Gambia-Senegal Sustainable Fisheries Project

USAID/BaNafaa

Year 3, Annual Report

October 1, 2011 – September 30, 2012

(LWA Associate Award No. 624-A-00-09-00033-00)

A partnership of:

United States Agency for International Development / West Africa
Coastal Resources Center, University of Rhode Island
World Wide Fund for Nature, West Africa Marine Program Office
Department of Fisheries
Ministry of Fisheries, Water Resources and National Assembly Matters, The Gambia

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1. Introduction

The USAID/ BaNafaa project is a five-year regional initiative supported by the American people though the U.S. Agency for International Development (USAID)/West Africa Regional Mission. It is implemented through the University of Rhode Island (URI)-USAID cooperative agreement on Sustainable Coastal Communities and Ecosystems (SUCCESS). The World Wide Fund for Nature West Africa Marine Program Office (WWF-WAMPO) is a regional implementing partner. At the end of Year 2, The University of Rhode Island established an office presence in The Gambia and is working directly with local implementing partners, including TRY Oyster Women's Association, the National Sole Co-Management Committee (NASCOM), The Association of Gambian Fishing Companies (TAGFC) and the Water Resources Laboratory on some activities. At the end of Year 2, Water, Sanitation and Hygiene (WASH) and Climate Change funding was added to the award in addition to previous fisheries activities under the biodiversity earmark. In Year 3, URI worked directly with local partners the Trust Agency for Rural Development (TARUD) and The Gambian Agency for Public Works (GAMWORKS) to implement WASH activities and a bilateral Climate Change Vulnerability Assessment was conducted by WWF. All project activities are carried out in partnership with the Department of Fisheries (DoFish) and stakeholders in the fisheries sector in The Gambia and Senegal. The focus is on sustainable fisheries management including the shared marine and coastal resources between The Gambia and Senegal. However, most field activities are in The Gambia. The Gambia - Senegal Sustainable Fisheries Project contributes directly to the achievement of the USAID West Africa Regional Office of Environment & Climate Change Response's (ROECCR) Results Framework through contributions to multiple Intermediate Results.

This annual report describes progress made in Year 3 (October 1, 2011 – September 30, 2012)

In Year 3, as a result of significant achievements to date and the need to build on this momentum to further institutionalize and expand on favorable enabling conditions and governance systems established with project assistance, URI developed and submitted requests for add-ons and a project extension to April 2016 as follows:

Funding Source	**Add-on Request**	**Submission Date**
Climate Change Adaptation	$1,983,835	July 27, 2012
WASH	$430,692	July 27, 2012
Biodiversity	$2,023,996	August 31, 2012
Total	**$4,438,523**	

1.1 Background

In West Africa, an estimated 1.5 million tons of fish are harvested annually from the region's waters, with a gross retail value of US$1.5 billion. In The Gambia and Senegal artisanal fisheries make up a majority of the fisheries landings and contribute significantly to income generation and local food security for coastal communities and for many communities inland where fish are traded. Some 200,000 people in the Gambia and 600,000 in Senegal are directly or indirectly employed in the fishing sector. Seafood products are a leading export of the region and generate as much as 20% of the gross value of exports. While the majority of seafood exports are destined for European Union (EU) markets, a growing volume of trade goes to the U.S. and other countries in the region.

Fish provides the main source of animal protein for the average rural family in the sub-region, where annual fish consumption can be as much as 25kg per capita. In many rural areas, fishing serves as a "social safety net" when farming turns unproductive due to depleted soil, drought, disease, or other factors.

In addition to direct socioeconomic benefits derived from fishing, a well-managed sector can benefit other aspects of the region's economy and quality-of-life. This includes a growing tourism sector and a number of globally and regionally significant natural heritage areas. With annual tourist arrivals surpassing 120,000 in The Gambia and 400,000 in Senegal, a growing number of tourists are taking advantage of the countries' ecologically significant reserves, parks, and protected areas—most of which have direct links to the fate of well-managed fisheries. These include but are not limited to the Sine-Saloum Delta Biosphere Reserve in Senegal and in The Gambia the Niumi National Park, the Baobolon Wetland Reserve, and the Tanbi Wetland Complex—all are designated Ramsar sites and contain globally significant wetlands.

The Gambia's fisheries sector operates under the authority and responsibility of the Minister of Fisheries, Water Resources, and National Assembly Matters through the Department of Fisheries (DoFish). The policy, legal and management framework for fisheries in The Gambia is provided by the 2007 Fisheries Act and the 2008 Fisheries Regulations. A draft Fisheries Management Plan for shrimp, sardinella and sole fish was prepared in 2009. The Fisheries Act mandates a Fishery Advisory Committee and Community Fisheries Centers as the institutional structure for inclusive oversight of the sector and also allows for decentralized fisheries co-management. The policy objectives of the fisheries sector as articulated in policy documents include:

- Rational and long-term utilization of the marine and inland fisheries resources
- Improving nutritional standards of the population
- Increasing employment opportunities in the sector
- Increasing foreign exchange earnings
- Increasing and expanding the participation of Gambians in the fisheries sector
- Improving the institutional capacity and legal framework for the management of the fisheries sector

The policy objectives of the fisheries sector are linked to key national development objectives that include: increased food self-sufficiency and security; a healthy population and enhanced employment opportunities for nationals; increased revenue generation and foreign exchange earnings; and the attainment of national social and economic development. They are designed to support key national development objectives as outlined in the Poverty Reduction Strategy Paper and The Gambia Incorporated Vision 2020, which are blueprints for national development and eradication of poverty. For additional information on background, context, project rational for demonstration activities in The Gambia and legal basis for co-management in The Gambia see Annex 1.

1.2 Program Goal and Key Results

The goal of the USAID/ BaNafaa Project is to support the Government of The Gambia in achieving its fisheries development objectives by contributing to the following vision:

Artisanal fisheries and coastal ecosystems in The Gambia and selected stocks shared with Senegal are being managed more sustainably, incorporating significant participation of fisherfolk in decision-making, and attaining improved economic benefits for both men and women involved in the market value chain.

USAID/BaNafaa builds on the on-going efforts of the Department of Fisheries in The Gambia, working with community fisheries centers and their management committees to improve fisherfolk involvement in the management of fisheries resources. More specifically, to further the development and implementation of the draft fisheries management plan for sole and other selected species. Sole is an important export commodity so this involves partnerships with export processing businesses as well. This is also a shared stock with Senegal. As gender equity is another important aspect of the project, USAID/BaNafaa is benefiting both men and women in the fisheries sector by also working with oyster harvesters—a women-dominated fishery whose importance is often under-recognized.

Project Strategies

- A participatory co-management approach that engages fisherfolk in decision-making.
- An ecosystem-based approach that looks not only at the fish, but protection of critical habitats and reduction of fishery impacts on threatened marine species
- Mainstreaming gender dimensions that provide opportunities for both men and women to benefit economically and participate in decision-making.
- A threats-based approach to coastal and marine biodiversity conservation.

Key Results for the USAID/BaNafaa Project are to:

- IR 1: Strategies to increase social and economic benefits to artisanal fishing communities, and otherwise create incentives for a sustainable fisheries agenda in the WAMER identified, tested and applied
- IR 2: Institutional capacity strengthened at all levels of governance to implement an ecosystem-based, co-management approach to sustainable fisheries, and to prevent overfishing
- IR 3: Nursery areas and spawning areas for critical life stages of commercially important species and for associated marine turtles and mammals are protected
- IR 4: Change unsustainable and destructive marine resource use practices that threaten improved biodiversity conservation in the West Africa Marine Ecoregion.

Geographic Scope. The Project concentrates on the marine and coastal resources and fisheries stocks shared among the Casamance, the Gambia River and Saloum Delta region—an area of regional biodiversity significance (see Figure 1). The majority of on-the-ground activities occur in The Gambia, where USAID/BaNafaa focuses on the artisanal nearshore fisheries along the Atlantic coastline and the estuarine and mangrove dominated portions of The Gambia River. A sister project in Senegal, the Wula Nafaa project, is working on fisheries management in the Saloum Delta and Casamance River. Together, these two USAID-supported initiatives are expected to have a significant impact on improved management of this biodiversity-rich area.

