. There are also 3 boreholes fixed with a manual pump but only one is in good shape. There is no Water and Sanitation (WATSAN) committee to run affairs of water and sanitation in the community.

Economy

Marine fishing and coconut farming are the main livelihood activities in the community. Economic activities (fishing, farming and petty trading) in the community have very low in recent times due to a number of factors.

Farming

Crops cultivated are mainly coconut, cassava and vegetables. The cultivation of cassava, oil palm and tomatoes are at the subsistence level. These are done mainly to the north of the community towards the direction of the Abbey lagoon. Coconut plantations are also found on the beaches and on the outskirts of town.

Farmers complained of over-cultivation of farmlands which has affected fertility of the land. The coconut trees are said to be very old. Some are estimated to be over 100 years. This has definitely affected the yield.

Cassava and vegetable cultivation have also been affected. These are planted on the same soil that the coconut grows. The soil, they said has lost its fertility. The farmers believe productivity can improve by the application of fertilizers but, they are unable to purchase them because they are expensive.

Coconut Oil Processing

Coconut oil processing business is not as brisk as it used to be in Atwebanso. Coconut farmers also sell the copra to the Nigerian and other buyers for ready-cash rather than to the local processors who usually buy on credit.

Livestock

Pigs are reared the community with three sties sited close to the beach. Others are sited among the coconut plantations to the west end of the community. Few persons rear chickens, ducks, sheep and goats in their homes.

There are two ponds of fish in the community.

Fisheries

There were five canoes on the shores of the community with two being itinerant. They do not use outboard motors to fish in the community. They practice only the 'twuyee' or dragnet (beach

seine). Algal bloom has forced many fishermen to leave the area. There are currently only three medium-size (*approx 8m*1m*1m*) canoes left.

Some fishermen come from faraway places to practice light fishing in the waters. They attested to the fact that trawlers come very close to their shores at night to fish.

September-December and February is the period for bumper harvest but the 'green-green' is preventing them from catching fish as it fills their nets.

Fishing is done seasonally though there are no official off seasons and no traditionally forbidden day(s). Major fish species caught in the major (August-November) are from the sardinella species (*Eban*).

The lay system reported was as follows: After the deduction of the production cost, the remainder is divided into two. One half goes to the owner of the 'company' while the second half goes to the crew.

Some portions of the catch are also given to some recognised members in the community like the chief.

Environment

Sea turtles come to lay eggs on the beach around August-September. Lagoons to the sides of the community sometimes join the sea especially during the rainy season.

Governance and local institutions

There is no regular rapport between the community and the District Assembly, nor the elected officers (Assembly-member nor MP).

Fines are imposed on environmental law breakers and even report troublesome cases to the *Omanhen* of the Western Nzema Traditional Area in Beyin.

Though there is a chief fisherman and his female counterpart (*konkohen*), there is no CBFMC or Landing Base Committee in Atwebanso.

There is no pre-mix committee.

Key Coastal and Fisheries Issues

Decline in fish catches

There are only three fishing canoes operating in the community though fishers from elsewhere once in a while land their catches there. "Fish catches used to be plentiful but now, there had been a great decline", they say.

They said they used to see fish even from ashore but now, it is not so anymore. Fishermen used to harvest between 10-15 headpans after each trip 10 years ago but it is now difficult to get even one.

Illegal fishing activities

"Fishing boats and pair-trawlers come close to the shore they destroy everything.

Fishermen expressed worry about the effects of light-fishing. They do not understand why the law is not being enforced.

Algal bloom

'Green-green' is preventing us from catching fish".

The algal bloom in the sea has rendered fishing in the sea profitless because no much fish is caught. It also destroys fishing nets. Fishermen do not know the source of it but says it appeared more than 12 years ago.

Access to loan and credit facilities

The major problem complained of by the people was lack of credit or loan facilities. With the depletion of fish stock and low agricultural produce, the people expect to access loans to enable them diversify their sources of livelihood.

Coastal erosion

The beach front has eroded about 400 metres since the past 20 years ago. It could be equated to the length of four Football Parks. "The old community is far in the sea" said the chief and his elders.

Accessibility to premix

The fishers here do not use pre-mix fuel.

AVOLENU/NEWTOWN

History

Avolenu which is also known as Newtown has been an official border town since the 1970s. It serves as a departure and entry point for travellers going to and coming from La Cote d'Ivoire from the Customs and Immigration outpost.

Physical Characteristics

The community is the south-westernmost community in Ghana. It is peninsula which is hemmed in by the sea on the south, and the lagoon on the west and north. It has a sandy beach with the same soil type prevailing throughout the community. The north and west is bordered by the Abbey lagoon. There is major untared road running from Half-Assini through the centre of the community. To the east of the community are coconut plantations and the Efasu community. The coast has a flat sandy stretch of a beach overlain by a carpet of algal bloom.

Demographics and Settlement Patterns

The population of the community is estimated to be around 2000 based on the 2000 population census. There are Nzemas, Ehy, Ewe, Fantes and a few persons from many other ethnic groups living in Avolenu-Newtown because of its strategic position as a 'border town' with an official immigration embarkment and disembarkment point out of, and into the country. During elections, people travel with boats from across the lagoon to come to vote in Avolenu.

Education

There is a basic school in the community.

Health

There is a CHPS compound in the community. However, the nearest reliable health post is the Half-Assini Government Hospital which is about 18km away to the east. Community Health nurses regularly visit the community to administer Maternal and Child Health (MCH) services to mothers of young children and pregnant mothers. The most common disease is the malaria. There is one drug store in the community.

Water and Sanitation

There are two boreholes in the community. There are also 4 hand dug wells. There is 1 KVIP which is inadequate for the whole community. Some few inhabitants have household toilets but majority use the coconut plantations along the fringes of the beach as their place of convenience.

Economy

The main occupations in the community are farming and fishing. They cultivate coconut, cassava. They say the yield is not as much as it used to be which they attribute to the presence of oil under the soil. They say that a pipe has been laid under the river and it brings out oil. When the fishermen do not catch anything, the whole community becomes quite as it is the backbone of economic activities. There are a few persons who indulge in petty trading in consumables. There are three drinking bars and 2 eating places (chop bars) apart from many roadside food sellers. The community is relatively busier because of its position as a crossing point. Foreigners are constantly present in the community either on their way out or into Ghana & this is positively exploited by the women food vendors who do brisk business. The youth & young boys ferry people across the lagoon for a fee of Gh50p per person. They said quality of life in the community has reduced totally due to the changes in their occupation. The farmers said they are experiencing low yield due to infertile land because of over-utilization since there are no extra lands to farm. The coconut farmers sell to Nigerian buyers rather than local oil processors. This is because the Nigerian businessmen pay ready cash to get the coconut whilst many the women oil processors would rather buy on credit it due to fact that they do not have money and cannot access any financial assistance from any quarter. Fishermen are also out of business due to the presence of the Algal bloom. Some indicated the difficulty in caring for their families.

Coconut oil processing

The coconut oil business has gone low-key because the women cannot easily access the raw material as pointed above. Moreover, there are more refined, attractively packaged and relatively low-priced alternatives on the market like *Dinor, Frytol and King's*.

Livestock production

A few community members keep domestic animals like goats, sheep and chicken for domestic or subsistence reasons. But sheep and goat are regularly fallen upon for sale to raise funds to meet emergency situations.

Tourism

There is no hotel in the community.

Fisheries

The main fishing season is around July and November and lean season is from May to July. They practice drag net fishing. Types of fish they catch include *epae, eban, akole and others*. They fish on both the sea and the lagoon. Periodically, some even go and live and undertake fishing in nearby La Cote d'Ivoire. Fishing on the lagoon is however done mainly by the Ehy people. They use small boats of which a few are motorised.

Fishing in Avolenu the fisherman say goes back in time to at least 40 years for those who go to sea. Fishing on the lagoon they say is an ancient undertaking which started with the very founding of the community.

Fishers operate the beach seine and bottom set gears. There are 5 canoes in the community though others come to join from time to time. Currently, because of the algal-bloom or 'green-green', there canoes are just lying idle on the beach. When active, a canoe has a crew of 30-40. The number of canoes has increased in the last 10 years. Coupled with the algal bloom and light fishing, there is a serious decline. They used to go just about 300-400 metres to cast their nets but now they go about 600 yards and their nets get loaded with algal bloom. When they catch plenty fish, they are able to sell to the women on credit. But if not, it is strictly cash down. Moreover, the fishermen on the lagoon also regularly bring fish but that is also being hampered by 'green green' now.

Harvested fish are mainly processed by smoking and marketed in Jeway Wharf and Half-Assini. Fish revenue is divided into three. The canoe and outboard owner or owners takes one-third while the two-thirds are shared among the crew. In many instances the owner is also part of the crew.

Environment

The community said occasionally turtles come to lay eggs on the beach. At first they used to eat them but since Wildlife regulations came into existence, they had stopped doing so. Others intimated that some however eat it because of decline in fish stock. Even when they catch them in their nets they release them to go. They also indicated that whales and dolphins are seen during certain seasons of the year especially between August and December. The lagoon has crocodiles in it (*young boy tour guides wanted to ferry CRC-FoN researcher to see the sights which was turned down because night was falling*).

Governance and local institutions

There is no Chief fisherman in Avolenu-Newtown.

There is no CBFMC; landing base committee or premix sales point (nearest is at Mangyea 5km away).

Many voters lagoon from remote fishing villages to come to vote during elections (threatening to the CRC-FoN team that they will not vote in the next elections because their lives are not improving despite the numerous of electoral processes they have participated in over the years. They complained that the Assembly man has not come to talk to them about anything since being voted into power. The District Assembly has not interest in their concerns.

Key Coastal and Fisheries Issues

Decline in fish catches

The fishermen pointed out that there has been a great reduction in the quantity of fish catch. They this has happened due to bad fishing methods employed by fishermen and trawlers. They said the use of light, pair-trawling and dynamite are the cause to the reduction. They said that because fish has reduced in the sea, they had to go farther than they used to in order to make any good catch. They are, as a result, compelled to motorise their boats. They however to not go near the oil rig which they claim is not far from their 'territory'.

There is no taboo day for fishing. One can therefore fish throughout the year depending one's strength and industry.

Coastal erosion

The sea they claim, used to be about 20 metres away 15-20 years ago. Rows of coconut trees have largely been eroded but no houses have been affected because people do not build close to the sea (*only makeshift building made from coconut leaves and raffia by migrant fishermen are close to the sea and are 'fortified' with fresh materials regularly*). Sandwinning activities are not common here.

Prostitution

According to a young taxi driver who plies the Avolenu-Half Assini route, because the community is on the crossroads between Ghana and La Cote d'Ivoire, a lot of promiscuity goes on in the community. But this is not 'sex for fish' deals but 'regular prostitution' which goes on in a subtle form usually between teenage girls and young women, with travellers who stay overnight or drivers who have 'regular' clients. Also the itinerant male vendors of clothes and household items like cooking utensils exploit the poverty situation to bed the community girls.

BEYIN

History

Beyin is the traditional capital of the Western Nzema Traditional area. The first settler in this community built his hamlet under a tall palm tree which is known in Nzema as '*Bentinlebo*'. It is believed that he first settled at Ahumazo (*which literally means a marshy area*) and migrated to the coast which is now known as Beyin around 1400. They settled on the marsh which was so plain that no enemy could reach them without being seen. Beyin was a centre for the slave trade with Fort Apollonia (*built by the British between 1768-1770*) as an outpost.

It was abandoned in 1819 shortly after the abolishing of the slave trade. The community has a proud history in the fact that Dr. Kwame Nkrumah (*the first president of Ghana and a pan-Africanist of international repute*) was a teacher at the local Catholic Primary and Junior High schools there.

Physical Characteristics

Beyin is bordered on the east and west by Ekabaku and Ngelekazo communities respectively; north by the Amanzule wetlands (lagoon), and to the south by the Gulf of Guinea. The town has a flat landscape with no hills and valleys. The shoreline is made of fine sand. Coconut trees planted in rolls span the entire coast of the town.

Nzulezu, a community on stilts (*an African Venice*) lies on the northern part of Beyin on the Amanzuri wetlands.

Demographics and Settlement Patterns

Beyin is the last but one coastal community towards the eastern part in Jomoro District. The town has population of 1,000 as at the last census in 2000. The main ethnic groups are the native Nzemas and the Fantes who are migrants.

The town has a long street with gutters on both sides of the road. As with most of the coastal communities in the District, the houses are built in rolls with lanes in-between them. This makes it easier for humans and cars to reach every part of the town.

The Fantes are settled along the landing beaches in houses built from palm fronds roofed with thatch. Many Nzema youths who work on the beaches as helping-hands during fishing expeditions have left the community to go and look 'greener pastures' elsewhere.

Education

The community has two basic schools. These are the Prince of Peace Primary School which has classroom units from primary one to primary five and the Beyin Catholic Primary and Junior High Schools.

Health

Beyin community has no health post. The community access health services at the Ekabaku Health Centre which is about 2km away. The Community Health Nurses from the Community Health Planning Services pay routine visits to the community to offer post-natal, and family planning services to the women.

Water and Sanitation

The community has three public toilets with two of them abandoned due to the deplorable states they are in. The functional one is a 14-seater KVIP toilet. A few households also have toilet facilities.

The community has three functional water wells. Beyin is a beneficiary of the 'The Small Towns Water Project' which was under construction at the time of the visit. It is a EU sponsored project

Land tenure

The lands in community are owned by the traditional leadership. Heads of clans and the various sub-chiefs hold the lands in trust to the paramount chief. A sharing system practiced in the town is called *Abunu* where farm produce is shared equally between farmer and the land owner.

Economy

The main economic activities in Beyin are fishing, crop farming, pig rearing and coconut oil processing. A few residents are also engaged in petty trading in household consumable goods. The prevalence of algal bloom in the ocean has stalled fishing activities for the past three months (*as at March 2010*) and this phenomenon has negatively affected commercial activities in the community.

The community market is in a deplorable state with parts of its roof ripped off. It is no longer in use. According to residents, standards of living have dropped due to low agriculture production, decline in fish catches, and high cost of living.

Farming

Crops cultivated are mainly coconut, cassava, oil palm and tomatoes. Cassava, oil palm and tomatoes are cultivated on a smaller scale around the outskirts of the town. Coconut plantations are found on the beaches. Farm produce especially palm fruits are sent to Ainyinasi and Tikobo No. 1 markets on Tuesdays and Thursdays respectively. Farmers talked about over-cultivation of farmlands which has affected fertility of the land.

The aged coconut trees do not yield as they used to be. Cassava, tomato and other vegetable crops, which are mainly cultivated within the coconut plantations, also experience poor yield due to poor soil fertility. According to farmers, farmlands are often flooded by heavy rains that destroy their crops.

Farmers believe productivity can be boosted by the application of fertilizers but, they are unable to purchase them because they are costly. Some of the farmers expressed willingness to cut down their over-aged coconut trees and plant new ones if they are supported with high-yield seedlings and fertilizers. Presently, a coconut seedling sells at GHc3.00

Coconut oil processing

Coconut oil processing business is not thriving because farmers prefer selling the copra to traders who for prompt payment than crediting to local coconut oil processors. According to the processors, coconut oil has also lost its market value due to the change in consumption patterns. People now prefer well-refined oils on the market to what is produced by the local processors. The plight of the processors had been worsened for the past year due to the breakdown of the only coconut grating machine in the community.

Livestock production

Some residents are also engaged in pig rearing. The pig sties are located along the beach. The pigs are sold to buyers from Kumasi, Takoradi and Accra. Pork is also sold locally. Pigs are fed with wheat bran and the chaff of coconut. The decline in the coconut oil processing industry is affecting pig farming as farmers no more have access to coconut chaff in the large volumes as they used to whilst wheat bran is also expensive on the market.

Tourism

Wildlife Department (WD) office.

Nzulezu village built on stilts in the centre of the Amanzuri Lagoon is over 500 years old. *Nzulezu* means 'village on water' in the local Nzema language. The Wetlands have crocodiles in it and the WD staff had been notified accordingly.

There is also the Fort Apollonia in Beyin which was built by the British between 1768-1770 to facilitate the trans-Atlantic slave trade. The name Apollonia was conferred on the area by the Portuguese explorer who sited the place on St. Apollonia's Day. The Fort was abandoned in 1819 by the English, shortly after the slave trade was abolished, It is currently being rehabilitated by and Italian NGO COSPE after undergoing deterioration over the years. This restoration exercise is under the auspices of the Italian Ministry of Foreign Affairs and the University of Pisa. The Ghana Museums and Monuments Board is the government agency involved in the project.

Beyin Beach Resort, under management of Mr Kofi Sarpong). Mr Sarpong pays GHc5.00 per turtle to fisherfolks as incentive to set the creatures free. He is highly esteemed by the fisherfolks who on the flipside condemn the WD for *'not doing anything for them except tell them not to eat sea turtle without providing any incentive for that. They do not even give us thread to mend our nets destroyed by efforts to disentangle turtles at sea'*.