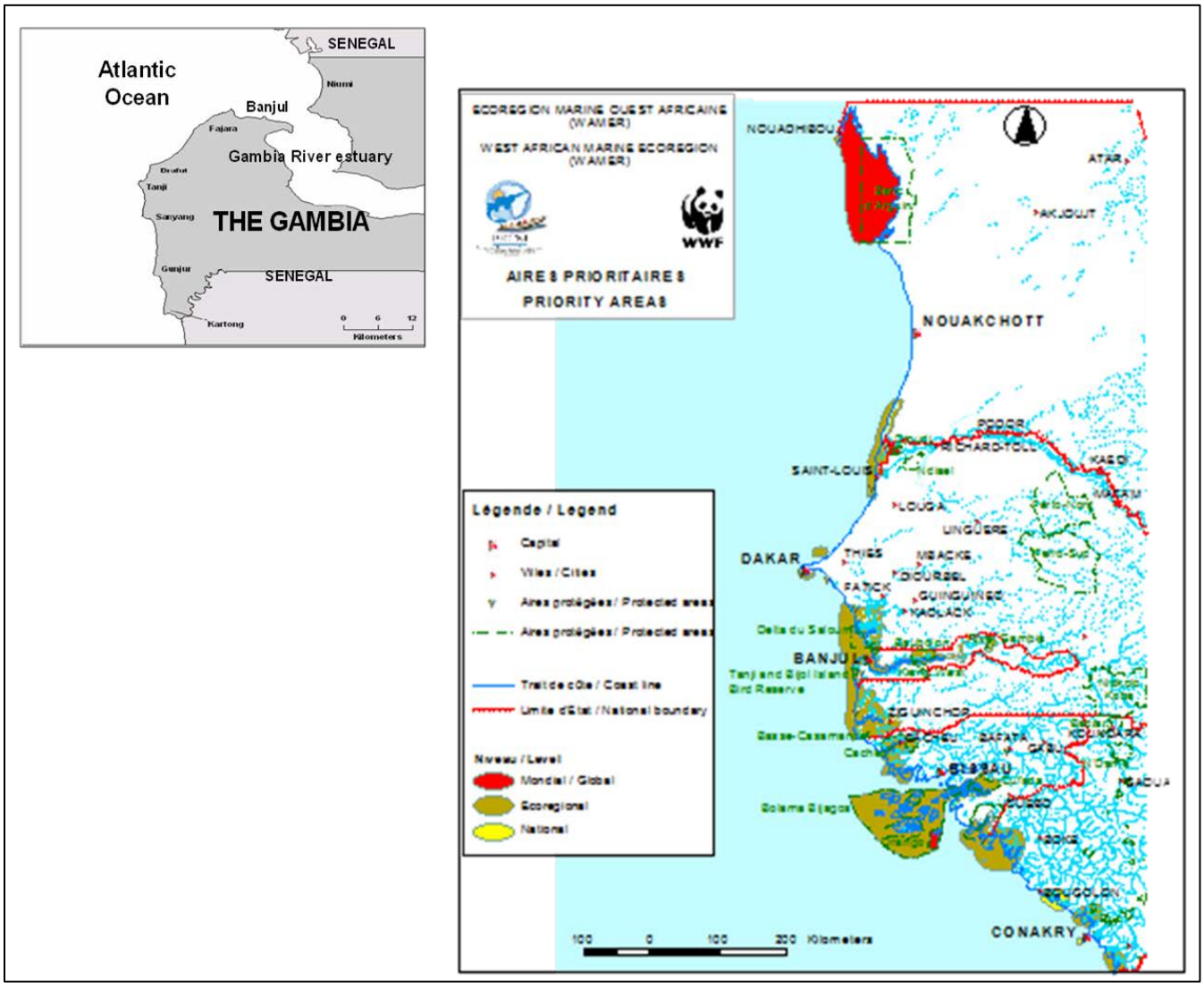


Figure 1: Areas of Biodiversity Significance in the WAMER and The Gambia River Estuary and Atlantic Coast

2. Narrative: Year 3 Accomplishments

2.1 Intermediate Result 1

Strategies to increase social and economic benefits to artisanal fishing communities, and otherwise create incentives for a sustainable fisheries agenda in the WAMER identified, tested and applied[1].

Year 3 Summary Highlights

- *Fishery Co-Management Plan for The Gambia Sole Complex* approved.
- Exclusive use rights and sustainable management responsibilities for an estimated minimum of 310 NASCOM members.
- NASCOM capacity strengthened
    - Registration with the Govt. of The Gambia. Bank account opened.
    - USAID/BaNafaa Seed Grant provided for institutional capacity strengthening and pilot buoy study on marking the sole seasonal closed area.
    - NASCOM agreement with German company Kaufland on 50,000 Euro donation for development of a Marine Stewardship Council eco-labeled Sole Fishery in The Gambia finalized.
- Gill net study completed.
- *Oyster and Cockle Fishery Co-Management Plan for the Tanbi Special Management Area approved.*
- Exclusive use rights and sustainable management responsibilities for 500 TRY members. TRY may be the first African women's organization granted exclusive user rights for sustainable management of a national fishery. Gambia may be the first African country to grant such rights to a women's group.
- TRY Oyster Women's Association capacity strengthened.
    - Standard Operating Procedures manual drafted
    - Microfinance training and second round of loans provided
    - Shellfish handling and hygiene training provided
    - Hotel market survey, sales point market survey and biological data collection completed.
    - Annual Oyster Festival held with more than 250 guests and media coverage.
    - Demonstration smoking oven installed at Kamalo oyster harvesting site.
    - Award of UNDP Equator Prize, $5,000 and participation in Rio+20. (see IR2)
- Bi-monthly water quality testing and bi-annual Shoreline Sanitation Surveys at oyster harvesting sites conducted, serving as basis for National Shellfish Sanitation Planning process.
- 33.5 ha of mangroves planted by TRY (2.5 ha USAID/BaNafaa funded, balance by GEF)
- PRA of Kartong cockle harvesting conducted. Cockle ranching action research continued.
- WASH Needs Assessment completed. Six fish landing/oyster harvesting sites prioritized for project assistance.

[1] Most of the activities described under IR1 also contribute to IRs 2, 3 and 4. Some activities described under IR2 also contribute to IR1.

Project activities described below have contributed significantly and directly to this IR and several key milestones were reached in Year 3. The results of the strategies identified, tested and applied in economic and social terms and the degree to which they have influenced a broader sustainable fisheries agenda in the WAMER are preliminary at this stage. The quantification of number of businesses and persons benefitting economically, as reported in indicators for this IR, are already exceeding targets specified in the Project Design. However, these numbers do not reveal the underlying complexity of the benefits and the degree to which they are sustainable. USAID/BaNafaa project activities have, to date, focused on creating the enabling conditions for longer term sustained benefits to artisanal fishing communities. Integration of WASH activities at fishery and shellfish landing sites into the project in Year 3 is also aimed at ensuring that health and economic benefits are realized at the community level. The achievements under this IR also contribute to increasing recognition in the region and beyond of Gambian artisanal sole and oyster fisheries as a model for best management practices.

a. Effective Sole Fishery Co-Management Plan and Support for Marine Stewardship Council (MSC) Certification Readiness

1. Approval of the Fishery Co-Management Plan for The Gambia Sole Complex:

The Minister of Fisheries, Water Resources and National Assembly Matters and NASCOM approved, signed and publicly launched the plan on January 17, 2012 with the participation of the USAID/WA AOTR for the USAID/BaNafaa Project and the U.S. Ambassador to The Gambia among others. It brings 121,245 ha under improved management (the entire Atlantic Coast of The Gambia out to 9 nautical miles – see map under IR3). The plan designates exclusive use rights to the sole fishery within this zone to NASCOM and specifies a seasonal closure of one nautical mile from the coastline for all fishing from May 1 through October 31 for all fish species and gear types. This is in addition to a minimum fish size, a minimum mesh size and a prohibition on the use of drift nets for the mouth of The Gambia River. The Plan also defines the roles and responsibilities and the processes for an adaptive management approach.

The next step is to gazette the plan for public notice. This has been delayed due to the turnover of Ministers following Presidential elections in November 2011. The previous Minister of Fisheries, Water Resources and National Assembly Matters, who signed the co-management plan was replaced in February 2012. The USAID/BaNafaa Project Manager met and briefed the new Minister, who promised in a public speech on April 10 to gazette the plan. On April 17, he was appointed Minister of Finance. The replacement Minister was removed in May and no Minister has yet been appointed. NASCOM is taking the lead to push for action on gazetting, which will provide legal standing for enforcement of violations.

THEREFORE, I HEREBY:

Declare as a Special Management Area for the purposes of fisheries management, a sole fisheries zone from the Atlantic shoreline and shorelines adjacent to the estuarine areas of The Gambia River out to 9 nautical miles.

Designate the NASCOM and its associated LACOMs through the Community Fisheries Center Management Committees as having exclusive use rights to the sole fishery in this area.

Delegate authority for the responsible and sustained management and conservation of the sole fishery resources in this area to the NASCOM and its associated LACOMs through the CFCs in accordance with the management plan herein.

Figure 2: Fishery Co-Management Plan for The Gambia Sole Complex - Agreement

Approval of the plan is a key project milestone and is the result of more than 2 years of USAID/BaNafaa project assistance to stakeholders in The Gambia to undertake a participatory ecosystem-based co-management planning process that included:

- Facilitating the establishment of community based sole committees (LACOMS) and a national co-management committee (NASCOM), as well as stakeholder capacity building and the stakeholder consultation process for developing the co-management plan.
- Technical assistance for sole stock assessment, by-catch research, critical spawning area hotspot mapping using local ecological knowledge, value chain analysis, and vessel licensing and registration. Technical reports are posted on the CRC website.

As a result, the organizational framework for fisheries co-management has greatly improved since 2009. The fishing communities are better organized with functional committees at local and national levels working to serve their collective interests. DoFish staff have been involved in all processes from the start. So have other government agencies such as the Gambia Navy, Gambia Maritime Authority, Local Government Municipalities, as well as fisheries non-governmental organizations representing artisanal fishing communities, GAMFIDA and NAAFO. These actors have worked towards consensus building on access limitations, closed and protected areas, mesh size regulations and responsible fishing practices, all of which are prerequisites for sustainable fisheries in The Gambia. Without USAID/BaNafaa project support, the Sole Co-Management Plan would not have been developed in this manner and at this pace. The enabling conditions for successful implementation of the approved plan would also not be as favorable.

In Quarter 1 of Year 3 two key final meetings were held to finalize the plan:

- A meeting of 75 participants from all stakeholder groups in November 2011. Dr. Kathy Castro of URI/Fisheries Center was in The Gambia for this meeting. Final revisions were made, including more specific language on climate change impacts and adaptation as a priority area of future research.

- DoFish Advisory Committee Meeting. This committee, mandated by the Fisheries Act of 2007, includes the Permanent Secretaries of State, Trade and Industry, Local Government and Lands, and Health and Social Welfare, as well as the Commander of the Navy, the Executive Director of the National Environment Agency, Director General of The Gambian Maritime Administration and representatives of the industrial, artisanal and aquaculture fisheries sectors. They endorsed the final version of the Plan.

The co-management plan is also a milestone for stakeholders in the Gambian artisanal sole fishery to demonstrate progress on management of the fishery at a standard that aims to meet the eligibility criteria for MSC certification, although certification is not the objective of project support. In 2010, the USAID/BaNafaa project entered into a Memorandum of Understanding (MOU) with the Department of Fisheries (DoFish), The Atlantic Seafood Company and GAMFIDA to assist Gambian stakeholders to address the deficiencies outlined in the September 2008 MSC pre-audit report. The Gambia is MSC's pilot country for its fisheries in transition program, which helps developing countries move towards sustainability. If eventually certified, The Gambian sole fishery may be the first artisanal fishery to obtain MSC certification in sub-Saharan Africa.

2. Implementation of the Sole Co-Management Plan:

DoFish Capacity Strengthened: see IR 2

NASCOM Capacity Strengthened: In Year 3, URI/CRC conducted a preliminary assessment of the institutional capacity of NASCOM following their formal registration with the Government of The Gambia in January 2012 and opening of a bank account. The capacity gaps identified are the basis for the seed grant activities developed with NASCOM. Activities include development and implementation of Standard Operating Procedures and a Business Plan, training in USAID and URI requirements for financial and administrative management and reporting, support for office equipment and support for action research to test various buoy types to determine the most durable and cost effective options for marking the 1 nm seasonal closure zone. The seed grant was disbursed to NASCOM in Quarter 4.

Upon approval of the plan in January 2012, NASCOM conducted an outreach program, visiting each of the sole fish landing sites discussing the Co-Management Plan with LACOMS and encouraging LACOMS to formulate and/or improve their by-laws as they take on a more formal and active role in co-management of the sole fishery. Fishermen have been eager to implement the 1 nm seasonal closure beginning on May 1 in accordance with the co-management plan. While some communities began complying, penalizing of violators will not be feasible until the law to goes into force following gazetting.

The on-board ice box pilot study that was planned for Year 3 through the USAID/BaNafaa grant to NASCOM is still being developed. However, funding of this activity will now be undertaken with part of the funds provided by Kaufland, the German Seafood Company that is donating 50,000 Euro to NASCOM. The funds were raised during a sustainable seafood marketing campaign designed to support The Gambia to pursue MSC certification for the sole fishery. Part of the funds will be used to pay for the next MSC assessment. While improving the quality of fish that reaches processors for the export market, this activity is also important because reducing

losses before the catch is landed and sold could significantly increase returns to fishermen without increasing individual fishing effort. The Kaufland funding to NASCOM will also be used to purchase three patrol boats for enforcement.

Gillnet Study Completed: Chris Parkins of URI/Fisheries Center visited the Gambia to work with USAID/BaNafaa staff and selected master fishermen to continue the gillnet study started in 2011. The purpose of the study was to explore meaningful management options for the artisanal sole fishery related to fishing gear. If fishermen in The Gambia want to use mesh selectivity as a management tool, it needs to have selectivity. The objective of the study was to determine selectivity of gillnets as now fished (as an entanglement net). A secondary objective was to determine the selectivity of the net, especially for catfish, if hung correctly. Results show that the control (entanglement) net caught all size fish (no selectivity). Hanging the net with a 0.5 ratio increased the mean size of fish capture, but the catch from this net may be so reduced that fishermen are not willing to use it. Future research might focus on mesh size as an option.

Figure 3: Fishermen participating in the gillnet study

Evidence that these strategies, the Sole Co-Management Plan and the MSC certification process, have increased social and economic benefits to artisanal sole fishing communities will be evaluated in later years. What is evident at this point is that:

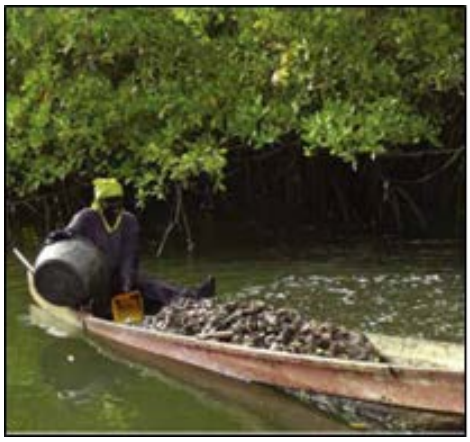
1. artisanal fishing communities have a greater say (including exclusive use rights) in the management of the fishery upon which their livelihoods are based and,
2. the highly participatory process of developing the Sole Co-Management Plan has provided fishing communities with a better understanding of the fishery and of the importance of their participation in continued research and analysis in order to make informed and ecologically sound decisions on management measures.

In an increasingly demanding international market, MSC certification could, at the very least, prevent The Gambia from losing its export market for Sole. The eco-label could also create increased demand for Gambian sole fish. With management measures in place to control over-exploitation of the fishery, the stage will be set whereby the economic benefits could increase and filter down to the fishing communities in terms of a potential increase in the price per kilogram of sole fish at landing points. The price per kg has remained unchanged at D20/kg (less than $0.75) over the past 3 years. Higher demand and higher prices in an environment of managed effort could also improve the economics of investment in technologies to reduce high post-harvest losses at the fishermen's level, further increasing economic benefits realized at their level.

b. Effective Oyster and Cockle Co-Management Plan

1. Approval of the Oyster and Cockle Fishery Co-Management Plan for the Tanbi Special Management Area:

The Minister of Fisheries, TRY Oyster Women's Association, the Department of Parks and Wildlife Management, the Department of Forestry and the National Environment Agency, approved, signed and launched the plan on January 17, 2012 in a combined event with the sole co-management plan. It brings 6,304 ha under improved management (the entire Tanbi Wetlands National Park - see map under IR3). The plan designates TRY as having exclusive use rights in this area, specifies an extended closed season from July to February to allow oysters to grow to a larger size before harvesting, and identifies gear restrictions to reduce damage to mangroves during harvesting. The Plan also defines the roles and responsibilities and the processes for an adaptive management approach. TRY may be the first African women's organization granted exclusive user rights for sustainable management of a national fishery. Gambia may be the first African country to grant such rights to women. Gazetting of the Plan for public notice is also still pending.