Dolphins and whales come by annually and could be seen from the coast at about 120metres away from the coast.

Fisheries

The beach is dominated by fishing activities. There are five canoes in Beyin with two of them motorised. The motorised canoes are each powered by a 45HP outboard motor. These canoes are approximately 3ft in width and depth, and 30ft in length. Fishing is done all throughout the year. Major fishes caught during the major season (August-November) are of the sardinella species. Lobsters and other sea foods are fished during the minor fishing seasons. Sharks are also caught during the period.

The beach seine of mesh size 1 ^{1/4}" ; 2" ; 2 ^{1/4}" is widely deployed by the non-motorised canoes.

Processed fish are sent to markets in neighbouring towns. Notable among them are Tikobo No.1, Ainyinasi and Agona Nkwanta. This business is, however, dying out due to general decline in fish catch.

Sales from fish catches are distributed into three as follows; one-third is for the maintenance of outboard, net, canoe and fuel, one-third is for the crew, and the other one-third is saved for sharing at the end of the year or in times of dire financial need.

Environment

Sea turtles come to lay eggs on the beach periodically especially in August. Fishermen complain about being 'molested' by the WD when they eat turtles. They regard it as game that could be caught and consumed and so expect some form of compensation if they had to set them free "especially in these times that they hardly get fish to catch

Governance and Local Institutions

Beyin is the traditional capital of the Western Nzema Traditional area and thus the seat of the paramountcy.

The community members interviewed said their expectations from the District Assembly had not been met. Their concerns, especially in the area of fishing were hardly discussed with them.

There is no Community-Based Fisheries Management or Landing Base Committees at Beyin There is, however, a chief fisherman with the main responsibility of ensuring peace and order among the fisherfolks and also seeks to the smooth running of the fishing business.

There is no pre-mix committee or depot.

The Wildlife Division of Forestry Commission educates the communities and also enforces regulations concerning conservation of wildlife (marine turtles, wetlands etc).

The fishermen complained that the Wildlife Division does not assist them in any way yet expects them to obey it directives.

There are no formal associations or institutions in the community.

Key Coastal and Fisheries Issues

Decline in fish catches

Fishermen complained of decline in fish catch. Many youths have left the community as a result. According to the Chief fisherman, Samuel Kojo (52 years), they used to get between 40-50 headpans of assorted fishes about 15 years ago. But now (in 2010) the maximum catch ranges between four and six headpans even on a good day. They sometimes do not even get two headpans. The fishermen said there are no types of fishes are extinct. However, the catch of some species like *tantri* and others had reduced. They are not as regular as with others.

Illegal fishing activities

Fishermen expressed worry about the effects of light-fishing on the fishing industry. They said the use of light in fishing prevent fishes which hitherto would swim to their permitted fishing zones from getting there. Again it attracts not only the matured fishes but the juveniles as well. This put the future of the industry in danger.

They also complained of the non-enforcement of laws and regulations against light fishing and other bad fishing practice like pair-trawling and the use dynamite and carbide in Ghana.

Algal bloom

The algal bloom, popularly known as 'green-green', according to the fishermen, was first seen in the sea in 1993. This had since then caused lots of damage to the fishing industry in particular and a negative toll on the socio-economic life of the community in general. The cotton-like material fills the nets thus make dragging very difficult. It sometimes destroys the nets. They, however, could not tell the source of it.

Coastal erosion

The beach front has eroded about 60 metres within the past 20 years ago. This is mainly due to Sand-winning for commercial purposes in the past. Sandwinning on the beach has been banned by the traditional authorities of the community.

Sex for fish

According to the women interviewed they were not aware of any instance where women exchange 'sex for fish.

Accessibility to premix

The inability of fisherfolks to readily access premix fuel is hampering the fishing industry in Beyin. They purchase premix fuel from Half-Assini which is 36km away, or from far away Axim. Alternatively, they buy petrol (super) from conventional fuel filling stations and mix it with engine oil, an undertaking which is relatively costly and potentially bad for engines. A gallon of petrol (super) sells at GHC 5.40, while the same quantity of premix fuel officially cost GHC 2.80. They mix 13-15 gallons of petrol with one gallon of engine oil depending on the horsepower of the machine.

BONYERE

History

'Bonyere' in the Nzema language translates loosely into English as '*the fast growing town*' from the words "*bole wole nyea*". Folklore has it that the first settlers came from Kokofu in the Ashanti kingdom around 1515 led by Kabenla Ekumsa. They were in search of a peaceful place away from the numerous conflicts in Ashanti in those days. Many people joined the first settlers and it started increasing in size comparatively faster than its earlier founded neighbours, thereby earning the name "the fast growing town".

Physical Characteristics

Bonyere is bounded on the south by the sea; on the east by coconut plantations separating it from the Enzilibo community. On the west are the Domunli estuary, lagoon and coconut plantations. The Domunli lagoon is full of mangrove plants. It is shallow so no much navigation is done on it for any purpose. It stretches from Egbazo through Old Kabenlesuazo up to Bonyere. The north shares boundary with Ndumsuazo, a community on a hill below where is Bonyere is settled. The soil is sandy everywhere except on the hills which are slightly clayey. The horizon is dotted with 2 huge telecommunication masts.

Demographics and Settlement Patterns

Bonyere is populated by Nzemas, Fantes and a few Kusasis. Very few Nzemas are fishermen though people eking out living as fishermen itself do not exceed 50 in the community of about 7500 inhabitants (*according to 2000 national population census*). It is also estimated that there are more females than males in the community (*general trend in Ghana*). The population goes up during festivities like the annual *Kundum* festival, Christmas, Easter and funerals. During fishing season, population increase does go up but according to the assemblyman, the increase is "insignificant".

Due to the decline in fish catches, many persons have left to find work elsewhere (in La Cote d'Ivoire, Takoradi and Accra). With women from the town, La Cote d'Ivoire is the most popular destination. Many Fante fishermen have left for other communities or returned to home towns in the Central Region. Indeed, one woman entrepreneur bought an outboard motor but could not raise a crew of 25 in Bonyere to use it to work so she sent it to Ahobre II.

Electricity was extended to the community 8 years ago.

Education

There are three basic schools (primary JHS) in the community. There is inadequate number of teachers. The standard of performance has deteriorated over the last few years. This fall is attributed to laziness of the pupils and inadequate parental control. Parents allow their school-going children to watch films either in or outside the home. This has promoted teenage pregnancy among the school girls.

The nearest Senior High School is at Enzilibo which is only one kilometre from the community.

Health

There is one health service delivery facility in the community called Fatima Clinic established and operated by a catholic medical doctor. The community is periodically visited by the Community Health personnel to provide services on Maternal and Child Health (MCH) from Tikobo No I. There is also another health facility at Bonyere Junction which is 3km away. There are 2 chemical/drug stores in the community.

The most common ailment in the community is malaria.

Water and Sanitation

World Vision International (WVI), an International NGO, has provided the community with three boreholes and there are about four private-owned hand-dug wells in the community.

The only functional public toilet facility in the community was in a dilapidated state. People attend nature's call indiscriminately in the bush. The beach has been kept spot-clean by the Zoomlion's eco-brigade. The town on the other hand is littered with rubbish.

Economy

The economic life of the Bonyere community was very buoyant until about six years ago when a chieftaincy dispute led to a serious downtrend of the local economy. During the dispute, the fishermen, who were mainly Fantes, were driven out from the community.

Coconut farming which was once a vibrant source of income of the people, is on the verge of collapse. The trees no longer bear as many fruits as they used to. They are over-aged. Very few people are engaged in the coconut oil processing industry.

Fewer men and women in the community are in petty trading.

Many women cultivate cassava and vegetables though they complained of soil infertility making their toil unrewarding. The World Vision International had an office in the community which gave micro-credit to

female traders and fishmongers under the "women economic empowerment project". The office had been closed without any information as to why the closure.

The economy of Bonyere is undergoing a downturn! The cross-section of the people spoken to expressed interest in going into fish farming and the cultivation of cabbage, carrots and many others to lift up their lives. This they said would depend on the availability of initial capital.

They were again of the view that the 'gas factory' when commenced will salvage the sinking economy of the Bonyere community.

Farming

Crops cultivated are coconut, cassava, vegetables, groundnut and maize. Some farmers are also considering going into rice cultivation. The cultivation of cassava is on subsistence level and is mainly done to the north of the community in rows among coconut plantations.

Farmers complained of over-cultivation of farmlands which has affected fertility of the land. Coconut trees are over-aged and the yield is low. The farmers believe yield could increase with the application of fertilizers but, they are unaffordable.

Coconut Oil Processing

Coconut oil processing is done in the community by mixed groups (*Nzema, Fante and Kusasi women*) with a few men taking part. They are in working groups of four and five people. It is processed in the open without sheds. The processed oil is sold on credit to traders mainly in Accra. *“Payment usually is delayed over unreasonable length of time. It is not always a good business but there are no alternatives. We have also practiced this most of our lives so we cannot easily switch to other vocations”* said a group leader. They buy the copra from Bonyere and the surrounding communities. The farmers, they said, prefer selling the copra to the Nigerian buyers who pay a higher price of GHC0.10p per fruit whilst oil processors buy it for GHC0.04p-GHC0.05p. The chaff from processing the oil is collected by pig farmers to feed their animals (*some oil processors are also pig rearers*).

Livestock production

There about 20 pig farmers in the community with each one owing between 8-20 animals of various ages and sizes. Pigs and sometimes pork are sold to individuals and local restaurants (chops bars) in Bonyere, Kumasi and other places.

Tourism

Apollonia Guest House located on the main Takoradi-Half-Assini road is the only lodging facility in Bonyere. A night stay cost GHC 10.00.

Fisheries

Fishing used to be a very big business here about 30 years ago. There used to be about 40-50 canoes 30 years ago. But now, there are only 7 with just three in good shape. Many canoes owned by Fante fishermen were taken away from the community ten years ago because of decline in catches. The Chief fisherman who is an Nzema said he saw the departure of the Fantes as “an opportunity” to enter into fishing business. But the business soon collapsed because of the invasion of the algal bloom. The Chief fisherman who owes one of the three canoes says that, because of the decline in fish catch, many canoes are no longer resident but are rather, itinerant. They however, sometimes come from neighbouring Ahobre 2, Half-Assini and Axim to land and sell fish there. Sometimes too, fishermen from other communities are pushed to Bonyere by strong tidal waves. Two canoes use outboard motors. Fish is quite plentiful in August.

Proceeds from the marketing of fish is shared 50-50 between canoe/net owner and the crew.

Environment

The Domunli lagoon serves as spawning grounds for fish. Sea turtles come to lay eggs on the beach around August and September

Governance and local institutions

There is a chieftaincy dispute in Bonyere so there is currently no chief.

There are two elected assembly members who are currently in charge of mobilizing the people for community programmes. There is also another government-appointed assembly member (*female*). There is a chief fisherman, but there is no *konkohene*. There is neither CBFMC nor pre-mix committee in Bonyere.

Key Coastal and Fisheries Issues

Decline in fish catches

Fish catch has declined immensely; to the extent that a community that once hosted about 50 canoes now has just two sea-going ones. Algal bloom, chieftaincy disputes and dwindling catches have led to a near-collapse of the industry.

Illegal fishing activities

Fisherfolks reported sighting and pair-trawlers not too far from the shore from time to time. There are others who come from elsewhere to use light in fishing during the night. Fishermen here say that some of them indeed use light in fishing too but, it is in response to what others do and “*go off without punishment*” and the need to also feed ourselves. The algal bloom was also cited as a reason for using light to fish.

Algal bloom

There is algal bloom in the sea and also in the Domuli lagoon. Community members say they could not fish in the lagoon as they did in the past.

Community says the algal bloom started appearing in the sea and the lagoon 10 years ago but the source is unknown to them.

Coastal erosion

The land adjoining the sea has eroded about 50 metres within 25 years. It could be equated to about half the size of a football park. The cause of this is not known.

Teenage pregnancy

Teenage pregnancy is very common and school drop-out rate among girls is about 50% of enrolment.

Accessibility to premix

There is no pre-mix committee or depot in the community. Fishermen buy ‘regular fuel’ and oil from Bonyere Junction which they mix themselves in ‘appropriate concentrations’ to use in their outboard motors.

Physical Characteristics

Edobo is a coastal community with the sea lying to the south. It lies on the right hand side of the major trunk road running from Half-Assini to Tikobo No.1. The lands of Edobo stretches northwards to the *Join Lagoon* which is an outstretch of the big *Abbey Lagoon*. The east is bordered by Ahobre No.2 while the west is bordered by the Atwebanso community. The town is surrounded by coconut plantations. The coast which is a flat sandy stretch of land is dotted by pig sties. The beach has a carpet of algal bloom.

Demographics and Settlement Pattern

The population of the Edobo is about 800. The women are said to be more than the men. They are made up of Nzemas and Fantes. Though the two tribes live harmoniously with one another, the houses of the Fantes are skewed towards the coast. These are mostly fishermen who migrated from the Central Region of Ghana.

Education

There is one primary and Junior High Schools in the community. The JHS building is in a dilapidated state. The teachers do not have living quarters and so live in rented houses. Standards of education had fallen drastically. The performances at the Basic Education Certificate Examination level had been very poor. Again, teenage pregnancy among the school-going girls is on the ascendancy. These are attributed to factors like poor parental care and guidance, watching of video and poor attitude of some teachers.

Health

A clinic is being built for the community. In the meantime, the people visit the CHPS Compound at Ahobre II and also the District Hospital at Half Assini. The commonest health problem of the people is malaria.

Water and Sanitation

Two years ago, Tullow Ghana provided the community with a borehole with an attached water reservoir. This facility is no longer in use because the pump is faulty. There are three other boreholes that need repairs though one of them trickles out small amount of water when pumped with vigour. Water from one of the wells is oily which the people believe could be 'petroleum'.

There is one KVIP which the people said is woefully inadequate for the entire community. This situation compels them to ease themselves just anywhere. There is no location designated as refuse dump. People dump indiscriminately, the probable cause of the high incidence of malaria in the community.

Economy

The main occupations in the community are farming and fishing. They have a fishermen's Cooperative Union. They also farm coconut, cassava, oil palm and other crops but the yields, they complained, are not as much as before. They attributed this to the presence of oil under

the soil. They say that a pipe has been laid under the river and it brings out oil. When the fishermen do not catch anything, the farmers eat their meals without fish.

The women are mainly fishmongers. They sometimes sell the fish fresh. They hinted however, that it is more profitable to sell smoked fish. Smoked and/or fresh fish are sold in the neighbouring market centres. They also trade in river fish from Jeway Wharf. Some of the women are also into farming. They plant mainly cassava and vegetables and also process coconut oil for sale in Accra and other urban centres.

Residents said quality of life has reduced totally due to the changes in their occupation. They said farmers are experiencing low productivity due to infertile land and fishermen are also out of business due to the presence of the green-green. Some indicated the difficulty in caring for their children.

Coconut oil processing

The coconut oil business is not booming as before due to demands for Dinor, Frytol and other well refined oil in the market. This, coupled with the non availability of copra, has thrown most of the processors out of business.

Tourism

The presence of Whales and dolphins could be explored for tourism in the area. There is no hotel in the community.

Fisheries

The main fishing season is around July and November while the lean season spans from May to July. They use small boats with few of them motorised. Fishing in this place has gone on for over 50 years. They use dragnet as well as *tenga*. The boats have a crew of 30-40. The number of canoes has increased on the sea leading to reduction in yield. The types of fish caught include *epae*, *akole*, *agbolenma*. There are three canoes in the community.

The algal bloom and light fishing have also contributed to the decline. They used to go 400 yards to fish but now they go about 600 yards. Whether the fish caught is sold to the women on credit is dependent on the quantity of the catch.

Catch made is divided into three. The boat owner takes one-third while the two-thirds are shared among the crew. In most cases the boat owner is also part of the crew.

Environment

The community said occasionally turtles come to lay eggs on the beach. At first they used to eat them but since Wildlife regulations came into existence, they had stopped doing so. Even when they catch them in their nets they release them to go. They also indicated that whales and dolphins are seen during certain seasons of the year especially between August and December. There wells in the upper portions of the community are oily which suggests the possibility of crude oil in the area.

Governance and local institutions

They complained bitterly that the District Assembly was not proactive in solving their problems. They only hear of the assembly during elections. They stated that they had not seen the assemblyman since he was elected.

Key Coastal and Fisheries Issues

Decline in fish catches

Fishermen pointed out that there has been a great reduction in the quantity of fish catch. Their perception for the reduction is attributed to bad fishing methods. They said the use of light, pair-trawling, dynamite, carbide etc., had contributed to the reduction. They also indicated that due to the reduction in fish stock, they had to go far before they could make any good catch. They are, as a result, compelled to motorise their boats.