THEREFORE, I HEREBY:

Declare the area congruent with the Tanbi Wetlands National Park as a Special Management Area solely for the purposes of fisheries management.

Designate The TRY Association as having exclusive use rights to the cockle and oyster fishery in this area.

Delegate authority for the responsible and sustained management and conservation of the cockle and oyster resources in this area to The TRY Association.

Figure 4: Oyster & Cockle Co-Management Plan Agreement.

In Year 3, the oyster and cockle plan was also the subject of final stakeholder review meetings prior to approval. As for the sole plan, one of the revisions added was specific language

highlighting potential climate change impact on the fishery and the need for climate change mitigation, vulnerability and adaptation to be considered as research priorities.

Approval of the plan is a key project milestone and is the result of more than 2 years of USAID/BaNafaa project assistance to stakeholders in The Gambia to undertake a participatory ecosystem-based co-management planning process that included:

- Technical assistance for PRA'S in the oyster harvesting communities, bi-monthly water quality testing at 16 oyster and cockle harvesting sites in the Tanbi Wetlands, shoreline sanitation surveys, oyster spatfall studies, oyster aquaculture and cockle ranching pilot action research and oyster value chain analysis. Technical reports are posted at the CRC website.
- Facilitating the stakeholder consultation process for developing the co-management plan and building the capacity of TRY to represent and act in the interest of its members.

As a result, tangible social and economic benefits to the women cockle and oyster harvesters and to TRY have been realized since 2010. The benefits can be better appreciated from the point of entry of the USAID/BaNafaa project. Barely five years ago, the cockle and oyster fishery was not recognized and did not feature in the national fisheries development program. Also, TRY membership is comprised of middle aged women, mostly widowed and uneducated and yet the bread winners of their families. The women suffered disproportionately from indebtedness and economic hardships during the closed harvesting season and a difficult and hazardous working environment during the harvesting season. Benefits resulting from previous years' project assistance are summarized below.

- Improved work conditions, including improved access to proper gear (boots, boats, life jackets, improved harvesting and shucking tools), reducing work hazards.
- The women now wear gloves and uniforms for marketing their products, a practice which improves the hygiene of the product, differentiates the higher quality product and makes it easily visible in the market.
- Extending the closed season to allow for more growth and larger oysters indicate that this more ecologically sound practice may also provide a 30% price increase on the market. This practice is institutionalized in the Co-Management Plan.
- Pilot aquaculture action research tested techniques for oyster rack and basket culture to increase production using local materials. TRY members have now seen the potential of the techniques and its costs and can decide whether they will pursue aquaculture with their own investments.
- Members of TRY visited oyster harvesters and processors in Senegal on study tours and the TRY Executive Director went to Tanzania to see oyster processing and livelihoods work.
- Due to the favorable results of USAID/BaNafaa water quality testing work, development of fresh oyster markets locally and eventually internationally is a longer term possibility.
- Training in enterprise development and introduction of a microfinance program has built the capacity of TRY members in basic financial and small-business management and provided access to credit to 250 members. The credit enables the women to engage in value added activities for oysters as well as in alternative livelihoods during the closed harvesting season. Many have now developed the culture of saving money for the first time in their lives.
- TRY members trained in soap-making as an off season livelihood option.

- A TRY business plan including plans for a sustainable building proposal to establish a permanent multi-purpose processing center for TRY. An application for land has been submitted to Government.
- As USAID/Ba-Nafaa has supported TRY, other donors have provided financial support as well. They include the Global Environmental Facility (GEF) through the NEA, the Banesto Foundation of Spain, the Friends of Gambia and Senegal based in America, the Association of Small-Enterprises, Women's Bureau and the Department of Community Development. The Ministry of Education, for the first time, awarded 17 school scholarships to the most deserving children of the oyster harvesters.
- Daughters of TRY members trained in culinary and handicraft skills at the TRY Center to supplement the family income and to have livelihoods choices other than oyster harvesting. The young women are high school drop-outs because the parents cannot afford school fees. (Not a directly USAID/BaNafaa supported activity).

Year 3 accomplishments, building on these strategies are detailed in the following section.

2. Implementation of the Oyster and Cockle Co-Management Plan:

TRY Capacity Strengthened: Along with the benefits of the Co-Management Plan, TRY and its members also have a significant obligation to responsibly and sustainably manage the oyster and cockle fishery. Thus, ensuring the institutional sustainability of the TRY Association and the social and economic wellbeing of its members is the principal focus of TRY's efforts at this stage in its development.

In Year 3, following approval of the plan, with project support, TRY held meetings and trainings to prepare members for the opening of the oyster season (March 1st) and to update them on recent developments. Members were:

- briefed on the importance of wearing uniforms, gloves, and ID badges when selling oysters
- reminded of annual membership fees
- trained by the National Association of Cooperative Credit Unions of The Gambia (NACCUG) on the importance of saving and managing money
- trained by the USAID/BaNafaa WASH Coordinator, on food handling and hygiene.

Figure 5: General meeting at TRY Center in February 2012.

Representatives from each community attended a meeting at the TRY Center to:

- discuss oyster prices for the season
- promote the use of scales
- elect new local governing board members as per the TRY Constitution, (every 2 years).
- share the information presented at the meeting with the other members of their communities.

USAID/BaNafaa's capacity strengthening seed grant to TRY in Year 3 provided support for the following types of activities, described in more detail in the sections below:

- Further development of sound institutional processes and procedures.
- In accordance with the framework provided in the business plan:
    - value added and market development for Oysters and Cockles, including the continued development of packaging and processing technologies and the establishment of processing facilities that meet sanitary and hygienic standards for Gambian, West Africa regional and international markets.
    - Tourism initiatives
    - Fundraising
- Awareness raising about the social, economic and environmental issues related to sustainable management of the oyster and cockle fishery.
- Strategic and measured expansion of TRY to serve additional oyster and cockle harvesting communities in The Gambia.

In Year 3, the project also continued to support housing and project related per diem and transportation for a Peace Corps Volunteer posted with TRY.

A draft Standard Operating Procedures Manual was completed in September 2012 to document administrative and financial procedures that are being put in place. Once finalized, TRY will contract for its first audit against these documented procedures in Year 4.

In its continued efforts to acquire land, TRY met with the Minister of Presidential Affairs and his Deputy Permanent Secretary at the State House on August 30th. The purpose of the meeting was to publicly present the Equator Prize 2012 as well as emphasize TRY's need for land and a processing center. Eight TRY women from the TRY local governing board represented the various communities. The Office of the President may be able to assist TRY in waiving the application fee for land ($1,700) as well as in expediting paperwork once submitted. The meeting was also successful in creating continued publicity and awareness of TRY Association.

Processing and Marketing:

TRY Communities - From March 1st to June 30 (the open season), TRY women members harvested and marketed oysters. The women reported increased oyster size, most likely due to the delayed start of the oyster season institutionalized in the Oyster and Cockle Co-Management Plan. Under the USAID/BaNafaa seed grant to TRY, a market survey was conducted from May 17th – June 6th at the Kamalo landing site, Serrekunda market and Lamin market by two staff members of the Department of Parks and Wildlife. The purpose of the study is twofold;

1.) to better understand the characteristics of market demand and the needs of the clients who purchase oysters at the various TRY sales points, and
2.) to collect data on the size and weight of oysters sampled from various TRY sales points throughout the open season in order to better understand and track the status of the stock.

However, this study did not get underway in time to get 4 full months of data this year. The report is not yet final. However, key findings include: At Kamalo, the majority of customers are civil servants, purchased the oysters for family consumption, purchased in the evening presumably on their way home from work, and bought boiled oysters (versus smoked). Many customers were unhappy with the reported high price of the cup and the small size of the oysters. At Serrekunda market, the majority of customers are housewives (buying for family consumption) and a few are restaurant/food catering businesses (buying for business). All bought boiled oysters. High price of the cup and small size of the oysters was also mentioned in responses. The study will be repeated each year.

TRY Association level – TRY Association purchased oysters from members for centralized processing and sales from the TRY Center. TRY had planned to spend about GMD 50,000 to purchase oysters from the women members this season, estimating a profit of approximately GMD12,500 ($416). At the end of the season (June 30), TRY had spent a total of GMD 23,410 for the purchase of 154.5 kg of oysters (12 kg of boiled oysters, 142.5 kg of smoked oysters). The profit made from the oyster sales was minimal, especially considering electricity costs for the freezers used to store the oysters for sale. For TRY Association to rely on oyster sales as one of its main sources of income, TRY needs to access adequate capital to purchase in volume sufficient to utilize freezers to capacity and to develop markets for the frozen product sufficient to support the purchase and resale of such volumes. As a result of its efforts to date, TRY has noticed an increase in interest and awareness surrounding the availability of frozen oysters at the Centre and selling frozen oysters at high prices in the off season may be a profitable option worth exploring. Greater efficiencies in the processes of handling, packaging and marketing the oysters are other areas for improvement.

The USAID/BaNafaa seed grant supported a Hotel and Restaurant survey geared at opportunities to expand markets. TRY staff Binta Gassama and Peace Corps Volunteer Fern Aguda-Brown conducted the Survey in September, visiting 14 mid-range and higher class hotels and 4 restaurants in the Greater Banjul area and in Senegambia. The report is being finalized. The visits with the managers and chefs proved to be great opportunities to promote TRY, encourage the use of oysters on hotel menus, and gain an understanding of what these businesses are looking for in oysters and seafood products in general. The majority of businesses visited do not feature oysters on their menus due to: lack of reliable delivery, availability of oysters (oyster harvesting season (March – June) is later than the high tourist period of December and January), sanitation concerns (especially in the higher class hotels), and previous experience purchasing oysters along the Banjul-Serrekunda highway (oysters were reported to be small, sandy). Many managers expressed great interest in purchasing and incorporating oysters into menus (especially smoked) and were grateful for the visit. They described how customers greatly appreciate the experience of eating locally and some expressed interest in featuring oysters during their special Gambian/African meal nights or seafood buffet nights. These businesses all feature local seafood including shrimp and fish, which they order through a contact person who transports the product

to the business. Respondents suggested that TRY contact the Gambia Hotel Association, an active group to which all of these hotels belong. A few chefs suggested requesting a meeting with the National Chef Association to discuss ideas on how to promote oyster cooking locally.

Smoked Oysters - TRY has been encouraging the sale of smoked oysters as some customers have expressed interest in this product and it brings a higher price. With USAID/BaNafaa assistance a demonstration smoking oven was constructed at TRY's Kamalo landing site by a Senegalese team that the TRY Executive Director and other TRY members met during their visit to FENAGIE in Senegal last year. The oven is closed, reducing fuelwood use (labor and environmental benefits) as well as smoke inhalation and danger from oyster shell fragments exploding in the fire (health and safety benefits). TRY has trained the women to use the oven. TRY's goal to bring smoking stoves to every landing site will be realized sooner than expected as USAID/BaNafaa assisted TRY applied successfully for UNDP funding for the installation of 15 ovens next year along with additional training. With the second round of mangrove planting funded under its GEF grant this rainy season, TRY continued to mitigate the impact of fuelwood use, which is less for this stove than for the current practice of boiling on a three stone open fire.

Figure 6: Oyster smoking oven technology transferred from Senegal, constructed at Kamalo oyster site.

Scales - To increase sanitary measures when handling and processing oysters, TRY is promoting the use of scales. The goal is to eventually replace selling by the cup with selling by the kilogram. TRY has made scales available for the women for purchase. Although learning to use and feeling confident using the scales may be a slow process for the women, selling metrically will add professionalism to the oyster product, as well as to the reputation of TRY.

Figure 7: Promoting the sale of oysters by metric scale.

Annual Oyster Festival: The Fourth Annual Oyster Festival held on April 28, 2012 at the Kamallo landing site was another successful event. There were an estimated 250 guests. The President of The Gambia was holding an investiture event in Banjul the same day so he did not attend as he did last year. The Vice President of The Gambia, Aja Dr. Isatou Njie-Saidy made an appearance. She spoke on behalf of the Gambian Government praising the TRY women for their hard work. She has been a long standing supporter of TRY. The entertainment included traditional dancing and wrestling and the food available for sale received great reviews.

Figure 8: The women of the Kamallo landing site march and dance into the Festival arena.

Like last year, the Festival was very successful in promoting TRY's mission and the specific objectives of the festival, which were to:

- Promote and celebrate TRY's work in the Gambia
- Remind and appeal for help from the Government for land to construct a permanent headquarter which will include a processing center
- Raise awareness about oyster harvesting and the women who rely on this trade
- Promote purchase of oysters at the multiple locations of sale, as well as awareness of the season and availability of oysters

- Promote and demonstrate the various ways of preparing oysters
- Raise funds for TRY's programs. This is the only objective that did not meet expectations this year as a net of only $465 was raised.

GRTS (Gambia Radio and Television Station) attended and videotaped many of the activities, which they then showed on their nightly news program. A freelance BBC radio reporter, Helen Scales, also attended and is expected to use material she recorded for a BBC radio piece on sustainable fisheries management.

Mangrove Reforestation: In October 2011, USAID/BaNafaa supported the reforestation of 2.5 hectares of mangroves (*Rhizophora racemosa*) in Kartong. Participation of TRY members and their families as well as others from the community was enthusiastic. More than 48 people planted more than 8,481 propogules. A USAID/BaNafaa branded signboard marks the replanted area. The mangrove reforestation will directly benefit TRY members by protecting degradation of the mangrove ecosystem which is important to bivalves and other species. It is one of the management measures specified in the co-management plan. In addition to the USAID/BaNafaa funded site in Kartong, more than 100 TRY members and partners planted an additional 31 hectares at 2 sites (Old Jeshwang and Fajikunda) funded by TRY's GEF grant during quarter 1 and quarter 4 of Year 3. Segments on the mangrove planting were shown on the evening news in the days following the events.

Figure 9: Signage marking the mangrove reforestation area in Kartong

Aquaculture Action Research: In Year 3, an article titled Aquaculture in The Gambia was published in World Aquaculture. The article is authored by Dr. Michael Rice of URI, Ousman Drammeh, USAID/BaNafaa Project Manager, Famarah Darboe, Deputy Director of DoFish and Kanyi Babanding, USAID/BaNafaa staff. The article reviews aquaculture related to USAID/BaNafaa activities as well as other aquaculture activity in The Gambia. It concludes:

"…aquaculture in Gambia is very much in its infancy stages but it holds great promise because the Gambian people value seafood in their diets and there appears to be general support by both the government and the public for farming fish and shellfish. Major constraints to aquaculture in Gambia appear to be scarce and expensive access to capital, relatively poor transportation and shipping infrastructure in the country and in the case of shellfish, relatively low market prices that make gear acquisition relatively expensive in relationship to the cultured crop. The forms of artisanal aquaculture that appear to hold the most promise for the country are those that can be incorporated into the regular routines of existing rice farmers in the case of aquaculture of tilapia and other freshwater fish, or the routines of existing shellfishers in the case of oysters and cockles. Although aquaculture is considered favorably by the Gambian government for its potential in building a Gambian export trade portfolio, the history of the faltering shrimp aquaculture in the country over almost three decades suggests that a number of barriers to business success remain in place."

Brian Crawford has been invited by the USAID Aquafish Collaborative Research Support Project to present at Aquaculture 2013 in Nashville, TN in February 2013. The presentation entitled, Action Research In The Gambia: Can Shellfish Aquaculture And Sea Ranching Enhance Food Security, Incomes And Empower Women Harvesters In The Gambia is co-authored by Lina Kelpsaite, Gibril Gabis, and Ousman Drammeh, of USAID/BaNafaa, Michael Rice of URI and Fatou Mboob, Executive Director of TRY Association. It concludes:

"Oyster aquaculture has the potential to increase women's income and harvest yields, and reduce wild harvest pressure…Improving incomes, food security and empowering this disadvantaged group of women requires an integrated approach where no one activity will be sufficient to achieve this goal. Improving production through aquaculture and improved wild harvest management must be coupled with other interventions aimed at a broad range of factors that keep these women in poverty. These include - improved literacy, access to credit, a stronger producer association, improved products, markets, and landing site sanitary facilities, exclusive harvest rights, as well as cooperative and capable local government and non-government institutions that can provide support services."