There is no taboo day for fishing. They therefore fish throughout the year depending one's strength and ability.

Coastal erosion

Rows of coconut trees have largely been eroded but no houses have been affected because there existed a law which forbid people to build closer to the sea. Sandwinning activities were very rampant on the shores before the introduction of Zoil eco-brigade.

EFASU

History

Efasu is literally translated as, '**be moderate in what you take**'. That name came about when in the very early days of the community; a greedy fetish priest took away as his share, large portions of fish from the catch made by fishers on the lagoon. The fishers and some onlookers were not happy about the priest's action so was cautioned to be moderate in taking. This later became the name of the community, thus '**wo fa susu**'.

In the 1800s, there were wars between the indigenous Nzemas and the Arab slave raiders. They kept on moving from place to place trying to hide or protect themselves from the slave traders. They felt safe at their present settlement which is bounded on the north by the Abbey Lagoon, the Gulf of Guinea to the south, Avolenu (also called New Town), to the west and Mangyea to the east.

The Fante fisher group came to the community in batches mainly from the Ekumfi-Narkwa area of the Central Region between 1974-1984. The Ewes started coming in 2002 from the Anlo area in the southern part of Volta Region.

Physical Characteristics

Efasu is the community closest to the Jubilee Field oil exploration project. It is officially reported to be 45km away from the rig but the youth claim it is just about 14km away. Algal bloom has heavily infested the sea. There are raffia and bamboo forests to the north in the direction of the Abbey lagoon. The land is flat and sandy throughout the community. Apart from the sea to the south, all directions as far as the eye can see are covered with coconut trees especially to the east and west.

Demographics and Settlement Patterns

Efasu comprises the native Nzemas, Fantes, Ewes and the Ehis. The Nzemas are predominantly farmers (coconut, cassava and vegetables) whiles the Fantes and Ewes are fishermen (sea). The Ehis, though fishermen, fish only in the Abbey lagoon. The Fantes have been in the community since 1974 whiles the Ewes started coming in 2002.

Education

The community has one basic school and JHS. The Assemblyman for the area is also the headteacher.

Health

Efasu community has no health post. The community is periodically visited by the Community Health personnel to provide services on Maternal and Child Health (MCH). All other health problems are sent to Half-Assini which is about 12 kilometres away.

Water and Sanitation

There are no constructed toilets in the community. People attend nature's call at assigned areas demarcated among the coconut tress to the sides of the community for the purpose or in the wild to the north. Zoomlion's Eco-Brigade manages waste which is supported by communal labour on some Thursdays and Saturdays. Zoil eco-brigade enforces sanitation regulations.

There are 2 functioning wells in the community. Tullow Oil Company has provided 2 water tanks for the community but it has remained empty for 2 years 'waiting for electricity to pump water'.

Land Tenure

The lands in community are mainly family-owed with three out of the seven families having ownership. Shared-cropping system (*Abunu*) where farm produce is shared equally between farmer and the land owner is practiced.

Economy

Fishing on the lagoon and the sea are the main activities in the community. Chief is powerful in regulating activities at the fish landing base on the beach.

There are also, coconut farmers. These are the indigenous Nzemas and they sell to Nigerian entrepreneurs.

Some few community members work at the Power plant (Osagyefo Barge) as casual workers.

Womenfolk from all the three major tribes buy fish for processing and sale from the Fante and Ewe fishermen. The market destination is usually Elubo and Anyinasie. Some also go to Agona-Nkwanta at times.

(7 women present at meeting including Konkohen) said "we have been in this community for about 25 years. The fishing industry is now very tough. We use to be given fish on credit to sell and pay later. No more. It is strictly cash down now. If you cannot pay, another person will be ready to pay. 10 years ago, our husbands could buy fuel and go to sea. They also got fish. We could buy food for our homes. Now we cannot even buy clothes. Fish costs a minimum of GHc100.00 per headpan.

Algal bloom in the ocean has affected fishing activities for the past two years negatively affecting commercial activities in the community there compelling all but women especially to take to vegetable and cassava cultivation to supplement their income or their own domestic use. According to residents, standard of living has dropped due low agriculture productivity attributed to depleted soil; decline in fish catches, and high cost of living.

Farming

Crops cultivated are mainly coconut, cassava, vegetables. Cultivation of cassava, oil palm and tomatoes on the subsistence level are mainly done to the north of the community in the direction of the Abbey lagoon. Coconut plantations are on the beaches on the outskirts of town and to the north.

Farmers complained of over-cultivation of farmlands which has affected fertility of the land. The over-aged coconut plantations (estimated at 100+ years) has affected the yield. Cassava, vegetable cultivation has also been affected because they are mainly cultivated in rows within the coconut plantations. The farmers believe productivity can improve by the application of fertilizers but, they are unable to purchase them because it is expensive.

Coconut oil processing

Coconut oil processing business is not big business in Efasu. Activities are concentrated on fishing and subsistence agriculture. Coconut farmers also sell copra to Nigerian buyers for ready-cash.

Livestock production

Few persons rear chicken and ducks for domestic consumption. Sheep is also kept. Goats are a taboo in the community.

Tourism

Efasu has no hotels and guest houses.

Fisheries

The Eli people have 13 canoes which they operate solely on the lagoon. Fish in the lagoon is very big compared to what is usually caught in the sea.

There were big 7 canoes in Efasu operating on the sea two years ago, but the “green-green” (*algal bloom*) has forced many fishermen to leave the area. There are currently only two left. But there are also 6 small canoes around. A big canoe takes a crew of 25 or more whilst a small one takes around 10. The beach seine and ring nets are the common fishing gears operated the fishermen

Fishermen say they are more knowledgeable now and can now go very far into the sea on fishing expeditions. Some even come from far away Axim to fish and return on the same day

Mode of sharing fish catch or revenue varies from crew to crew. But it is usually into 3 (sometimes 2). When it is into 3, it is divided into predetermined proportions to cover (a) outboard motor, (b) canoe-owner and (c) crew. Some groups also have a formula of dividing it into (a) expenses, (b) net and boat, (c) crew.

What a crew member or group of members decide to do with their share is their own business. But generally, a big portion of the crew’s share or revenue generated from it is saved in the bank with annual accounts rendered for all.

Companies used to share proceeds among crew

members proportionally every 3 years but that has been reduced to 1 year. Good to belong to a company. It acts as insurance for you in times of need. You go there for assistance.

We also give some portion of the catch to some recognised authorities and groups like the chief of the town.

Environment

Sea turtles come to lay eggs on the beach around August-September. Lagoons to the sides of the community sometimes join the sea. Many kinds of fish are gotten from.

Governance and local institutions

The community members expressed their dissatisfaction with the response of the District Assembly to their concerns and said they hardly visit the community.

There is no CBFMC or Landing Base Committee in Efasu but the chief fisherman has taken part in FoN awareness creation workshops for CBFMCs in 2007 & 2008)

There is a pre-mix committee and a depot of which the chief fisherman is a member.

Key Coastal and Fisheries Issues

Decline in fish catches

“Fish was plentiful then but now, there are too many canoes on the sea”.

The fishermen have to use larger and larger nets now. They say “we used to cast 300-350 measures of net but now, we cast between 800-1000 but fish size has reduced and population has increased”.

But fish catches have declined considerably. They used to harvest about 20-40 headpans after each trip 8 years ago but it is now difficult to get even 3 or 4.

Decline in fish catch is attributed to ‘green-green’, shark fishers and ‘Tenga fishers’ “who form a barrier with their net on the sea thus preventing fish from coming to our zone and also, blocks our canoes to go beyond their nets because we fear destroying their nets and being charged to pay”.

Other fishers, especially the Tenga groups do not fish within their zones (9-12 fathoms). They fish too close to where ‘watse’ and dragnet (*beach seine*) fishers go which is nearer the coast.

The fishermen said there are no type of fish that they do not get at all these days but that the occurrence of catch of some species like *tantri* has reduced. They get these and others once in a while.

Illegal fishing activities

“Fishing boats and pair-trawlers come so close to the shore they destroy everything. If you get close to them, you will be sorry at the amount of catch they waste by throwing back. The pair trawlers are very clever. They recruit crew from all along the coast of Ghana. They therefore have personnel who know every stretch of the coast of the country who directs them in all their activities everywhere they go – *locals know the sea*. They cover their registration numbers with fishing nets when they indulge in illegal fishing. Foreigners work with Ghanaians on these boats”.

Fishermen expressed worry about the effects of light-fishing on the fishing industry. They did not use to do it but has joined the fray because others come from outside the community to engage in light fishing and they are going bankrupt “meanwhile they need to feed their families”.

Algal bloom

“‘Green-green’ is destroying our nets and preventing us from catching fish” is a regular lamentation in this community and others concerning proliferation of algal bloom in the sea which has rendered fishing in the sea profitless because no much fish is caught. It is also destroying fishing nets. Fishermen do not know the source of it but says it appeared more than 10 years ago.

Exchange of sex for fish

“Men do not worry us with sexual advances for fish. It is a taboo here”, said the community women.

Coastal erosion

The beach front has eroded about 100 metres since the past 20 years ago. It could be equated to the length of one football park.

Accessibility to premix

“We buy our premix fuel from Half-Assini or Mangyea. Our ration lasts at most 2 days. There is no premix committee here. We have sent an application to Sekondi almost 2 years ago with a lot of follow-ups. No positive response till this point in time.

We do not get premix to buy here. We buy it at almost triple the price at Half-Assini from ‘connection men’. We are told not to practice light fishing but others come here from far off to do that. Fishing inputs are expensive and we do not get any assistance from anywhere. Not even loans. Price of inputs has been going up uncontrollably in the past few years. A new canoe aside, the rest of the inputs can cost as much as a total of GHc20,000.

EGBAZO

History

The community was founded around the 1900. It was named after the river Egba. Egbazo means “*on the Egba river*” The community is predominantly Nzema with a few of Fantes who settled there in the 1980s as fishers but left because of the decline in fish catches.

Physical Characteristics

Egbazo is bordered on the east by coconut plantations, hills with forests, the Domulin lagoon and Old Kabenlasuazo. On the west are coconut plantations, Ahobre I and Ahobre II. To the south is a beach washed by the sea and to the north is the Half-Assini to Tikobo No I high way. The community is very sandy on a flat landscape which descends into a gentle slope at the beach.

Demographics and Settlement Patterns

Egbazo is predominantly Nzema, who are the indigenes. The main occupation is farming (coconut cultivation). Cassava and vegetables are also cultivated on subsistence levels. There are a few Fante fisher families concentrated along the beaches. (*This is the remainder of a large community that left the community in batches for the hometown in the Central Region 10 years ago because of declining fish catches*).

According to the gathering, the population is currently estimated at 1200 based on projections from the 2000 census when it was 800 (*factoring in emigration of Fante fishermen and their families 10 years ago*). Currently, children alone are estimated to be about 400.

Population generally goes up slightly during festive occasions (Kundum and Christmas in October and December respectively); and funerals. Fishing seasons no more brings large populations to the community as there are only 3 canoes practicing dragnet (beach seine) fishing. This has been greatly affected by the prevalence of algal bloom.

Education

Egbazo has a Primary and Junior High Schools which serves it and the surrounding communities of Old Kabenlasuazo, Ahobre I and Ahobre II. There is a library but it is understocked with books. The library is also used as the nursery (kindergarten). The ex-assemblyman for the area says attendance rate at the school and attitudes towards learning in the community is poor. Many teachers when posted to the community soon ask for transfer to leave the area because community attitudes towards education do not motivate them to stay.

Health

The community has no health post. The community access health services at the Half-Assini, Bonyere Junction, Bonyere & Tikobo No I. The community is periodically visited by the Community Health Service personnel to offer Maternal, Child & Reproductive Health services. The most common disease is malaria.

Water and Sanitation

There is no constructed toilet facility in the community. They use the wild as toilet. There are 3 functional public wells in the community. There is also one private well.

Land tenure

Egbazo lands are owned by families.

Economy

The main livelihood activities in the community are fishing, pig rearing and coconut oil processing. A few residents are also engaged in petty trading. The prevalence of algal bloom in the sea has drastically reduced fishing activities for the past 10 years leading to outward migration from the community. There are only a handful of sellers in the community 'market' (roadsides). According to residents standards of living have dropped due low agriculture production and decline in fish catches. *(Some community women are employee Zoil, and are responsible for cleaning the beaches; they but have not being paid in months. If they get financial support, some will prefer to buy coconut oil to sell in Accra, Takoradi or Kumasi, or rear pigs on commercial basis)*. Pig rearing is done by individuals on large scale (about 20 pigs per sty). There are about 12 different pig rearers in Egbazo.

Farming

Farming activities involves cultivation of cassava and vegetables for family sustenance. There are also coconut plantations near the beaches and on the outskirts. Coconut farmers sell the copra to Nigerian buyers for GHc10.00 for a pile of one hundred pieces. Many youth have declined taken up coconut farming because the financial returns are unattractive. They rather go to mining communities to engage in small scale illegal mining in Ellembelle and Wassa West Districts.

Farmers say their lands are sandy and over-used. Most of the coconut trees are over-aged and this has affected the soils' fertility leading to low productivity for coconut and other crops. Many coconut trees are estimated to be over one-hundred years old. Cassava and vegetable cultivation are also affected as these crops are mainly cultivated among rows in the coconut plantations.

Coconut oil processing

This activity is not thriving because farmers prefer to sell the copra to buyers from Nigeria, than sell to coconut oil processors or processing for oil themselves.

Tourism

The community has no hospitality facilities.

Fisheries

The beach of the town is dominated by fishing activities. There are three canoes in Egbazo with none of them motorised. These canoes are approximately 3ft in width and depth and 40ft in length. Fishing is done all year-round with no off-seasons and no traditionally forbidden day(s). Major fish species caught in both season is *eban* (Sardinella). However because of algal bloom, no serious fishing has taken place in the last few years. The fish is however mostly sold fresh when caught. Only a small portion is smoked.

The revenue from the marketing of fish is shared equally among the canoe owner and the crew.

Environment

Sea turtles come to lay eggs on the beach periodically .Dolphins and whales come by annually and could be seen from the coast at about 120metres away from the coast.

Governance and Local Institutions

The District Assembly, according to the people are insensitive to their plight. They expressed their regret in voting for MPs and the Assembly member. There is no CBFMC or Landing Base Committee in Egbazo. There is a chief fisherman. There is no pre-mix committee or depot.

There are no formal associations or institutions in the community

Key Coastal and Fisheries Issues

Decline in fish catches

Fishermen complained of decline fish catches. Many youths and fishermen (and families) have left the community because of decline in fish catches. The fish species that we do not see again are many. They reported that the only fish they get is *eban* (sardinella) implying that they do not get any other fish. They however conceded that sometimes especially during the seasons, they are sometimes lucky with other species like *sukwei*, *ekan* and *nkanfena* which means the sea is not totally dead but can be revived with the appropriate and adequate attention.

Light fishing

Fishermen say expressed worry about light-fishing. They said the use of light in fishing prevent fishes from swimming to their fishing zones for them also to 'harvest'. They say they sea big trawlers come near the shore at times but there is nothing they can do about them.

Algal bloom

The proliferation of algal gloom has choked out fishes by filling nets of fishermen. It also destroys fishing nets. Fishermen do not know the source of it but says it started appearing about 15 years ago. This substance led to the flight from the community by large groups of fishers.

Pair trawling

We see them come close to about 200 metres to the shore at night. We also see light fishers from other communities.

Coastal erosion

The beach front has been eroded by about 40 metres since the past 20 years. They said the community has lost a number of rows of coconut trees to the sea which for them confirms that there is erosion taking place.

EKABAKU

History

A man and wife, Eka and Aku were the first to settle in the community. People used to say 'we are visiting Eka and his wife Aku'. That evolved into the name 'Ekabaku'.

(No mention of when the community was founded or how old it was could be gotten from the gathering).

Physical Characteristics

Ekabaku is either the first or last community on the shoreline of Jomorro District depending on which direction one is coming from. It is situated on a sandy terrain with dense coconut foliage all around it except on the beach front which is open to the sea. The sea is to the south of the community. Beyin is to the east of the community whereas Atuabo which is in Ellebelle District is to its immediate east. To the north are the community farmlands beyond which lies the Amanzule wetlands.

Demographics and Settlement Pattern

Population of the community is estimated at 450. There are more females than men according. There people are Nzema with just a motley presence of others (Fantes and Ewe) who are workers in the local clinic. Most of the youth have left town due to unemployment and the whole town looks 'sleepy' at the time of the visit by the CRC-ICFG/FoN team. It was learnt that in October and December when the traditional Kundum festival and Christmas respectively are held, the population temporarily goes up to around 600 (estimated) due to the return many indigenes sojourning outside. During fishing seasons too, fishermen from other places temporarily pitch camp on the community beach thus shooting up the population.

Education

Ekabaku has a kindergarten. There is no primary and Junior High School. Children attend primary and Junior High School at Beyin which is 2km away.