Environmentally friendly aquaculture research and development is a management measure specified in the Oyster and Cockle Co-Management Plan. USAID/BaNafaa has been supporting this aspect with action research pilots conducted by TRY members in their communities. The status of each is as follows:

- Floating basket culture of oysters, USAID/BaNafaa support not continued in Year 3. Although this pilot showed positive growth rates after one season and was viewed positively by the women, especially due to the lower than expected effort on maintenance of the floating baskets, the relatively high cost of materials compared to the volume and value of oysters does not appear to be profitable. The women now know how this technique is done and some who are interested may use local lower cost materials to construct baskets and continue the activity on their own.
- Rack culture of oysters, USAID/BaNafaa support not continued in Year 3 due to the lack of a clear economic benefit unless the activity is subsidized. Aquaculture reduces pressure on the mangroves, could extend the harvest of larger, higher value oysters later in the season and could significantly reduce travel time to and from ever more distant harvesting sites as the season goes on, but the wild harvest is currently so plentiful it is not evident that aquaculture

could produce comparable volume with comparable effort and cost/benefit in the immediate future. TRY has received a GEF grant that it will use to continue and expand rack culture.

- Cockle redistribution in Kartong is showing enough positive results and strong motivation from the women to continue as part of the development of a Kartong Oyster and Cockle Co-Management Plan as anticipated in the Year 3 workplan. Additional experimental plots located lower in the intertidal zone were added in Quarter 3. Growth from the new plots was showing positive trends. Figure 11 shows that transplanted areas show significantly greater biomass that traditionally harvested areas. However, in September 2012, cockle populations experienced a significant die off, probably related to the higher than normal rainfall this year and the resulting runoff affecting salinity, temperature, turbidity or other factors. The die off will be investigated and the pilot continued in Year 4.

Figure 10: TRY Members in Kartong sample cockles at low tide.

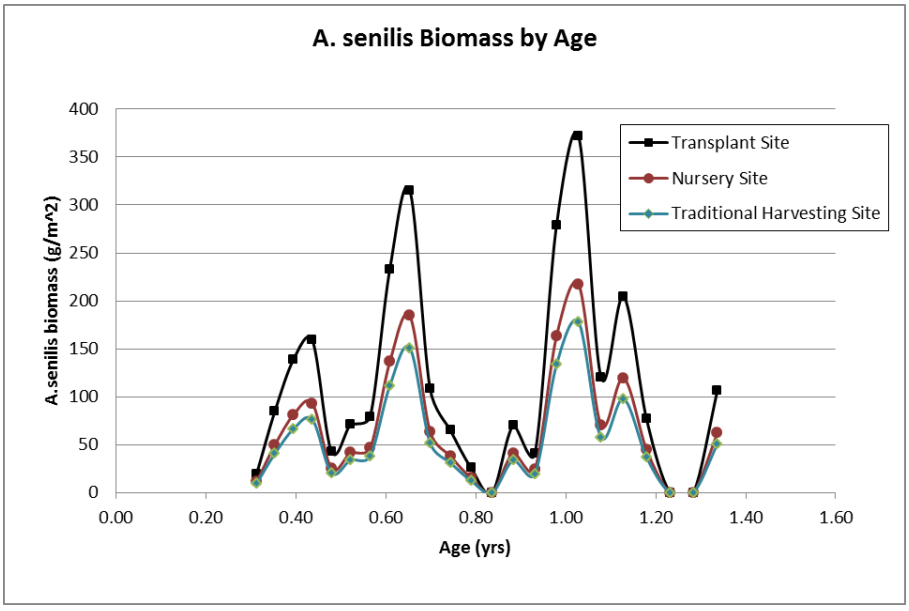


Figure 11: Comparison of biomass of cockles in transplanted and non-transplanted areas

Kartong Co-Management Plan Development: In addition to the Cockle redistribution action research discussed above, a Participatory Rural Appraisal (PRA) conducted in May with the TRY Kartong community will serve as the basis for development of a Kartong Oyster and Cockle Co-Management Plan. Women from Senegal who cross the border to harvest in the Kartong estuary, will be included in the management planning stakeholder engagement process.

Figure 12: TRY members from the Kartong Community participate in the PRA.

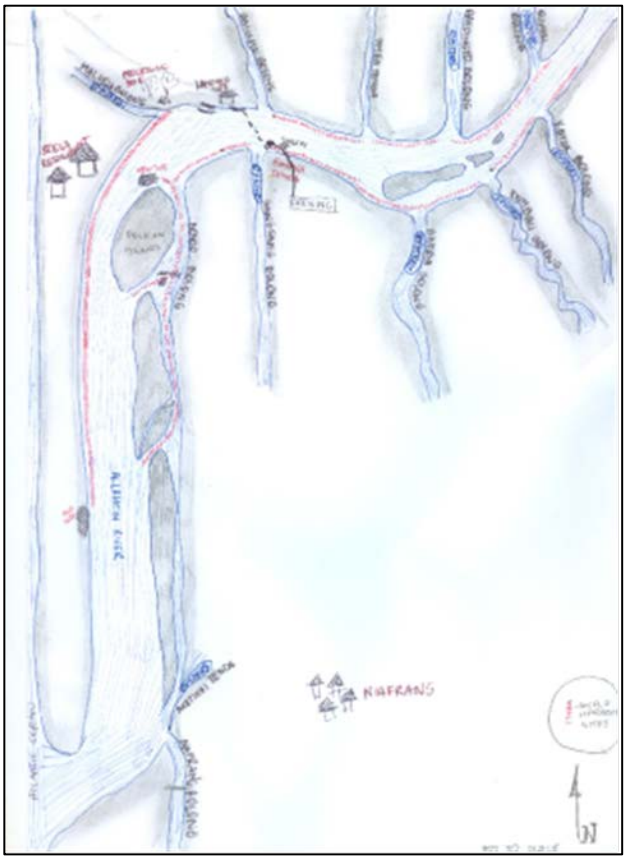


Figure 13: Community Map of the Kartong shellfish harvesting area.