Health

The community has a health centre which was established in 1965 by the Government of Ghana to serve Atoabu, Ekabaku, Beyin and other surrounding communities. The centre offers general nursing, maternity and family planning services. The health centre has a mid-wife and two trainee assistants at post. The two assistants are being trained by the mid-wife and are paid through internally generated funds. The health centre is in a deplorable state with the roofs of the Out-Patient Department and staff bungalow (which can accommodate 36 staff) ripped off by strong winds. It is currently undergoing renovation through the MPs Common Fund. According to the Midwife-in-charge, the Out-Patient Department which is under rehabilitation is being funded from the MP's common fund. The only functional unit of the centre is the maternity block, but lacks the necessary facilities. She also said the most common reported health cases

are diarrhoea, anaemia, malnutrition and malaria. Respiratory diseases are also reported. She said that, residents prefer traditional birth attendants to reporting at the centre. She noted of high teenage pregnancy and unsafe abortions. The midwife, who has been at post since March 2008, expressed strong sentiments of leaving the community because of threats from a former security man.

Water and Sanitation

There are no toilet facilities and residents defecate at designated places among coconut trees lining the beach. The community has two boreholes.

Land tenure

All lands in Ekabaku are family lands. Therefore one has to see the family in question to access land for any project.

Economy

The main economic activities in Ekabaku are fishing, farming and coconut oil processing. A few residents are also engaged in petty trading in household consumables. The presence of algal bloom in the ocean has struck fishing activities for the past three months and this has negatively impacted on commercial activities in this community. Residents complained of relatively low standard of living due to decline in fish catches, low agriculture production, and high cost of living.

Farming

Farming activities in this community include coconut farming as a cash crop; and cultivation of cassava and tomatoes on the subsistence level. Oil palm is also cultivated. Coconut farmers earn GHc10.00 for every 100 pieces of copra sold. The copra is mainly sold to Nigeria buyers. Other farm produce especially; palm fruits are marketed in Ainyinasi and Tikobo. Some women trade in 'Akpeteshie', which they buy from Mangyea and sell at Tikobo, Accra and locally.

Farmers complained of over-utilisation of farmlands. The prevalence of over-aged coconut plantations has affected the soils' fertility and hence low productivity for coconut and other crops. Some of the coconut trees are estimated to be over one-hundred years old or thereabout. Cassava, tomato and vegetable cultivation have also been affected because the soil is sandy leading to leaching even when fertilisers are applied. According to the farmers, their farm lands are often flooded as result of heavy rains, destroying their cassava and tomato crops. The farmers believe productivity will increase by the application of fertilizers but cannot afford it as its price high. Some of the farmers expressed willingness to cut down their over-aged coconut trees and plant new ones if they are supported with high-yield seedlings and fertilizers (a coconut seedling cost GHc1.50).

Livestock production

Pig rearing is practiced by a handful of inhabitants. The piggeries are located along the beach. Pig farmers depend on the coconut oil producers for the chaff to feed the animals. They either

buy it from them, or help them in the extraction process to access the chaff to feed the animals. The pigs are sold to buyers from Kumasi, Takoradi and Accra. Pork is also sold locally.

Coconut oil processing

Coconut oil processing is not thriving because farmers prefer to sell the copra to Nigeria buyers to coconut oil as they pay ready cash.

Tourism

There are no hotel facilities in Ekabaku. The nearest one is in Beyin which 2km away

Fisheries

Fishing is an apology here. There is only one canoe on the beach. The youth use it to carry out 'dragnet' (beach seine) fishing but have abandoned that in the last 6 months because of 'green-green'. Many community youth have left to fish in 'Bakam' near La Cote d'Ivoire.

Environment

The community said occasionally turtles come to lay eggs on the beach. At first they used to eat them but since Wildlife regulations came to educate them, they had stopped doing so. Some people also said they eat them because there is nothing to eat. They mentioned that whales and dolphins are seen between August and December.

There is a capped well on the beach which the people said used to be operated by a Canadian long ago (*suggesting that there could be crude oil in the area*).

Governance and Local Institution

There is a chief in the community and he is known as Nana Tanoë Blay III. The community members interviewed said the District Assembly does not support the community in any of their development needs. There is no CBFMC or Landing Base Committee in Ekabaku. The village has no chief fisherman. There is no pre-mix committee or depot. Formal associations or institutions in the community are non-existent.

Key Fisheries and Coastal Issues

Decline in fish catches

The very few youthful fishermen present said that there has been a very big reduction in the quantity of fish they catch. They attribute the decline to light fishing and 'green-green'. There is no taboo day for fishing therefore making them go fishing anytime it suits them.

Coastal erosion

The locals could not estimate how much the sea has eroded the beach. They indicated that about two rows of coconut are lost each year since the last 10 years. Sandwinning activities are prohibited on the shore.

EKPU

History

“Ekpu” in Nzema means smoke. It is said that there was always smoke coming from this or that kitchen or farm in the community. People started referring to the area as the ‘smoke place’. The name got stuck and became the name of the community.

Physical Characteristics

A visitor may not notice that it is a different community from Half-Assini. Ekpu is bordered on the south by the sea. On the west, it is bordered by coconut plantations, a defunct beach resort and Half-Assini. The only highway in the district runs across the northern perimeter of the community beyond which there are coconut plantations with are cassava and vegetable farms interspersing them. Still further north are forests which are full of raffia and bamboo, mangroves and crocodiles in the *Eleshiala* Lagoon which adjoins the Abbey Lagoon.

Demographics and Settlement Patterns

Ekpu has been a very small settlement till Fante Fishermen started pitching camp there in 1975. These fishermen were originally living in Half-Assini as migrant fishermen with their families. Currently the community is inhabited by the indigenous Nzemas and migrant Fantes. The Nzemas are predominantly farmers (coconut, cassava and vegetables) while the Fantes fish on the sea. The Fantes have been living in the community since 1975. The population of the community is estimated at 1,600 according to the 2000 population census. During festive occasions (like Kundum, Christmas and Easter), the population goes to up about 2000 because of the return of citizens from La Cote d’Ivoire and urban areas within Ghana. (*Young Nzema men from Ekpu are noted for joining the Ghana Army and they regularly return with their army friends during holidays or when on leave, though figures were not available to confirm numbers*).

Education

The community has one kindergarten but there is no basic school nor JHS.

Health

The nearest health facility is the Government Hospital in Half-Assini. It is visited periodically by the Community Health personnel to provide services on Maternal & Child Health (MCH). The community members and fishermen said the most pertinent health problem in the community is malaria.

Water and Sanitation

There is a KVIP toilet in the community. A few houses also have their own toilets but all these put together are inadequate for the entire community so people attend nature’s call at

indiscriminately among the coconut trees to the sides of the community and in the wild to the across the main road to the north. Zoomlion's Eco-Brigade (Zoil) manages waste, cleans and enforces sanitation regulations on and around the beach regularly.

Twenty years ago, there used to be only 2 hand dug wells in the community. Now there are taps with running water which were put in place about 15-20 years ago.

The community is connected to the national electricity grid.

Land tenure

Nzemas families owe the lands in the community. To use a piece of land, you have to talk to the family that owes it and arrange terms. Shared-cropping system where farm produce is shared equally between farmer and the land owner (*Abunu*) is practiced. Some others are more generous and give their lands out for farming at *Abusa* terms (land owner gets one-third of produce). Land is not sold outright to users. Indigenes are allocated portions of family lands whilst non-indigenes or settlers are charged a token fee to be granted leasehold.

Economy

Fishing is the main activity in the community. It is a seasonal activity done in August-November & January-February. Though Nzema men do not go fishing, both Nzema and Fante women are fishmongers who sell smoked fish in Accra, Kumasi and Takoradi. They also sell to buyers from Abidjan in La Cote d'Ivoire.

The Nzemas are coconut farmers the produce (copra) which they sell to Nigerian entrepreneurs. This is an all-year round activity. It is sold for ready cash. Some women use copra to process coconut oil which they send to Jeway Wharf and Accra for sale.

Many women in the community are petty traders who buy vegetables and consumables from the Ainyinasie for sale in the community market. Some also hawk items in the community. Many women also food vendors selling popular cooked food like rice and soup (*not stew*), kenkey and doughnuts.

There are 2 drinking bars in town which sells beer and hard liquor. These are popular 'relaxation and entertainment' destinations for men. These bars operate from morning till deep in the night and are regularly teeming with patrons.

Algal bloom in the ocean has affected fishing activities for the past ten years negatively affecting economic activities in the community.

According to the community, standard of living has dropped due to decline in fish catches.

Farming

Farmers are sometimes visited by the extension services of the Ministry of Food and Agriculture (MoFA). But that has not been forthcoming anymore. Challenge is that, apart from coconut, all farming is done at the subsistence level. (*Evidently, service to the fisheries sector is rather, concentrated on by MoFA*).

Crops cultivated are mainly coconut, cassava and vegetables. Cultivation of cassava and vegetables on the subsistence level are done to the north of the community. Coconut plantations are situated on the beaches on the outskirts of the community and to the north.

(Farm owners are not able to tell of acreage but reported that, an average plantation has more than 2,000 trees.

Cultivation of cassava and vegetables is mainly done by women.

Coconut oil processing

Coconut oil processing business is done by Nzema women and the oil sold in Jeway Wharf and Accra. The oil is also used domestically.

Livestock production

In almost every household chicken is reared for domestic use. Sheep is also kept domestically. There are no commercial livestock breeders in the community.

Tourism

There are 3 hotels in nearby Half-Assini (1km away).

There is a rundown beach resort that is undergoing renovation on the outskirts of the community.

Fisheries

There were 4 big and 3 small canoes in resident in Ekpu. (*A big canoe can take a crew of 26-34 whilst a small one takes a crew of not more than 20 per fishing expedition*). But during fishing seasons it shoots to 20 and peaks at around 70. This means during fishing seasons, canoes from other communities both far and near use Ekpu as an operating base.

According to the Chief fisherman, dragnet (*beach seine*) users are out of business these days because the proliferation of algal bloom which led to emigration of fishermen who only started to return in December 2009. Since they use outboard motors and are able to go fishing in deeper waters. He confessed that they use light in fishing. He says

The group of fishermen met mentioned August-November and February as the major seasons. They fish around where there are stones in the sea for lobsters during the lean-season and sell it to hoteliers who have made arrangements with them. They claim fish size has not reduced; only that the volume is lower because too many canoes and other fishers are on the sea.

Fishing is done all year-round with no off-seasons a traditional taboo day of no-fishing is observed on Tuesdays. Major fish species caught in the major (August-November) are from the sardinella species (*Eban*).

Fishermen complained of algal saying it destroys fishing nets. The source is unknown but it appeared than 10-12 years ago.

Both Nzema and Fante women buy fish for processing and sale from the fishermen. The market destination is usually Accra and Kumasi. Others also come to buy from Abidjan in La Cote d'Ivoire. Fishmongers will rather store their fish if the price is not good but storage facilities are a problem here.

The fishmongers are quite assertive and sometimes take the men on when they suspect that fish was caught with chemicals (such fish starts going bad quickly).

Fishermen used to sell fish on credit to the women fish processors but now, many could afford to pre-finance the fishing expedition so that fish is sold to them upon return.

Fishers said inputs are expensive but they do not get any assistance from government or any other source. Price of inputs has been going up regularly the past few years.

A new dug-out canoe cost about GHC 4,000. With the addition of net and outboard motors the cost can go up to GHC 25,000.

Environment

Dolphins & whales come around from time to time and it is regarded as a good omen for pending good catch.

Turtles' nestling grounds on the beach and navigable lagoons.

Governance and Local institutions

There is Community Based Fisheries Management Committee (CBFMC) in Ekpu and the executives regularly receive training and are invited to participate in workshops and information sessions by NGOs and CSOs like Friends of the Nation (FoN), Centre for Public Interest Law (CEPIL) and Integrated and Social Development Centre (ISODEC).

The *de facto* women leader is the *konkohen* who is the head of women fishmongers. She regulates activities concerning pricing and buying of fish on the landing base.

The Department of Fisheries are in regular touch with the fishers. The office is just 2km away in Half-Assini. There is a clear feeling of cooperation between the 2 field staff of the department and the fishermen. Their work involves seeing to adherence of regulations about size of net (mesh size) and fish caught.

There are NGOs and Associations (CSOs) in town but they do not concern themselves with fishing activities but rather, oil and gas issues (*especially involvement and employment opportunities for the indigenous Nzemas in the Ghana oil find*).

According to the chief fisherman, the gap between them and the District Assembly is far. They are "*not assisted in any way by the government*". Assembly said it will register them at GHc10.00 per fisherman since August 2009 but that has not materialised by February 2010. For what purpose this registration was for was not known to fishermen they claim.

The community host the Hassan Foundation (an NGO) founded by Major (rtd) Hassan. The Foundation is not yet operational.

Key Coastal and Fisheries Issues

Decline in fish catches

Fishermen said fish catches 15-20 years ago was very big in volumes. At that time every fishing expedition fetched about 300-400 headpans. But until recently when they also resorted to using

light, a whole week's fishing trip fetched only 2-3 headpans. Fishers say there are too many canoes, boats and trawlers on the sea in search of fish. Fishermen say the sea is warmer now driving away fish. They said the fish like it when the water is cool.

Women fish processors say that fish catches have declined very much. They have to pay in advance before they get fish to buy. That is indirectly sponsoring fishing trips. Decline in fish catch is also attributed to algal bloom. Fishers say it has made the water 'dirty' for the fishes' liking.

Illegal fishing activities

Fishermen complain of big industrial fishing boats and pair-trawlers coming close to the shore to the extent that they destroy everything. They pollute the sea by throwing into it large amounts of dead fish which they have hauled on board but do not want. They cover their registration numbers with fishing nets so that local artisanal fishermen are not able to identify them to report them to law enforcement agencies.

Women fish processors said sometimes the fishermen bring ashore fish that was caught with chemicals (DDT and dynamite).

Fishermen expressed worry about light-fishing. They have unwillingly joined the fray because others come from outside the community to do it and yet are not punished.

Coastal erosion

The beach front has eroded about 100 metres since the past 35 year. They said every year, they lose about a row of coconut trees on the coast to sea erosion. Fishermen attributed coastal erosion in the area to the construction of Takoradi harbour (completed in 1928)

Accessibility to premix

There is a pre-mix committee Ekpu which sells fuel to fishermen. Deliveries do not come regularly. The supply depot and point of distribution is most often than not having any fuel to sell. The price is also unofficially doubled from GHc2.80 and sold at GH5.6 or more to fishermen. Fishermen buy regular vehicle fuel from Half-Assini which they dilute themselves to use for their outboard motors. Though this can have negative effect on their machines,

Trade in sex for fish

Sex for fish is not practiced in the community but the gathering said individuals have personal relationships with whoever they choose, be they fishermen or not.

ELONYI

History

There are 2 accounts on how the community got its name. The first account indicates there was a fight at a point. Many people gathered at the point to witness the fight. “*Elonyi*” means crowd in Nzema. Therefore “the point where people gathered to watch the fight” became the name of the community. The second account says the community took its name after the Elonyi lagoon that was “crowded with fish” where the first settlers went to fetch water. The community was founded around 1900.

Physical Characteristics

Elonyi lies on a sandy stretch of flat land. The community nestles between coconut plantations to the east and west. Coconut oil processing sites and piggeries are located before coconut plantations on the north. The land area beyond these coconut plantations are swampy areas. Forests and mangroves located further northwards are habitats for deer, antelopes and duikers. This area is quite close to Mpataba town which is not far from Tikobo I.

Elonyi lagoon takes its source from the northern portions of the community and empties into the lagoon to the west of the community. It joins the sea between the community and Kengen. *Tilapia* and *mud-fish* are harvested from the lagoon.

Demographics and Settlement patterns

The community is inhabited by the native Nzemas and migrant Fante fisherfolks. The Nzemas are predominantly farmers and cultivate coconut, cassava and vegetables, but a few of them also practice fishing. The population of the community is estimated to be 1,500 residing in approximately 300 houses. Most of the housing units are constructed with sandcrete block. A few palm fronds and raffia structures dot the shoreline.

A drug store is located along the main road which is untarred. The community market is sited about 12m off the main road towards the south. Residents dump solid waste on the south eastern corner close to coconut plantations. A public KVIP toilet which is yet to be commissioned is wedged in between the cemetery and a waste dumping site on the eastern periphery.

There are 3 churches and a mosque in Elonyi. The churches are Pentecost, Catholic and Methodist.

During the major fishing seasons, fishers from other localities especially, the Central and other communities in the Western region migrate to the community to undertake fishing activities.

Education

The community has a basic school comprising kindergarten, primary and Junior High Schools. Illiteracy rate in the community is high.

Health

Elonyi community has no health post. Inhabitants receive medical care from the Twenen CHPS which is about 4km from the Elonyi.

Water and Sanitation

The community access water from 3 hand-pumped boreholes. There is an abandoned public place of convenience which is about 80% complete funded by the District Assembly. Majority of residents use designated areas inside the coconut plantations along the beach and the northern fringes of the community as grounds for defecating. There are however a few KVIPs and water closets in individual households. Eco-Brigade personnel clean the beach on regular basis and ensure residents do not defecate and throw rubbish indiscriminately along the beach.

Economy

Economic activities in Elonyi are mainly fishing and farming with approximately 30% of the economic active population engaged in fishing. The fishing industry however exerts much influence on the local economy. Residents expressed decline in living standards mainly due to the decrease in fish catches.

Farming

The major crop grown is coconut. There are also smaller farm plots, which grow cassava, tomatoes, pepper, okro and groundnuts. Farming is practiced throughout the week with no off or taboo days. Farmers reported of receiving no Extension Services from the Ministry of Food and Agriculture.

Coconut oil processing

Coconut oil processing is practiced in the community by some residents. The oil is sold in Accra and Takoradi. This industry is gradually dwindling due the shortage in the only raw material, which is the copra.

Livestock production

Pig rearing which was introduced into the community about 15 years ago is the common commercial livestock production practiced by a few community members. The piggeries which are sited at the beach are about 70m on-shore. The pigs are fed with coconut chaff which obtained after coconut is grated and the fat skimmed for processing. The chaff is obtained from oil processors at no cost.

Cattle rising, poultry keeping and sheep rearing are the other livestock activities in the community. A herd of 65 cattle sited at the beach is owned by one native and taken care of by 2 herdsmen from northern Ghana. Many residents also rear chicken for household consumption. Sheep reared in the community are sold to *khebab* sellers and also used traditional and customary purposes.

Fisheries

There are 7 big canoes in Elonyi with 3 of them powered by 40HP outboard motor. The non-motorised canoes use the beach seine nets while the motorised ones deploy the ring net. Each

canoe carries between 7-8 crew members per fishing expedition. *Eban, Sukue, Safor, Ahenemandzi, Edue and Ekan* are the major fish species caught by fisherfolks.

Revenue from fish sales are divided into 2 with the canoe owner taking one portion while the other part goes to the crew members. Fisherfolks also give some portion of the catches to the traditional authorities. Changes in fishing grounds have from the nearshore to about 120yards off-shore.

Traditional methods of smoking fish is the major fish processing employed by fish mongers. The smoked fish is marketed in Tikobo II and Ainyinasi.

Aquaculture is also engaged by some residents in the community. There are three fish ponds with 'mud fish' being the main specie cultured. The fish are fed with wheat bran and chaff from maize and marketed in Tikobo II and Ainyinasi.

Tourism

This community has no hotels or guest houses. The fisherfolks indicated Dolphins and whales are sighted from August to November and it is an indication of a favourable fishing period.

Environment

The coastal strip is characterised by open sandy beach with pounding surf. The near shore oceans areas are characterised by algal bloom. The Elonyi lagoon empties into the sea on the western edge. Close to the lagoon are groundnut farms. The lagoon dries in the dry season.

The Sea turtles come to lay eggs on the beach around August-September

Governance and Local Institutions

The community has a chief fisherman who ensures peace and order prevails among fisherfolks and also settles disputes. There are no CBFMC and Landing Beach Committee in Elonyi. No formal associations or institutions also exist in the community.

The community members interviewed said they hardly get any support from the District Assembly.

Key Coastal and Fisheries Issues

Decline in fish catches

"Fish catches was plentiful about twenty years ago, but the catches are nothing to write home about these days because of increasing fish effort and green green", the fishermen complained. They explained that fish catches of species like *Eban, Sukue and Ekan* has dropped from 70, 60 and 45 head-pans to 10, 8 and 5 head-pans respectively within the last two decades.

Pair trawling and light fishing

The fisherfolks expressed concern about the effects of pair trawling on their activities. They complained that pair-trawling boats operate as close as 200m off-shore and destroy their nets. They alleged that trawlers recruit Ghanaian fishers along the coast. They therefore have personnel who provide information of spawning locations, the fishermen said. They added that the pair trawlers cover their registration numbers with fishing nets during their expeditions.

On the use of light for fishing, the fishermen said they were not engaged in the practice previously, but have joined the fray because fisherfolks from other communities come to their waters to practice it.

Algal bloom

“Green green has inundated the nearshore areas making fishing very difficult. Our gears get destroyed during fish”, the fishers lamented.

Accessibility to pre-mix fuel

There is no premix depot in the community. Fishermen said they purchase pre-mix fuel from Half-Assini, Agyeza and Ahobre. They however, complained of difficulties in accessing pre-mix fuel at these depots. The chief fisherman said, *“The pre-mix operators always complain of shortage, but some of them sell the commodity on the black market at a higher price of GHC 4.00 per gallon instead of GHC 2.80 per gallon”*. He added that, they sometimes buy petrol and mix it with gas oil as an alternative source of pre-mix fuel.

Coastal erosion

The beach front has eroded about 100 metres since the last decade. Two rows of coconut trees disappear every year, the fishermen said.

Lack of capital and credit facilities.

The fishmongers said fish was previously sold to them on credit, but fish sales are now on cash basis. They said this situation has rendered many of them jobless because only a few of them have the financial strength. They also complained of their inability to access credit due to high interest rates. The fishmongers appealed for financial assistance to purchase wire mesh, head-pans & refrigerators.

ENZILIBO

History

Enzilibo is literally translated as, '*under the enzinli tree*'. According to the Tufuhene, the community was founded around 1874 with Danwuma Kpanyili as leader.

Physical Characteristics

Enzilibo has to its south the sea, the north coconut plantations, to the west coconut plantations, Bonyere community & lagoons. On the east, you find coconut plantations & Alengezule community. The beach is full of algal bloom. The whole community is sandy.

Demographics and Settlement Patterns

Enzilibo comprises the native Nzemas, Fantes and the Zambramas. Because of dwindling fortunes in fishing, the Ewes who were once here left the community 10 years ago. The Nzemas are predominantly farmers (coconut, cassava and vegetables) while the Fantes are fishermen (sea) with the Nzema male youth helping on the beach. Electricity was brought to the community 6 years ago.

Education

The community has one basic school and JHS. There is also the SHS which has a computer laboratory (rare in this area) and six bungalows for members of staff. The SHS has 700 students with students coming from all over the district and other far away geographical areas. There also is a nearly-completed Technical school under construction (with US Government funding).

Health

Enzilibo community has no health post. The community is periodically visited by the Community Health personnel to provide services on Maternal and Child Health (MCH) from Bonyere and Tikobo Number I.

There are health facilities at Bonyere Junction (2km to the north); Tikobo No I (5km to the north-west) and, Bonyere (2km to the east).

According to the chief, teenage pregnancy is on the ascendancy and is disrupting academic prospects of the community's bright females. He attributed this to lack of or inadequate financial support from parents and guardians, peer pressure and adventurism.

Common diseases are malaria, diabetes, snake bites, typhoid and cholera.

Water and Sanitation

There is one constructed KVIP toilet in the community with a few households having their private ones (about 20 in all). People also attend nature's call at assigned areas demarcated among the coconut trees to the sides of the community. Zoomlion's Eco-Brigade (Zoil) manages waste issues around the beaches. They clean the place and enforce sanitation regulations there.

There are 7 functioning wells in the community. There is also a community reservoir with a standpipe fit to it for sale of water. Concrete drains are being constructed along the roads in the community which is an indication that the roads will soon be tarred.

Land tenure

The lands in community are mainly family-owed. When one wants to use a parcel, be it a stranger or an indigene, one has to contact the appropriate family for the terms to be set.

Economy

Fishing in the sea, piggery and coconut farming are the main activities in the community. The coconut farmers are the indigenous Nzemas and they sell the copra to Nigerian entrepreneurs. Algal bloom in the ocean has affected fishing activities for the past three years negatively affecting commercial activities in the community thereby compelling all, women especially to take to trading, vegetable and cassava cultivation to supplement their income or their own domestic use.

According to residents, standard of living has dropped due low agriculture productivity attributed to depleted soil; decline in fish catches, and high cost of living.

Farming

Crops cultivated are mainly coconut, cassava, vegetables. Cultivation of cassava and oil palm on the subsistence level are mainly done to the north of the community.

Farmers complained of over-cultivation of farmlands which has reduced fertility of the land. Cassava, vegetable cultivation has also been affected because they are usually cultivated in rows within the coconut plantations. The farmers say that there will be an increase in yield if fertilizers are applied. But, they are unable to buy it because it is expensive.

Coconut oil processing

Coconut oil processing business is a big business in Enzilibo. The chaff from processing coconut oil is given to pig farmers which they use to feed their animals.

Livestock production

Pig farming is a big business in Enzilibo. Few persons rear chicken and ducks for domestic consumption. Sheep is also kept in many households.

Tourism

The nearest lodging facility is at Bonyere.

Fisheries

There were 7 big canoes in Ezinlibo operating on the sea two years ago, but the “green-green” (*algal bloom*) has forced many fishermen to leave the area. There are currently only two left. The canoes take crew members of 25 or more.

The fishermen have to use larger and larger nets now. They say “we used to cast 250-300 measures of net but now, we cast between 600-700 but fish size has reduced.

Environment

Sea turtles come to lay eggs on the beach around August-September. Lagoons to the sides of the community sometimes join the sea. Many kinds of fish are gotten from it.

Governance and Local Institution

The headman in the community is known as Tufuhene Monyor Boavo. He is acting as chief pending the enstoolment of substantive one. There is a chief fisherman (*the team did not meet him because he was not around*). His duty entails ensuring peace and order on the beach all the time. The community members indicated of no support from the District Assembly. The town is devoid of CBFMC and Landing Base Communities.

Key Coastal and Fisheries Issues

Decrease in fish harvest

Fishers indicated of lower fish landings in recent times. They said increasing fishing effort, light fishing and the use of dynamite to fish are the causes.

Pair trawling

Pair trawling was expressed as a frequent activity on the sea.

Light fishing

Fishermen complained about the effects of light-fishing on the industry though many of them confessed their engagement in the act. The fishers explained that they joined the fray because fisherfolks from other communities practice it.

Algal bloom

The blooms hinder fishing activities anytime they appear.

Coastal erosion

The beach front has eroded about 70 metres in the past 15 years ago.

Teenage pregnancy

Teenage pregnancy is an issue in the community. According to the Assemblyman, about 50%-60% of girls drop out of school because of pregnancy.

ENZEMENTIANU

History

According to the natives, two of their ancestors settled at the place long time ago though living in different areas. Their history indicates that an issue cropped up and on several occasions he finally told invited the other to listen what he had for him but all these invitations yielded no results. So he finally told his brother 'Ezemetianu' which literally means 'You don't know what is in my head'. And that later became the name of the community. Around 1931 when the community was founded, salt mining was a big business for some number of years before it became defunct.

Physical Characteristics

Enzementianu is small coastal town with a land area of about 1km². The coast is a sandy beach of approximately 100m in length. The landscape is flat with no major peaks. The eastern and western fringes which extends southwards is characterised by coconut plantations. The community shares boundaries with Mangyea and Mpeasem to west and east respectively. Nokobanu, Appolonu and Elakakpoki communities are bordered on the north about 4km away. Towards the northern landscape before these communities are coconut plantations and, cassava and vegetable farmlands. Beyond the coconut plantations are marshy areas of bamboo and raffia.

Demographics and Settlement Patterns

Ezinmintianu's population is estimated to be 1,000 according to the *Tufuhene*. The community is largely made up of Nzemas with a few migrant Fantes, Ewes and Kusasis. Farming is the main occupation of the Nzemas while the Fantes and Ewes are fishers. The Kusasis on the other hand are farm labourers. The Ewes are the more 'integrated settlers' and are clustered into two groups. One group is settled at the central portion along the shoreline. The other group is housed in the eastern settlements. The Fante fishermen only return to the community during the major upwelling seasons from July to September. The ethnic groups in the community live at peace with each other and intermarry.

Approximately 135 houses exist in the community. Majority of the houses are built with raffia and thatch-roofed. A few of the houses are however built with cement blocks and roofed with corrugated aluminium sheets. Settlements along the immediate shoreline are mainly occupied by the Fantes and the Ewes.

Traditional African worship, Christianity and Islam are the types of religious practices in the community. There are four churches and a mosque in the community. During the assessment it emerged that on occasions like the Kundum festival and Christmas the population increases temporally. This is because most of natives living outside the community (in urban areas in Ghana and also in La Cote d'Ivoire) return to join in the celebration.

Education

The community has a six unit primary school and kindergarten, but no Junior High School. Illiteracy rate is high in the community. The *Tufuhene* noted of declining educational standards.

He explained that parents are unable to provide the required inputs for their wards education because of low incomes. This he attributed to the decline in fish catches and low agricultural yields.

Health

The community has no clinic. Residents indicated that Community Health Service personnel from Half Assini provide Maternal and Child Care Health (MCH) services in the community periodically.

Water and Sanitation

Community members fetch water from a hand-pumped borehole and two hand-dug wells. Most of the households in this community have neither toilet nor bath facilities. Designated places under the coconut trees along the beach are used as defecating grounds. The beach is regularly kept clean by the Eco-brigade. The community has no containers for solid waste collection and there no also no constructed drains. Refuse is dumped at designated places within the coconut plantations close to settlements.

Land tenure

The lands in community are mainly family-owned with three out of the seven families having ownership. Shared-cropping system (*Abunu*) where farm produce is shared equally between the farmer and the land owner is practiced.

Economy

There are no banks or credit unions in the community. The community is also devoid of major industries and a market. Livelihood activities are dominated by fishing and farming, with fishing having a greater influence on the local economy. A small number of residents however trade in household consumable goods in small shops and on tables. There are 2 bars and a local restaurant in the community. According to the inhabitants, business activities are mired with the advent of algal bloom in the sea which affects fishing.

The local economy has been badly affected with the appearance of the bloom since December, 2009.

Farming

Majority of the farmers are engaged in coconut cultivation. Other crops like cassava, tomatoes, okro and pepper are also cultivated on small farmlands northwards of the community. The farm produce are consumed locally. Coconut fruits are mainly sold to Nigerian traders who come to the community on regular basis.

The farmers believe their farm lands have been over cultivated resulting in declining soil fertility. They reported of low coconut yield due the longevity of the coconut plantations. They said, *“We are prepared to uproot over-aged coconut trees and plant new ones, if we are supported with high-yield seedlings and fertilizers”*.

Coconut Oil Processing

Coconut oil processing business has declined in the community. According to the processors, they get access to a limited number of coconuts because the Nigeria traders are of a preferred choice for the sales of coconuts because they pay cash on the spot. The processors also attributed the downward trend of the industry oil's low market value. However, the little processed oil is sold in Accra and Kumasi.

Livestock production

Livestock activities are mainly domestic poultry keeping.

Tourism

There are no lodging facilities in the community. The fishermen indicated that dolphins and whales are sighted about 120metres off-shore during the month of November.

Fisheries

Artisanal fishing is the main fishing activity on the coastal stretch of Enzimintianu. The total fishing fleet is 9 canoes with 4 of them motorised. The non-motorised are dimensioned 10 yards in length and up to 2yards in depth and width. These canoes utilize of 1^{1/4}, 2 and 2^{1/4} inches mesh size beach seine and drift gill nets and deploy 6-9 crew members. The motorised canoes are powered by 45HP outboard motors and operate the ring net and tenga (bottom set net). Crew members of 25-30 are on board during fishing expeditions. Harvested fish in this community are mainly sardinellas, *edue*, *ekan*, *sukue*, *opae*, *ahenemandzi* and *safor*.

The landed fish are sold to fishmongers at GHC 50.00 per head-pan. Majority of the landed fish are smoked with only a few fried. The processing sites are situated within settlements along the coast. Coconut husks and stems and forest wood are used as fuel for the fish processing. The coconut husks are sold at 1GHC for every one hundred pieces. The coconut stems and forest wood usually of a yard in length are sold for 20GHC per head load. Jaway Wharf, Half- Assini and Agona-Nkwanta are the market centres for fish from the community.

Fish sales are distributed into 4 proportions as follows: one portion for canoe owner expenses, another portion for the expenses incurred, a third portion for the crew members and the last part is saved and shared at the end of the year or in times of dire financial needs.

Environment

The shoreline is characterised by long stretch of sandy beach of approximately....in length. Coconut plantations dominate the eastern and western edges of the coast. The coconut plantations serve as waste dumping site and defecating grounds.

There are 4 lagoons lying about 6km northwards of the community. These are *Benzum*, *Elubula*, *Ndabla* and *Mundumundu*. They are said to be habitats for tilapias, crocodiles and tortoise.

The beach is a feeding and nesting site for sea turtles especially in August.

The locals said sea turtles were previously poached, but education on its ecological importance has curbed the act.

The nearshore areas have been inundated with algal bloom.

Dolphins and whales are sighted in the marine areas during the month of August.