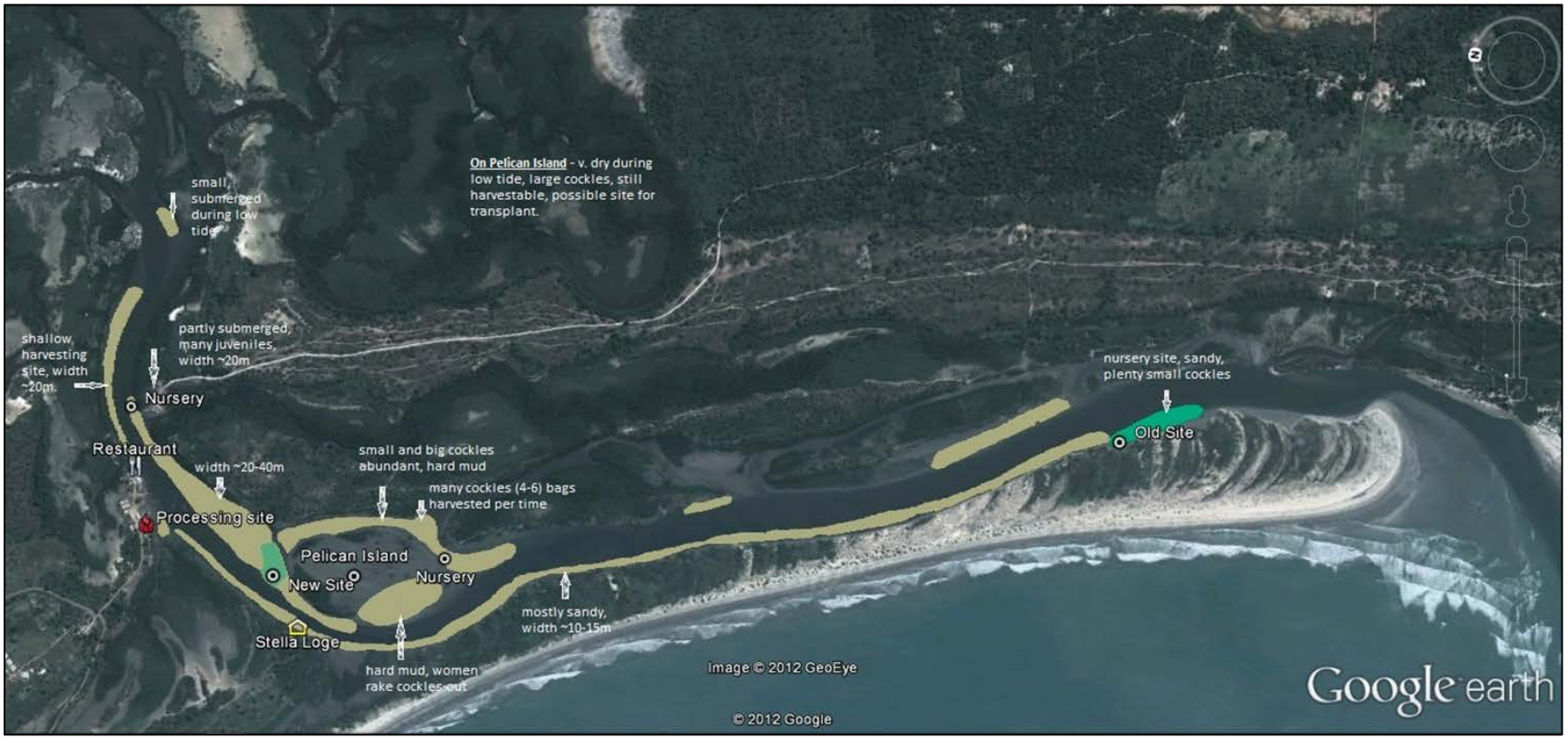


Figure 14: Satellite Map of the Kartong shellfish harvesting area.

Literacy training: TRY members began training in basic literacy and numeracy in English in Year 3 (November and December 2011). Three classes of approximately 30 women TRY members started in the communities of Old Jeshwang, Abuko and Daranka. They meet 3 times per week for 2 hours through the end of February when they took a break during the peak oyster harvesting season. The women look forward to the positive impact they expect these skills to have on their marketing activities, overall self-reliance and access to other learning and economic opportunities. During some of the TRY trainings and meetings held in February, TRY noticed a few more women than usual chose to sign their names on the travel reimbursement sheets instead of thumb printing. With pride and big smiles, these women explained how they learned to write their names in the literacy classes.

Microfinance: A new 6 month cycle of microfinance loans was initiated in Year 3. This cycle is designed to reward and institutionalize the practice of saving. Women who were able to save 500GMD or more are eligible for new loans. Loans range in size from 500 – 5000 GMD determined by the amount of savings. Between October 2011 and January 2012, 122 TRY members took round 2 loans. This number has been revised downward from the semi-annual report following transcription of TRY's microfinance data to electronic format (an on-going effort assisted by a URI student in the U.S.) and an internal data quality review conducted in April 2012. Double counting of round 1and round 2 loans caused the confusion. Repayment of round 2 loans has been slower than anticipated with only 25% repaid in full as of the end of Year 3. The FY 12 target of 250 round 2 beneficiaries will not be met as TRY is currently working with the National Association of Cooperative Credit Unions of The Gambia (NACCUG) to graduate TRY members who have both saved over GMD3,000 and have paid back their loan(s) in full. TRY feels that these 22 qualifying women will be better served by working directly with NACCUG. The staff at NACCUG have been facilitating and attending meetings and trainings since 2010 and hopefully the women have gained trust in them and in their institution. Through NACCUG, the women will be able to access more credit, have a safer place to deposit money, and will become more independent with their personal finances. TRY will continue to work with the rest of the members on repaying loans and encouraging saving, while using these qualifying women as positive examples of microfinance success.

Skills Training of TRY Daughters: Alternative livelihood development is also a management measure specified in the co-management plan to reduce pressure on shellfish and mangrove resources. Haddy Kamara of the Community Development Office works with the girls three days a on tie-dye, batik, and crochet. In response to TRY's request to Action Aid The Gambia, TRY was granted $3,448 for the girls skills program. TRY used some of this money to give small business loans to the girls of the skills class. Each loan was GMD 2,000 (about $70). They will have three months to pay it back. Many are using the loan to begin tie-dye businesses.

After conducting a needs assessment with the girls, TRY determined that a health education component is lacking in the Skills Training Program. Because these girls were forced to drop out of school, they are in very vulnerable positions. They have limited knowledge regarding sexual and reproductive health, including HIV/AIDS, STIs, and family planning, and thus are at serious risk for teenage pregnancy, HIV and STI's and entering and staying in unhealthy relationships. To work towards equipping these young women with the necessary knowledge to protect themselves, TRY is partnering with the National AIDS Secretariat (NAS) and Pro-Hope

International The Gambia to implement a peer health education training program focusing on sexual and reproductive health. The program will begin October 1st for three months, with funding from the Special Project Assistance Program through Peace Corps.

Water Quality, Shoreline Sanitation Survey and a Gambian National Shellfish Sanitation Plan (GNSSP): Water quality testing to determine whether there are public health risks from contamination of oyster harvesting areas has continued in Year 3 at 16 oyster harvesting sites within Tanbi Wetlands and Western Region. Testing is conducted on a fortnightly basis and analyzed at the laboratory in Abuko. Total and fecal coliforms are determined by use of the membrane filtration method, using standard TC and FC media. Coliform counts are done using 25 mL of filtrate and reported as colony counts per 100mL of sample as is routinely reported in shellfish sanitary water quality literature (e.g. Graybow et al, 1981). The results of the study to date show that both total coliform and fecal coliform counts were relatively low in all sample sites. The data from the Tanbi sites appears to be reasonably clean in comparison to U.S. NSSP Total Coliform water sanitation standards. The data also show that there is a distinct wet season signal over the last 3 months, and variability in the maxima from month to month indicating that there are definite transient contamination events from time to time in some locations. Even during wet season mean values are below TC standards, indicating that open areas can be established.

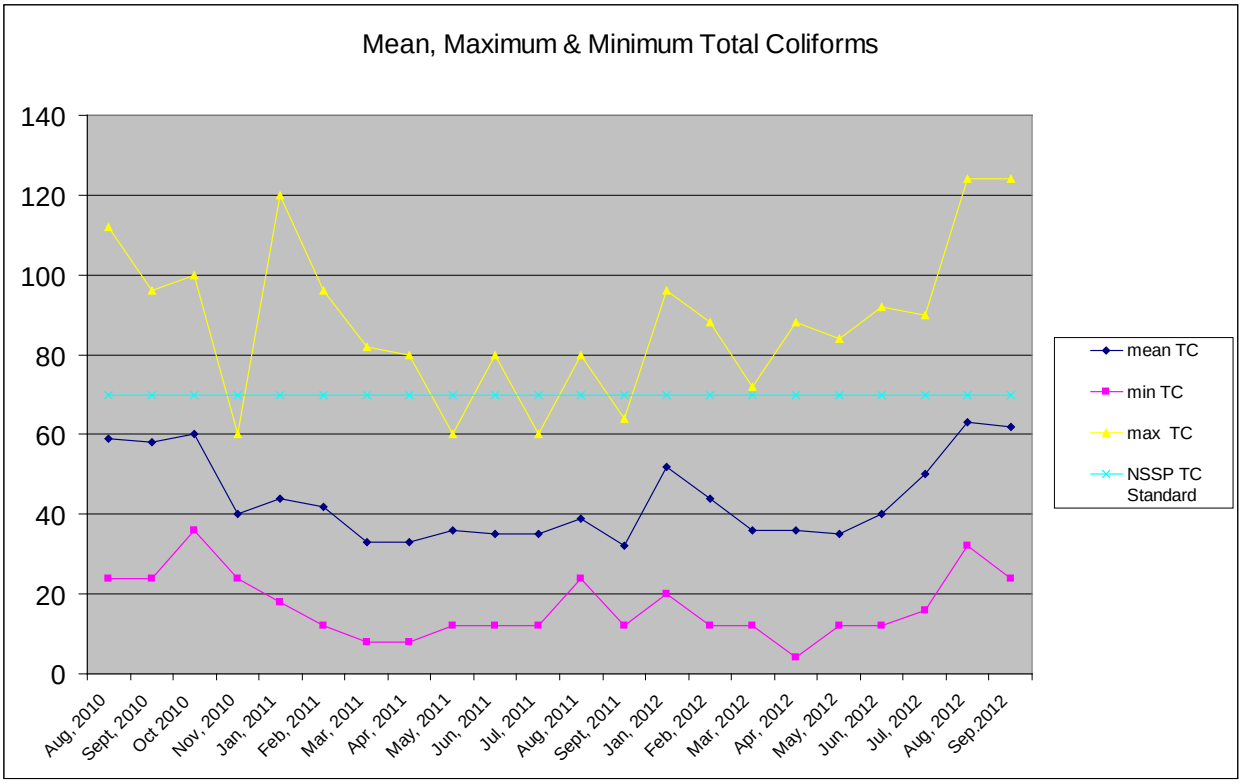


Figure 15: Average Total Coliforms at oyster harvesting sites August 2010 – September 2012.