Governance and Local Institutions

There are 2 chief fishermen each representing the Fantes and the Ewes fishing communities. The chief fishermen administer traditional laws on fishing and adjudicate disputes among fisherfolks. Ezinmintianu has no chief fisherwoman. There is no CBFMC in the community. There are also no formal social groupings in the community. Residents indicated that the District Assembly hardly provide the community's development needs.

Key Coastal and Fisheries Issues

Decline in fish catches

Significant reduction of fish catches was reported by the fishermen. They said the use of dynamite and carbide in fishing, light fishing, pair trawling, algal bloom as well as increasing fishing effort were responsible for the decline. They illustrated that while 150-200 head-pans of fish were landed per expedition a decade and a half ago, a maximum of 10-12 head-pans are harvested presently.

Light fishing and pair trawling

The fishers alleged that fishermen from Half Assini and Axim engage in light fishing in Ezinmintianu waters. Pair trawling was also confirmed. It was indicated that the operators fish as close as 200m off-shore.

Algal bloom

Fishing activities have ground to a halt due the presence of algal bloom in the ocean.

Accessibility to premix

Fisherfolks complained of their inability to readily access premix fuel. Although a premix depot is sited at Mangyea which 2km away, premix fuel is purchased from Half-Assini which is about 10 km away. According to the fishermen, the Mangyea premix depot receives little fuel on regular basis. They accused the pre-mix operators of underhand dealings and selling the fuel at black market rates which are higher.

Lack of capital and high interest rate on loan facilities

Fishmongers expressed that their business is being hampered by lack of capital and high interest rate on loans. They indicated that the loans are acquired from relatives and friends at a simple interest rate of 20% to be repaid within a month. They expressed that the high cost of fish coupled with the increasing cost processing inputs, especially fuel wood and wire mesh inhibit their ability to pay back the loans.

Lack of toilet facilities

There are no toilet and bath facilities in most households.

Sex for fish

No confirmation of trading sex for fish was indicated by the women interviewed.

Coastal erosion

It was indicated that the coastline has eroded about 100 metres since the last two decades. This was attributed to sand winning for commercial purposes in the past. Sand winning has therefore been banned.

JEWAY

Physical Characteristics

Jeway is a coastal, sandy community with the sea lying to the south. It lies adjacent the junction of Half-Assini to Jeway Wharf and Avolenu-Newtown. The north has the trunk road running from Half-Assini to Avolenu-Newtown bordering it. The coast which is a flat sandy stretch of land is drenched with coconut trees. The beach has a carpet of algal bloom destroying the beautiful of the place.

Demographics and Settlement Patterns

Jeway has population mix of the indigenous Nzemas, Fantes and Ewes. The Fantes and Ewes are itinerant fishermen coming to town only when it is fishing season. Any other activity by them there is on low-key (made worse by the decline in fish catches). The Nzemas are predominantly farmers (coconut, cassava and vegetables) There are inter-marriages between the ethnic groups.

Education

The community has one JHS. There is no kindergarten. Construction of community primary school is near completion.

Health

Jeway community has no health post. The community is periodically visited by the Community Health personnel from Half-Assini to provide services on Maternal and Child Health (MCH). All other health problems are sent to Half-Assini which is about 4 kilometres away. The most common disease is malaria.

Water and Sanitation

The community lacks toilet facilities. Inhabitants use the coconut plantations along the beach as places of convenience.

Economy

Fishing in the sea and coconut farming are the main livelihood activities in the community. Also due to its proximity to the Jeway Wharf, many women sell cooked food and other items at the place which is always busy, especially on market days which fall on Saturdays. The indigenous Nzemas are coconut farmers and they sell the copra to Nigerian entrepreneurs.

There is no designated market place in the community. 6 women who participated in the meeting said they farm to supplement their meagre income which is now precarious because of the algal bloom. They however sell food items at the wharf to travellers and security personmnel.

Algal bloom in the ocean has affected fishing activities for the past 6-8 years and has negatively affected all commercial activities in the community thereby compelling all but women especially to take to petty trading, vegetable and cassava cultivation to supplement their income and also their families' consumption.

Residents say, standard of living has gone lower due low agriculture productivity attributed to depleted soil and decline in fish catches.

Farming

Crops cultivated are mainly coconut, cassava, vegetables. Coconut plantations are on the beaches on the outskirts of town and to the north.

Farmers said of their farmlands are no more fertile resulting in poor yield. Also, the coconut trees themselves are too old apart from sapping up all the nutrients from the soil. Cassava cultivation and other vegetable cultivation has also been affected because they are mainly cultivated in rows within the coconut plantations. The farmers believe productivity can improve by the application of fertilizers but, they are unable to purchase them because it is expensive.

Coconut oil processing

Coconut oil processing business is not big business in Jeway. Activities are concentrated on fishing and subsistence agriculture. Coconut farmers also sell copra to Nigerian buyers for ready-cash.

Livestock production

Some community persons rear chicken and ducks for domestic consumption. Sheep and goats are also kept. There are 3 pig farms in the community with 3 sited close to the beach. The other is sited among the coconut plantations in the community.

There are fish rearing businesses with 2 ponds in the community.

Tourism

Dolphins and whales come around from time to time especially in December-January.

No hotel or lodging facilities in town. (*Closest one are found in Half-Assini*).

Fisheries

There were 5 canoes in the community with four being itinerant. They do not use outboard motors to fish in the community. Fishers deploy only the beach seine net.

Some fishermen come from far away places to practice light fishing in the waters close to the beach. Trawlers also come very close to shore at night to fish.

September-December and February is the bumper harvest time but the 'green-green' is preventing them from catching fish as it fills their nets.

In sharing fish, catch is usually divided into 2. (a) outboard motor, canoe, and net and – owner(s); (b) crew. What a crew member or group of members decide to do with their share is their own business.

Some portions of the catch is also given to recognised in the community authorities and groups like the chief.

Environment

Sea turtles come to lay eggs on the beach around August-September

Governance and Local Institutions

There is no CBFMC or Landing Base Committee in Jeway. There is a chief fisherman who regulate activities on the land beach.

Key Coastal and Fisheries Issues

Decline in fish harvest

There are only three fishing canoes operating in the community though fishers from elsewhere once in a while land their catches there. "Fish catches used to be plentiful but now, there is 'green-green'" they say.

But fish catches have declined considerably. They said they used to see fish even from ashore but now, it is not so anymore. Fishermen used to harvest about 30-45 headpans after each trip 10 years ago but it is now difficult to get even 2.

Decline in fish catch is attributed to 'green-green' and light fishers.

Pair trawling

Fishing boats and pair-trawlers come close to the shore they destroy everything.

Light fishing

Fishermen expressed worry about the effects of light-fishing. They do not understand why the law is not being enforced.

Algal bloom

'Green-green' is preventing us from catching fish".

There is proliferation of algal gloom in the sea and it has rendered fishing in the sea profitless because no much fish is caught. It also destroys fishing nets. Fishermen do not know the source of it but says it appeared more than 12 years ago.

Coastal erosion

The beach front has eroded about 100 metres since the past 20 years ago. It could be equated to a Football Park's length. .

KENGEN

History

The town is believed to have his first settlers as Nana and his sister. The town was full of oil palm trees and palm kennel. When Nana Atwi Kpanyinli's sister passed away, he lamented, "*me ka arene ye nu?*" which literally mean "will I remain in this palm kennel forever?" So '*Arene*' became the original name of the town but has been adulterated to Kengen.

Physical Characteristics

Kengen is coastal community with a total land size of.... Twenen and Elonyi communities are bordered on the east and west of Kengen respectively. The community shares boundary, 6km to the north with Allowuley, Nuba and Ehoaka communities. The community is characterised by a flat landscape. The eastern and western corners of the community are inundated with coconut plantations. The immediate northern surroundings are also covered with coconut plantations. A few metres away from the coconut plantation on the north are swamps. Vegetables, notably tomatoes and okro are mainly cultivated on the swampy lands. About a half of kilometer towards the north-west of the swampy areas is located the mysterious mountain known as *Bokabo*. Gold is said to be found within this area. According to residents, "*darkness falls when one picks the gold. Light emerges again when the gold is placed back.*"Close is the mountain is the *Wuluwulu river* which extends eastwards. There are farmlands nearby this river towards the north. Further northwards close to Allowuley, Nuba and Ehoaka communities are forested areas which are preceded by desert lands.

Demographics and Settlement Patterns

Kengen is inhabited by approximately 3,500; comprising Nzemas and Fantes. The Fantes are migrant fishers and forms about 10% of the population. The first Fante fisherman, who is currently the chief fisherman, settled in the community in 1975. Farming is the major livelihood activity of the Nzemas. However, a few of them double as fishermen.

There are about 350 houses in the community with an average household size of 6. About 80% of the housing units are constructed with cement blocks. A few of the settlements are located on the immediate shoreline are raffia-built and roofed with thatch. These structures are inhabited by the Fante fisher folks. The settlements in this community are well laid-out with spaces wide enough for cars to pass.

Across the main untarred road towards the north, the community market, J.Blav Guest House, the Kengen CHPS and the Kengen Junior High School are the notable landmarks along the road. Further to the north are five churches, two primary schools, a public toilet, a football park and the residence of a herbalist. The landmarks are interspersed with settlements mainly inhabited by the Nzemas. The settlements beyond this area do not have electricity supply.

Along the main road towards the coast are located other important landmarks. These include a two-storey building, a bar and *Tufuhene's* residence. On eastern edge are a public toilet and the Catholic Primary School. Towards the shoreline are sited the Catholic Church, the Chief's palace and two shrines.

Migration to the community is mostly experienced during the major fishing season which commences in July. During this period, fishers from other geographical areas notably, Central region and other parts of the Western region land in the community.

Education

Kengen has four schools. These are Kengen Primary and Junior High, Catholic, New Life and Salvation Primary schools. Apart from Kengen Junior High, the other three schools are privately-owned school and up to primary six. The Kengen Primary and Junior High School has no kindergarten and lacks adequate trained teachers. This has affected the academic performance of the students in the BECE over the years. As a result, some parents indicated their unwillingness to invest much in their children's education.

Health

The community has a health post, but lacks qualified staff. This health post has no maternal ward. Residents reported of malaria and waist pains as the commonest disease.

Water and Sanitation

Four hand-pumped boreholes are found in the community, but only one is functional. According to residents, water from the operational borehole turns brown after an hour of collection. There are two public KVIP toilets. The toilets are 10 and 12 seaters and constructed by the District Assembly and the Roman Catholic Parish respectively. Residents complained of the inadequacy of these two toilet facilities, because of their increasing population. Refuse is dumped in the valley close DJ Red beach centre.

Land tenure

Kengen lands are mainly family-owned. Lands are acquired on leasehold. A token is taken from indigenes when land is released for a project. But with 'outsiders', a more 'stringent' arrangement is made which is negotiable between the lessee and the lessor.

Economy

Major economic activities in Kengen are fishing and coconut farming. There is also micro trading of assorted household consumables in small shops. The local economy is highly dependent on the fishing industry. A major drop in fishing activities seriously affects commercial undertakings. The local economy has therefore suffered a setback with the advent of algal bloom in the oceans which has stalled fishing for three months (March, 2010). The community market was empty during the appraisal. This community is devoid of any financial institutions and big industries.

Farming

Coconut cultivation is widely practiced by the locals. Other farming activities include cassava growing to supplement household income. The harvested cassava is processed into dough, gari and *akyeke* and sold locally. The coconut fruits are marketed to Nigerian buyers. Low yields of

coconut and cassava were reported by the farmers. Perceptions coconut trees were over-aged, thus low productivity. They said the application of fertilizers will improve production. They therefore solicited for financial support to purchase fertilizers.

Coconut oil processing

Only a handful of residents live on coconut oil processing. The processing sites are located at the beach about 70m onshore. The processors complained of dwindling fortunes because of inadequate access to coconuts. They said coconuts are sold to Nigerian buyers on cash-down basis rather than crediting it to local coconut oil processors. They also indicated of low market for coconut oil.

Livestock production

Pig farming is the common commercial livestock activity in Kengen. The piggeries are situated along the shore close to the coconut oil processing sites. Those engaged in this activity indicated of low production. They attributed this problem to declining coconut oil processing business. The pigs are sold to buyers from Ainyinasi, Takoradi and Accra. Pork is also sold and consumed locally. The farmers requested for veterinary services and credit facilities to purchase pig feed.

Tourism

The only lodging facility is the J. Blay Guest House. The community has no significant tourist attractions, but *Alemanza* and *Eloyinloanu* lagoons were identified as potential sites, which when developed could attract tourists.

Fisheries

Fishing in Kengen is artisanal. Four unmotorised and 6 motorised canoes existed in the community in 1975. The motorised canoes utilized 25HP outboard motors and deployed ring nets of 1^{7/8} and 2 inches mesh size. The canoes were 10 yards in length and 1.5 yards in depth and width. Beach seine nets with mesh sizes of 2 and 2^{1/2} inches were used by the non-motorised canoes. The current fishing fleet is 10, of which 3 are powered by 40HP outboard engines. The canoes operate 1^{1/4} and 1^{7/8} ring nets. The unmotorised canoes deploy beach seine nets of 1^{1/2} and 1^{7/8} inches mesh size. Fishing occurs year round with no taboo day(s) in the community. Major fish species exploited include the sardinellas, *edue*, *safor*, *ekan*, *ahenemandzi*, *apaku* and *apae*.

Fisherfolks pointed that fishing grounds have changed from 25m to 85m off-shore within the last two and half decades.

Revenue from landed fish is shared equally between the canoe owner and the crew after fishing expenses have been deducted.

The major fish processing method employed is smoking. Firewood is the main source of energy for fish smoking. According to the processors, coconut husks and stems, and wood from the forest form the main fuel input. These are not costly because of their abundance in the area. The smoked fish is sold at Tikobo Number One, Ainyinasi and Agona-Nkwanta.

Environment

The shoreline length is approximately....m. The open sandy beach is dominated with remnants of algal bloom. The eastern and western fringes of the community along the coast are dominated by coconut plantations. These are used as defecating sites.

Towards the north of the town is the *Wuluwulu* river. The river lies close to the mysterious mountain. It runs on the edges of swampy areas and extends eastwards. The *Wuluwulu* river joins the *Alemeaza* lagoon and lies on the eastern coast surrounded by mangroves and empties into the sea on the eastern outskirts of the community. Both water bodies serve as habitat for migratory birds.

The ocean has been engulfed with algal bloom. Within 100m near-shore is the area of higher concentration. Dolphins and whales are seen in the marine areas mainly in August. During the same period, turtles nest and feed on the beach. Education on the ecological importance has stopped the community members from harvesting the sea turtles.

Governance and Local Institution

The community is governed by a Chief. He exercises authority over traditional norms and customs.

There is a chief fisherman in Kengen, who ensures peaceful deliberations among fishers on the beach all the time. Difficult cases are referred to the traditional authorities.

There is no CBFMC or Landing Beach Committee in Kengen.

Key Coastal and Fisheries Issues

Decline in fish catches

According to the fisherfolks, fish landings have dwindled over the last two decades. Fishers explained that catches of sardinella have decreased from 70 to 40 head-pans per trip over this period.

Light fishing, algal bloom, pair trawling and increasing fishing effort were expressed as the cause of the problem.

Inappropriate fishing methods and pair trawling

The fishers said the District Chief Executive advised them not to use light in fishing, but confessed they are adamant because fishers for other communities engage in the act.

According to the chief fisherman, all fisherfolks in Jomoro District have sworn oaths not to use dynamite or chemicals in fishing. But other fishermen from Akwidaa and Dixcove (Ahanta West District) flout the oath and engage in the act in Jomoro waters.

Pair trawling

They also talked bitterly of pair-trawlers who according to them operate as close as 300-400m off-shore. They trawl everything on their path thus depleting the sea of its biodiversity, they lamented.

Algal bloom

The appearance of the bloom always hinders fishing.

Coastal erosion

The coastline has eroded about 20 metres since the past 35 years ago, according to the chief fisherman. He said commercial sand winning which was seriously pursued in the past is the

cause. He said the act has been banned, but there were loads of sandcrete blocks packed on the beach.

Accessibility to premix

Access to premix fuel is not difficult according to Kengen fisherfolks. They said pre-mix fuel is bought from Half-Assini, but supply is not regular. They indicated that most of the fuels used for fishing expeditions are purchased from conventional fuel filling stations. They said 13-15 gallons of petrol are mixed with one gallon of engine oil per fishing expedition.

Lack of capital and loan facilities

The fishmongers said they have no formal source of credit except from friends and family members. Fish is only credited to fishmongers whose husbands are part of the fishing crew. It is strictly cash down business with other migrant fishers.

MANGYEA

History

“Mangyea” in Nzema means dawn. The members in the community during the founding period were busy all the time trying to work on farms or hunting. In the night, they were too tired to meet to talk about their collective welfare. That situation forced them to meet at dawn during emergencies which were often because those days were full of wars. They became known as the “dawn people” which became the name of the community ‘Mangyea’.

Physical Characteristics

Communities that share common boundaries with the town are Enzimintianu on the east and Effasu on the west. There are no communities on the north of the Mangyea.

Coconut plantations inundate the eastern and western periphery of the community. There are also coconut plantations to the north which are interspersed with cassava and vegetable farms. Towards the western border close to Effasu is Osagyefo Barge.

Demographics and Settlement Patterns

The population of Mangyea was estimated at 1,400 as at 2000 (Population and Housing Census, 2000). The major ethnic groups include the indigenous Nzemas and the migrant Fantes and Ewes. The Nzemas are predominantly farmers (coconut, cassava and vegetables) while the Fantes and Ewes fish on the sea. The Fantes have lived in the community since 1970 and the Ewes arrived in 2000.

Approximately 200 houses exist in Mangyea with the settlements mainly constructed with raffia and roofed with thatch. A few cement-built houses dot the community. The housing units are well laid out with spaces in between them wide enough for cars to pass. Towards the eastern part along the main untarred road are the community bus-stop, pre-mix depot, the Mangyea Junior High School and the Catholic Primary School. A two-storey building known ‘White House’ close to water tank(8000 gallons) donated by Tullow Oil is also sited along the main road on the north. The community market is located about 100m south-eastwards off the main road and is positioned in between the new Chief’s palace and the Catholic church. The ewe community are housed in settlements on the western corner of the community along the coast.

During festive occasions like the Kundum festival, Christmas and Easter holidays, the population temporally increases because of the return of citizens from La Cote d’Ivoire and urban areas within Ghana.

The major fishing witness migration of fishers from the Central, Volta and other coastal districts of the Western region.

Education

Catholic Primary and Mangyea JHS are the only educational institution in the community. These schools have no kindergarten. The rate of illiteracy is high among the adult population.

Health

There is no health facility in Mangyea. The community receives Maternal and Child Health (MCH) Half Assini Community Health personnel periodically. Other health problems are sent to Half-Assini which is about 10 kilometres away.

The most prevailing health problem in the community is malaria. *“We sleep in mosquito nets, but because of the warm weather, we do not always use them. We also do a lot of self-medication because medical services are expensive. We boil herbs which we pick from the wild or buy medicine from local drug stores”*, said an opinion leader.

Water and Sanitation

There are no constructed toilets and bath houses in the community. Locals attend nature’s call at assigned areas demarcated among the coconut trees to the sides of the community or in the wild to the north. Most of the community members bath in the *Nambura* lagoon which empties into the sea at the south eastern edge of the community. The lagoon also serves as a waste dumping site.

The community’s water needs is sourced from the only hand-dug well which is situated 50m off the main road. The inhabitants reported that two years ago, Tullow Oil Company sunk a bore hole which was connected to an electric pump to supply water through 2 tanks for the community. The water system was expected to be operational when the community is connected to national electricity grid. Although the community had electricity supply two years ago the project has remained a white elephant.

Land tenure

The allodial interest in land is vested in families. *Abunu* shared-cropping system, where farm produce is shared equally between farmer and the land owner is practiced.

Economy

Mangyea’s local economy revolves around fishing and coconut farming. Other sources of employment include pig farming and coconut processing. Some few community members work at the Osagyefo Barge power plant as casual workers. The domestic economy is largely dependent on fishing activities and peaks during the major fishing seasons (July- September). However, commercial activities decline considerably with the appearance of algal bloom, which is seasonal. Residents indicate algal bloom was first experienced in 1993 and seasonally occurs from December to June. During this period most of the fishers especially the women engage in the cultivation of cassava and vegetables to supplement house food needs.

According to the community members, standard of living has dropped due to low agriculture productivity attributed to depleted soil; decline in fish catches, and high cost of living.

Farming

Coconut plantations constitute 90% of farm lands. The coconuts are cultivated on 6-8 acres farm lands. Subsistence farming is also practiced to produce to cassava, oil palm and vegetables. The coconut fruits are marketed to Nigerian entrepreneurs. They mentioned that they received support from the District Food and Agriculture Department in the past, but the support has ceased for more than two years.

The community complained of not having received compensation for multitudes of coconut trees destroyed to make way for the construction of the power plant.

The women cultivate oil palm and process the palm-kernel into oil for the domestic market.

Coconut oil processing

Coconut oil processing business is done by Nzema women and the oil sold in Takoradi, Kumasi and Accra. The oil is also used locally.

Livestock production

Few persons rear chicken & ducks for domestic use. Sheep is also kept domestically. There are no commercial livestock breeders in the community.

Tourism

There are no hotels or guest houses in the community (the nearest are 10km away in Half-Assini).

Dolphins and whales are sighted around the month of August.

Fisheries

There are no physical landing facilities in the community. Canoes operate from open beaches. The number of canoes operating in Mangyea has increased from 12 to 30 within the last three decades. Thirty years ago, 7 of the canoes were powered by 25HP outboards and 10 yards and 1.5 yards in length and width respectively. The current fleet has 8 of them propelled by paddles while the others utilize 40HP outboards. The non-motorised canoes are 15 yards long and 1.5 yards in depth and width. The canoes deploy 1^{1/4} and 1^{7/8} inches beach seine nets. These canoes have 6 people on board during fishing sojourns. About 20-25 people haul the net. The motorised canoes operate the ring net and gill net with mesh size of 1^{1/2} and 2 inches and have crew members of 25-30. Fishing is done throughout the week with no holidays.

Several species of fish are harvested in Mangyea. These include *sardinella*, *tantamina*, *edue*, *opaa*, *kokow*, *apoku*, *blupaa*, *safor*, *akowona* and *ahenemandzi*.

Fisherfolks mentioned that fishes were harvested from about 6 yards within the nearshore areas, but the fishing grounds are now 100yards away at present. Perceptions on causes of the changes were varied. The non-motorised operators said sounds from outboard motors drive the fishes into deeper seas. The motorised owners blamed it on light fishing, the use dynamite and pair trawling.

Landed fish are smoked and marketed in Elubo, Ainyinasi and Agona-Nkwanta.

Environment

The oceans areas are open with spilling surf, but inundated with algal blooms. Towards the south-western periphery of the community, is a *Nambura* lagoon which periodically empties into the sea. However, the lagoon is polluted with solid waste and most residents also bath with soap in the lagoon.

Towards the northern outskirts of the community are forests full of raffia and bamboo, which are harvested for housing units.

Marine turtles lay eggs on the beach around August and September. The month of August also witnesses the sighting of dolphins and whales

Governance and Local Institutions

The Assembly Member of Effasu doubles as the one of Mangyea. The premix depot is managed by the Landing Beach Committee. Two chief fishermen from Effasu and Mangyea serve on the Committee. The community has Konkohene. There is no Community Based Fisheries Management Committee (CBFMC).

Key Coastal and Fisheries Issues

Dwindling fish catches

Overall fish landings in the last two decades have shown a declining trend, the fishermen declared. Catches of species like *sardellina*, *safor* and *edue* have reduced from 200 head pans, 8,000 and 5,000 pieces to 80 head pans, 150 and 100 pieces respectively. The fishermen reported of no catches for *tantamire* and *akowona*. Reasons assigned for dwindling catches were increasing fish effort, light fishing, dynamite fishing, unapproved small mesh gears, pair trawling and algal blooms.

Pair trawling and light fishing

The trawlers fish very close and pillage everything, the fishers lamented. They accused fishermen from Half-Assini as the culprits engaged in light fishing.

Accessibility to premix

Deliveries to the pre-mix depot in Mangyea are not regular. Premix fuel is accessed from Half – Assini located 10metres eastwards. It come out that, the Half-Assini depot also experience inadequate supply. Alternatively petrol is mixed engine oil and used to power outboards.

Coastal erosion

The sea has eroded the coastal line about 60 metres since within 30 years. Some settlements and coconut trees have been washed away.

Lack of capital and credit facilities

Inability to access credit due to high interest rate and lack of collateral were some of the concerns of the women focus group. They therefore pleaded for financial assistance.

Sex for fish

Sex for fish is not practiced in the community.

MATIKA

History

Matika is inhabited by the native Nzemas, Ewes and Fantes. The Nzemas are coconut farmers whilst the Ewes and Fantes who are settler groups are fishermen. The people gathered at the meeting were not able to tell the meaning of the name "Matika" but it was learnt that there were only 3 hamlets around when Ewe fishermen arrived in the 1960s to set a base for fishing activity. They were later joined by the Fantes in the 1970s.

Physical Characteristics

The community is bordered on the east by coconut plantations and Alomatoape; on the south by the sea and west by coconut plantations beyond which is the Mempeasem community. On northern part of the community lies the Half-Assini-Avolenu road. The community is a flat sandy area with a lot of huts built from coconut leaves.

Demographics and Settlement Patterns

The population is estimated at 250 and consists of Nzemas, Fantes, and Ewes. The people are Traditional African Religion practitioners and Christians.

During fishing seasons, population goes up temporarily. On the other hand, Matika is basically a migrant community so population increase in other surrounding communities during festive occasions like Kundum and Christmas does not affect it because not much people come from outside the community.

Education

There is a primary school (classes 1-6) in the community but, no kindergarten nor JHS.

Health

There is no health facility in Matika. The nearest is the Half Assini Govt Hospital.

Water and Sanitation

No public toilets but a few household ones. There is one bore-hole and one hand-dug well.

Economy

The main livelihood activities in this community are fishing and coconut farming. The prevalence of algal bloom in the ocean has stalled fishing activities for the past three months and this phenomenon has greatly affected commercial activities in this community. The community has no market. Standards of living according to the locals have dropped due to dwindling fish landings.

Land tenure

The lands in community are mainly family-owned exclusively by the Nzemas. Farming of coconut is done by the families that owe the land therefore having no issue of share-cropping.

Economy

The main livelihood activities in Matika are fishing and coconut farming. Some few persons also cultivate cassava. The prevalence of algal bloom in the ocean has stalled fishing activities for the past 3-5 years) and the problem has negatively affected livelihoods in the community. According to residents, standard of living has dropped due to low fish catches and coconut yields attributed to depleted soil nutrients. Few women are also involved in coconut oil processing.

Farming

Coconut and cassava are the only crops cultivated. Cultivation of cassava is done on subsistence level and is mainly done to the north of the community. The coconut plantations are near the beaches and on the outskirts of town. Farmers complained of low harvest due to declining soil fertility.

Coconut oil processing

This enterprise is suffering because of unavailability of copra for processing and poor market value.

Livestock production

Some residents keep small amounts of poultry like ducks and chicken at home. Some few yet still have goats and sheep are also engaged in pig rearing. The pig sties are located along the beach. Some of these are sold in times of need to raise money.

Tourism

There is no hotel or guest house in Matika.

Fisheries

The beach is dominated by fishing activities. Both Ewes and Fantes are the more indulged in fishing here. There are two distinct settlements on the coast. The Ewes use beach seine net ("twuyee") whilst the Fantes go further sea in outboard motor propelled canoes. Some more Fante fishermen join the group in the community during the fishing seasons of August-February.

Environment

Sea turtles come to lay eggs on the beach periodically especially in August. Fishermen complain about being harassed by the Wildlife Division people when they eat turtles. They regard it as game that could be caught and consumed and they should be compensated if they have to set it free because it sometimes destroys their nets, they contended.

Governance and Local Institution

The community has no CBFMC or Landing Beach Committee. The locals indicated of no support from the District Assembly. There are 2 head fishermen representing the Fantes and the Ewes.

Key Coastal and Fisheries Issues

Decreasing fish harvest

Fishermen complained of declining fish catches. This was attributed to light fishing, pair trawling and algal bloom. The fisherman said they have to go far on their fishing further than before on fishing expeditions. The community has become a “ghost town” because many persons have left due to decline in fish catches.

Light fishing

Fishermen complained bitterly about the use of light-fishing on the industry. They proposed a law be enacted to ban the act.

Algal bloom

The blooms are concentrated in the nearshores and affects fishing negatively.

Coastal erosion

The coastline has eroded about 50 metres since the past 15 years ago.

Accessibility to pre-mix fuel

Outboard motor users complained of the inaccessibility of premix fuel, saying this is hampering the fishing industry. They purchase premix fuel from Half-Assini which is about 7 km away at inflated prices which is usually 3 times the official price.

Lack of loans and credit facilities

They women access loans exclusively through informal channels (friends and relatives). They are not able to make any savings. The ‘little’ money they make goes back into the fish processing and selling business.

MPEASEM

History

Mpeasem was originally a 'nameless' sparsely scattered group of hamlets occupied by the native Nzemas. Few Fante fishermen came around and saw how peaceful the people lived and gave it the name 'Mpeasem' meaning '*I come in peace*' or '*I want no trouble*'. This was in the early 1960s. The Ewes came to join them in the mid 1980s. The Nzemas are coconut farmers whilst the Fantes and Ewes settlers are fishermen.

Physical Characteristics

The community is bordered on the west by coconut plantations and Alomatoape; on the on the south by the sea and east by coconut plantations beyond which is the Enzimintianu community. On the northern part of the community far beyond the coconut plantations and farms one finds 4 other lagoons to the north which meanders its ways to periodically join the sea called at Enzimintianu by name *Benzum, Elubula, Ndabla* and *Mundumundu*. The community is a flat sandy area with a lot of huts built from coconut leaves.

Demographics and Settlement Patterns

The population is estimated at 300 and consists of the Nzemas, Fantes and Ewes. There are more women than men the group claimed without any proof. During fishing seasons and festive occasions like Kundum and Christmas, population goes up temporarily because other fishermen set their camp there to attract buyers; and also, people return home to celebrate.

Education

There is a primary school (classes 1-6) in the community but, no kindergarten nor JHS. Children in the community, after Class 6, walk to Anlomatoape to access Junior High School education. The pre-school children on the other hand follow their mothers to the beach, a situation very dangerous to the safety the children.

Health

There is a health facility in Mpeasem. There is also the Half Assini Government Hospital about 8km away where major health cases are sent. The most common disease is malaria.

Water and Sanitation

There are no public toilets in the community. Residents therefore use the beaches and the bushes under coconut trees. There is one bore-hole and two hand-dug wells in the community. There is a mysterious well just on the beach front yet not salty.

Economy

The main livelihood activities in this community are fishing and coconut farming. Algal bloom (also referred to as 'green-green' in the sea has harried fishing activities for the past year and the unfortunate situation which does not look like ending anytime soon has greatly affected all economic activities in the community. The community has no market place.

According to residents, the quality of standard of living went down with decline in fish catches.

Land tenure

The lands in community are owned by families that are Nzemas. Farming of coconut is done by the families that owe the land eliminating any issue of share-cropping.

Farming

Coconut, cassava and vegetables (especially tomatoes) are the only crops cultivated. Cassava and vegetables are done on subsistence level to the north of the community. The coconut plantations are near the beaches and on the outskirts of town to the north.

Farmers mentioned as a problem, the over-cultivation of farmlands which has affected fertility of the land. Coconut trees are estimated to be at least 100 years old in this community and this has affected the yield. Cultivation of cassava is also affected because it is mainly cultivated under the coconut trees.

Coconut oil processing

Coconut oil processing business is not a big business here because the processors lack the capital to purchase the copra from the farmers. Change in taste of consumers has also affected the oil business.

Livestock production

Almost every household in the community rears chicken, goats and sheep. Though they are done on subsistence level, the practice serves as a traditional form of investment which residents fall on in times of need for urgent financial assistance. There were a few people who rear pigs in the community.

Tourism

The town has no lodging facilities.

Fisheries

The beach is dominated by fishing activities. Both Ewes and Fantes are the more indulged in fishing here. The Ewes use beach seine net ("twuyee") whilst the Fantes go further unto the sea in outboard motor- powered canoes. Some more migrant fishermen join the groups in the community during the fishing seasons of August-February.

Environment

Dolphins and whales come by annually and could be seen from the coast at about 100metres away during the month of August. Turtles also nest on the beach during the same period.

Governance and Local Institution

The community is headed by a care taker chief. There is an Assembly member and a Chief fisherman. The

Key Coastal and Fisheries Issues

Decline in fish catch

There was a common knowledge of decline fish catch. The fishermen pointed to a number of factors including the practice of light fishing, pair trawling practiced by some fishermen and algal bloom.

The fishermen said they go further than they used to before they could get some fish. They sometimes do not get anything at all, they complained.

According to the fishermen, they used to get between 100-200 headpans about 15 years ago but get far less in recent times; sometimes less than five headpans on a good day.

Algal bloom

There is an invasion of algal gloom in the sea. It destroys nets. Fishermen do not know the source of it but says it started appearing since 15 years ago.

Unsustainable fishing methods

Sections of the fishermen complained about the use of light-fishing. Many of fishermen here use dragnet and since the algal-bloom has invaded the sea, light fishing has doubled their woes. But evidently, others also use light to fish but would not brazenly attest to that. Another fisherman on the side conceded that all fishermen use chemicals including the big trawlers. He said this without reservation and won't withdraw his words because it is true. Fishermen here said that the use of light in fishing is killing the fishing livelihood of many communities. They mentioned that enforcement of the regulation is not carried out at all or at best, selectively done because they are worried by the navy but not other communities.

Coastal erosion

They said that the coastline has eroded about 40-50 metres within the past 15 years. They, however, could not attribute it to any reason. They said it is natural and the sea must also grow as people are getting plenty.

Accessibility to premix

Outboard motor users said the inaccessibility of premix fuel is hindering the industry.

Premix fuel is bought from Half-Assini or Mangyea which are about 8km and 4km away respectively. They are bought at inflated prices (GHc6.00 per gallon instead of GHc2.80).

NGELEKAZO

History

Ngelekazo literally translates as, 'place of fuelwood'. The people first settled in the community over 100 years ago. The area was a collecting ground for small pieces of sticks which is used as fuelwood. Little by little, the 'description' of the area became the name.

Physical Characteristics

Ngelekazo is small coastal town towards the eastern part of the district. The topology is characterised by flat sandy soils. Beyin and Elonyi communities are the shared boundaries on the east and west of the community respectively. Just before the eastern and western perimeter are coconut plantations. The *Amanzule* lagoon separates the community from Mpataba on the northern border.

Demographics and Settlement Patterns

There are about 900 people in the community. The average household size is five. Ngelekazo is inhabited by the native Nzemas and Fantes. A few Ewes used to migrate to the community periodically to distil local gin (*akpeteshie*) from raffia. The Ewes have not been seen for the past 4-5 years.

The housing units are mainly constructed with raffia and thatch-roofed. The Chief's palace and the community kindergarten which are 100m apart are sited along the untarred main road. The community centre doubles as a market is situated 20m off the main road and is close to the Catholic Church. Towards the western fringe of the community is the cemetery. A cattle ranch is located about 40m south west of the cemetery.

There are 3 churches in the community. These are the Church of the Pentecost, Catholic and Apostolic churches.

Migration of fishermen to the community intensifies from June to September, which is the major upwelling season. Fishers from other communities land in Ngelekazo during this period.

The community was connected to the national electricity grid in October 2008.

Education

The community has a kindergarten, but no primary and JHS. The nearest primary and JHS is at Beyin, which 3km away. The kindergarten was built with funds provided by the community. At the time of conducting the assessment the kindergarten had no teacher.

Health

Ngelekazo has no medical facility. Ekabaku Health Centre which is about 6km towards the east is nearest health facility. Community Health personnel from Tikobo I periodically visit the community to provide Maternal and Child Health (MCH) services. According to residents, the prevalent diseases are malaria and elephantiasis.

Water and Sanitation

A government initiated project has constructed about 20 household toilets (90% complete) in the community. There also exists a 12-seater community toilet in Ngelekazo. However, most people use the coconut plantations along the beach as places of convenience.

There are 3 hand-pumped boreholes and a hand-dug well in the community. The Community Water and Sanitation Agency under the Small Town Water Project has also constructed an electric pump powered borehole water system which is yet to be commissioned.

Rubbish is disposed under coconut trees. The beach is thoroughly kept clean by the Eco-brigade.

Economy

The local economy is centred on coconut cultivation and fishing. A few locals also survive on pig farming and coconut oil processing. Majority of the coconut produce are sold to Nigerian traders with a few processed for oil. Although close to 30% of the working population are engaged in fishing, the industry highly controls the domestic economy. The occurrence of algal bloom has decreased fishing activities, which has had serious consequences on the economic activities. One fishmonger said, *"Fishing has halted because of this green green, my stoves for smoking fish and a deep freezer for storing fresh fish are all lying idle. I have no use for them"*.

Farming

Small holdings of 6-8 acres coconut plantations are the main farming activities. Cultivation of cassava, groundnuts and vegetables is also practiced to feed households. According to the farmers, support from extension office was last received in 2005.

Farmers mentioned farmlands have over-cultivated leading to depleted soil nutrients. They added that over- aged coconut plantations are also not yielding much. They therefore solicited for funds to access fertilizers and high-yielding coconut seedlings.

It was indicated that farming is not practiced on Tuesdays.

Coconut oil processing

Coconut oil processing is practiced on very small scale in the community. Tikobo I is the market centre.

Livestock production

Few persons rear chicken for household consumption. Pigs and sheep are also reared in the community.

Tourism

The nearest hospitality facility from Ngelekazo is the Beyin Beach Resort situated 3km away. Located on the north of the community is the *Mianda* pond wedged in between mangroves. The pond is full of crocodiles and it is being managed by the Wildlife Division.

Yekyi yehu fle festival celebrated on the 25th day of October each year.

During the month of August dolphins and whales are a delight to watch.

Fisheries

Major fishing in the community is practiced by migrant fishers. However, the locals use the *gangu* net in harvesting fish. This net is usually deployed by one person (The fisher wades about 15 metres into the sea and cast the net). Only 4 canoes lined the coast, during the research team's visit. It was expressed that the canoes had been left in the community by the migrant fishers because of the presence of the algal bloom.

Environment

Towards the northwest edge of the community is the *Mianda* lagoon. The lagoon is inundated with mangroves and also serve crocodile habitat.

The beach is nesting ground for sea turtles during the month of August.

Governance and Local Institution

The community traditional council is headed by the *Tufuhene* who is known as Ambrose Kanga. The community is represented by an Assemblyman at the District Assembly, but the inhabitants expressed of receiving no support from the Assembly. There is no CBFMC or Landing Base Committee in Ngelekazo. This community has no chief fisherman because no major fishing is engaged by the locals. There are no recognised associations in the community.

Key Coastal and Fisheries Issues

Decline in fish catches

The local fishers indicated of dwindling fish catches.

Algal bloom

The occurrence of the bloom grinds fishing activities into a halt.

Coastal erosion

According to a key informant, "*The beach front has eroded about the size of 4 football parks since the last three decades*".

Sand winning

Sandcrete blocks were packed at the beach, an indication of sand winning.

OLD KABENLASUAZO

History

Kabenlasuazo literally translates as, '**Kabenla's town**'. The community was founded by a man named Kabenla about 150 years ago.

Originally the community was situated about 200 metres into where the shoreline is now. Sea erosion made the elders decide to resettle the whole community at a place now called "New Kabenlasuazo" but others remained at Old Kabenlasuazo.

Physical Characteristics

Old Kabenlasuazo sits on a flat landscape, however, about a kilometer to the west towards Egbazo community are hilly areas. The shoreline is about 75metres in length.

The main road which about 2km long leading to the community from Egbazo is a deplorable state. The road is made motorable by laying coconut fronds on the worst portions. Though the road is hardly used by motorists because it leads to a dead end in Old Kabenlasuazo, it can only be used by strong cars and motorbikes. Taxi drivers who know the terrain are also able to use it.

There are 4 sealed wells of Oil and tar (bitumen) in the community which were exploited in the late 19th and early 20th centuries.

According to the chief whose age is estimated to be over 100 years old , "the community decided to switch from fishing to farming because fishing was not productive".

Demographics and Settlement Patterns

Old Kabenlasuazo is populated by 200 Nzemas and Fantes and a household size of 5, the fetish priest declared. An estimated 20 Fantes live in the community. Two and a half decades ago, the ravaging effects of the sea eroded most of settlements in Old Kabenlasuazo. The whole community relocated to New Kabenlasuazo, but a few remained. Therefore, most community members have homes and families in New Kabenlasuazo.

Only 10% of the housing units in Old Kabenlasuazo are constructed with cement blocks, the rest are palm frond built.

Notable landmarks sited along the main untarred road are, the Chief's palace and a mosque. The only kindergarten in the community is located 5 metres away from the main road close to coconut plantations on the western border. The community cemetery is situated on the eastern edge among coconut plantations. Three coconut oil processing sites are located on the south - western corner of the community along the beach. A holiday chalet built with raffia and roofed with thatch constructed by a certain European is also sited on the eastern shoreline. The chalet has a water closet and a water storage tank. Water is sourced from a hand-dug well which is 10 metres away.

The Catholic Church and the Church of the Pentecost are the two Christian worship centres in the community.

No significant migration occurs in the community.

The community is not connected to the national electricity grid.

Education

The only educational unit, which is a kindergarten, was built with community funds. The only teacher of the school left her post for non-payment of salaries by the community.

Health

Old Kabenlasuazo has no health facility. However, a 'dissatisfied' trained Traditional Birth Attendant (TBA) resides in the community. She complained of not receiving her salary from Ministry of Health for more than three years. She added that community members are also unable to foot the bills of maternal services provided. Unlike others, this community is not visited by Community Health personnel to provide services on Maternal and Child Health Care. MCH services are sought in Egbazo. All other health problems are sent to Tikobo Number One which is about 8km away.

Common health problems are malaria, cholera and typhoid fever.

Water and Sanitation

The community is devoid of toilet facilities. Coconut plantations along the coastline serve as defecation grounds. Waste is dumped under the coconut plantations on the fringes of the community. Tidying of the beach is done by the Eco-brigade.

The only drinking water supply in the community is provided by a well constructed by an European.

Economy

There are no major industries or financial institutions in the community. Coconut farming provides income for majority of the community members. The coconut fruits are sold to Nigerians. A few others use the *gangu* net to fish in the *Domunli* lagoon to supplement domestic food needs. The residents indicated of declining quality of life due to low agriculture productivity attributed to depleted soil fertility. They also complained of high cost of living.

Farming

Crops cultivated are coconut, cassava and vegetables. Subsistence farming of yam and plantain is also practiced on farmlands on the north of the community across the *Domunli* lagoon. The coconut plantations are on the beaches and outskirts and also to the north. The farmers complained of low farm yields. Perceived opinions on the cause of low agricultural production were varied. One section blamed it on over cultivation of farm lands which has rendered the soils infertile. Another school of thought was that, the soil has been affected by oil underneath. The farmers indicated that farm lands have been exhausted.

Coconut oil processing

Coconut oil processing is done in the community with Tikobo Number One being the main market centre.

Livestock production

Sheep is reared in the community and consumed locally.

Tourism

Dolphins and whales are sighted from August.

The community hosts mangroves along the navigable Domunli lagoon. This could be developed into a tourism facility.

Fisheries

Fishing as a livelihood in the community ceased 25 years ago, when most of the members relocated to New Kabenlasuazo. The only fishing activity is practiced in the Domunli lagoon using the gangu net. This has virtually come to a halt due to the invasion of algal bloom in the lagoon.

Environment

The northern edge of the community is bordered by the Domunli lagoon. The lagoon estuary is located at the south eastern corner. The Domunli lagoon, which is located on the north of the community, has a scenic estuary. The lagoon is full of mangroves and is infested with the algal bloom. It stretches from Egbazo through Old Kabenlasuazo to Bonyere (*looked as if river has two sources*). The Wildlife Division has an outpost close to the estuary. The picturesque lagoon can be sailed on with rafts and speedboats for pleasure and aesthetics. The lagoon is also a habitat for crocodiles.

About 500m beyond the lagoon (mangroves) is a forested area full of monkeys. A pictorial wooden bridge made entirely from coconut stems is constructed over the lagoon. It serves as a link between the community and farm lands. This bridge also leads to forested areas and 'oil ponds', where oil in its natural form oozes from the ground. Oil and bitumen are common in and around the community.

Sea turtles come to lay eggs on the beach around August and September. Residents say sea turtles are not harvested. Dolphins and whales are also sighted during this period.

Governance and Institutions

The community has a Chief who was said to be 105 years old. The Assemblyman of the town also represents New Kabenlasuazo community and resides there. Residents say he has not visited the community since he was voted into office 4 years ago (March 2010).

Community members feel 'abandoned' by the government. They said District Assembly and politicians only visit them during election periods.

Key Coastal and Fisheries Issues

Algal bloom

The Domunli lagoon, which is a source of fish for many households, has been affected by "green green". The algal bloom enters the lagoon through the estuary. This happens whenever there is high tide.

Poor road network

The main road linking the community is in bad state.

WENEN

Physical Characteristics

Twenen is small coastal community with the nearest town on the east and west being Agyeza and Kengen respectively. The landscape is relatively flat at the settlement areas, but hilly towards the north. About 2km towards the northern perimeter is limestone deposit as well as coconut plantations. Small parcels of cassava and groundnut farms are located in this vicinity. Beyond the limestone is also located about four acres of tomato farm. A river known as Kofi Nwora takes its source from the north of the community and runs through the community existing into the sea at the south-eastern corner. A culvert has been constructed on the river to at the eastern border of the town to facilitate vehicular movement.

Demographics and Settlement Patterns

Twenen comprises the native Nzemas and migrant Fantes. The Fantes are mainly fishermen and are settled amongst the Nzemas. The total population of the community is estimated to be 2,400. The houses in this community are mainly built with mud and plastered with cement. Twenen has a market which was occupied by a handful of traders during the assessment. The community cemetery is sited at the south-eastern edge of the community and it is about 300m from the Church of Pentecost. The community clinic is located on the eastern border along the main road. Four housing units for Nurses are sited opposite the clinic on the other side of the main road. There are three churches and two shrines in the community. The community has enjoyed electricity since 2008.

Due to low fish catch over the years, fishermen, especially the Fantes migrate to other coastal communities, especially in La Cote d'Ivoire and return in July during bumper catch.

Education

The community has one Primary and a Junior High School. The performance of the students at the Basic Education Certificate Examination was indicated to be poor. Late outdoor activities by most students and poor parental attitudes towards their wards education were attributed as the main cause.

Health

The town has a Community-based Health Planning and Services (CHPS) facility. This is a health facility cater for minor ailments as well as the provision of anti- and post-natal services to the people of the community as well as those of neighbouring communities.

Water and Sanitation

There are no constructed public toilets in the community. Residents attend nature's call at demarcated areas among the coconut trees along the beach. The beach is regularly cleaned by personnel of the Eco-brigade. The community is serviced by two hand-pumped boreholes.

Land tenure

The lands in community are owned by families and also by the chief. *Abunu* shared-cropping system is practiced.

Economy

Fishing and crop farming are the major economic activities in the community. Limestone deposits exist in the community. According to the Tufuhene, mining of the deposit started in 2005, but was abandoned after one year of operation due to financial constraints. Poultry and pig farming are also practiced by a few residents. Fishing activities have been mired with the advent of algal bloom in the oceans three months ago (*as at March 2010*) and this has badly affected commercial activities. The community is now devoid of brisk economic activities. Residents complained of declining standards of living due low fish catches, poor crop yields and general high cost of living.

Farming

The major crops cultivated are coconut, cassava and vegetables. Farmers complained of low coconut yields because of low soil fertility due to over-cultivation of farmlands. They expressed that productivity can improve by the application of fertilizers, but they are unable to purchase them because they are costly. The farmers indicated of their willingness to cut down their over-aged coconut trees and plant new ones if they are supported with high-yield seedlings and fertilizers. They also complained of frequent flooding of their vegetable and cassava farms during heavy rains.

Coconut oil processing

A few residents are engaged in coconut oil processing. The processors complained of limited supply of coconut for processing is collapsing the industry. They said that, farmers sell coconut to Nigerians for ready cash than crediting it to local coconut oil processors. They also indicated that, coconut oil has also lost its market value due to the change in consumption patterns.

Livestock production

Five residents are engaged in commercial pig and poultry farming. The poultry farmers complained high cost of feed. The chickens are marketed in Tikobo and Ainyinase

Pig farmers also complained of inadequate access to coconut chaff in the adequate volumes as they used to whilst wheat bran is also expensive on the market.

Fisheries

Seven canoes line the beach of Twenen with none of them motorised. The canoes are approximately 3ft in width and depth, and 30ft in length. There are no off-fishing seasons and no traditionally forbidden day(s). Major fish species caught in the major (August-November) are from the sardinella species (*Eban*). During the minor season, fishermen fish for lobsters which they sell to hoteliers. They also catch sharks which are made into '*kako*'.

Environment

Marine turtles occasionally roost on the beaches of the community while dolphins and whales are seen in the month of November.

Governance and local institution

It was indicated by the community members that the relationship between them and the District Assembly was very appalling. They said the District Assembly never sought their welfare. Neither CBFMC nor Landing Base Committee had been formed in the community. However, the community has a chief fisherman who regulates the affairs of fishing at the beach.

Key Coastal and Fisheries Issues

Decline in fish catches

Fishermen complained of declining fish catches.

Light fishing

The Twenen fishermen accused fishermen of other communities as the users of light fishing.

Algal bloom

Like other coastal communities in the district, Twenen has encountered the wrought of *green-green* for the past 15 years. This according to them has stalled fishing activities for the past three months at the time of the visit.

Coastal erosion

The beach front has eroded about 200 metres since the past 20 years ago. This was attributed partly to sandwinning. This had been banned by the chiefs and the people.