In addition to water quality testing and the use of resulting data to manage the oyster fishery, shoreline sanitation survey techniques enable decision makers to identify areas of critical threat to shellfish sanitation. As planned for Year 3, Dr. Michael Rice of URI provided training in The

Gambia to an inter-agency team on how to conduct the shoreline sanitation survey and the development of a Gambian National Shellfish Sanitation Plan (GNSSP). This training built on the June 2011 training provided on this theme to Gambian participants at URI, who then presented their work on a draft GNSSP to Gambian authorities. As a result of these trainings over two years, a framework for an interagency Memorandum of Understanding (MOU) to form a Gambian National Shellfish Sanitation Program (GNSSP) has been discussed and should be implemented in Year 4. Dr. Rice gave a presentation of this work at NOAA's Milford Aquaculture Seminar in Connecticut in March 2012.

The training was applied to conduct two shoreline sanitation surveys (bi-annual) with project assistance in Year 3 at the 15 TRY oyster harvesting sites where water quality is tested. The Results of the first survey were discussed at an interagency meeting in February and documented in the "Report on Sanitary Shoreline Survey Within the Tanbi Wetlands National Park and Other Shellfish Harvesting Communities." To improve the sanitary conditions of the oyster harvesting sites and comply with US NSSP standards, the report recommends the following:

- Further develop the Gambian NSSP
    - Develop specific tasks required for Gambian NSSP
    - Develop G-NSSP standard operating procedures
    - Develop MOU that specify responsibility for each agency (Department of Fisheries, Department of Water Resources, Department of Health, National Environment Agency, Department of Parks and Wildlife Management, Department of Forestry, Governor of WCR, Brikama Area Council, Kanifing Municipal Council, Banjul City Council)
    - Develop funding mechanisms for interagency cooperation in developing and implementing the GNSSP
    - Attain "Observer Status" or membership in the Interstate Shellfish Sanitation Conference (ISSC.org).
- Identify and remediate the known fecal contamination
    - Define and map out shellfish growing waters and identify problem areas
    - Work with public health authorities to develop programs to promote toilet systems for public health, shellfish sanitation and freshwater conservation.
    - Establish a working group of all interested stakeholders to:
        - Construct the water and sanitary facilities at each site
        - Clean waste along the shoreline and establish waste management programs in these communities
        - Sensitize the surrounding communities on waste management and best sanitary practices and conduct regular training on PHAST
        - Create buffer zones along intertidal zones to prevent human settlements
- Implementing water quality and sanitary shoreline surveys
    - Conduct baseline surveys and record results in spreadsheet
    - Conduct regular bi-annual sanitary shoreline surveys
    - Conduct regular bi-monthly water quality monitoring
    - Collaborate with all stakeholders and establish water quality classification zones

In addition to coverage of these issues by the local media, the results of the shoreline sanitation survey were acted on immediately by TRY. They met with local authorities at Old Jeshwang, where a piggery was found to be threatening water quality at the oyster harvesting site. Action on moving the piggery has not yet been taken.

Figure 16: Heaps of ground nut shells obstructing stream water flowing into the mangroves at Kamalo

Figure 17: Settlements and rubbish dumping site along the storm runoff path at Faji Kunda

USAID/BaNafaa organized a meeting to plan the next steps recommended in the Sanitary Shoreline Survey Report on April 19th and specifically to engage stakeholders in taking action within their institutions to support the next steps. Representatives from Fisheries, Water Resources, Forestry, Parks and Wildlife, Livestock, Health, the National Environment Agency, Brikama Area Council, GAMFIDA, NASCOM, TRY, the Office of the Vice President and UNICEF attended. Strategies for getting high level government commitment to addressing the issues raised in the report, as well as drafting of institutional roles and responsibilities was covered. The links between a shellfish sanitation plan and climate change adaptation were identified and noted as one of the points for further development. The Second Sanitary Shoreline Survey report for the survey conducted in September is pending.

c. Water, Sanitation and Hygiene (WASH)

In July 2011, the USAID/BaNafaa Project was awarded a Water and Sanitation add-on for $759,126 to support needed water and sanitation activities linked to the artisanal fishery and Community Fishery Centers (CFCs) and oyster landing sites. These centers are fish landing and public fish market sites where fish is taken from boats, washed and iced, sold, and in some cases, smoked in adjacent processing facilities. Some catch is sold and transported to export processing plants. The Ministry of Fisheries and specific CFCs have indicated that Water and Sanitation are development priorities for the artisanal fisheries sector and expressed their interest in having the USAID/BaNafaa project provide assistance in this area.

The objectives of these WASH activities are to improve water supply and sanitation at approximately seven public fisheries landing/processing facilities, including oyster harvesting/processing sites. This will provide direct benefit to the thousands of fishermen, oyster harvesters, women fish venders, small scale fish processers and other laborers that utilize these facilities daily. An added benefit is that clean water supply and sanitary facilities at these sites will also result in improved sanitary handling of seafood supply and result in safer and healthier seafood product that enters both the local food chain as well as processing centers for export. In addition, recent research on small-scale African fisheries suggests that addressing high priority fisher household vulnerabilities such as water, sanitation and health issues are likely to increase incentives for fishermen to engage in more sustainable fisheries management practices[2].

WASH Office Set Up: As of the end of Year 2, URI had established its in-country office at the TRY Association Center and recruited a WASH Coordinator, Dr. Bamba Banja, who has a strong background in fisheries and food safety and hygiene. A Toyota Hilux was purchased and delivered in October 2011. An Administrative and Financial Assistant to the WASH Coordinator, Mr. Assan Camara was recruited and started on November 1.

WASH Sub-Contracting In Place: Sub-contracts with TARUD and GAMWORKS for implementation of their respective elements of the Year 3, FY12 workplan were put in place and advances transferred in Quarter 1. TARUD's work covers the needs assessment, training and management planning components of the WASH activities. GAMWORKS is responsible for the design, sub-contracting and oversight/quality control of infrastructure construction as well as environmental compliance documentation.

Launch Activities: A one day meeting on the objectives and activities of WASH was conducted on December 13, 2011. Twenty-eight participants were present, including the Permanent Secretary of Fisheries, Water Resources and National Assembly Matters, representatives from the Public Health Department, the National Environment Agency, Department of Fisheries, GAMFIDA, NASCOM, TRY, Department of Parks and Wildlife Management, Department of Forestry and the media. The purpose of the meeting was to inform and engage stakeholders present at the meeting, and the general public through media coverage, on the USAID/BaNafaa WASH component. In particular, that a needs assessment would be conducted in 16 communities. The WASH Coordinator then visited each of the 16 communities targeted by the needs assessment before it began to reinforce the importance of broad-based participation by all

[2] Mills, D., et al. 2009. Vulnerability in small-scale African fishing communities. J. Int. Dev. DOI: 10.1002/jid.

stakeholders, including the local authorizes and women in particular and to answer any questions from the community. In addition, local radio spots were broadcast during this time to inform communities of the coming needs assessment.

WASH Needs Assessment: In consultation with the WASH Coordinator, TARUD developed and tested the methodology and tools (principally PRA tools) for the needs assessment. A training of 10 TARUD needs assessment team members/facilitators was conducted by TARUD in December 2011. From December through March, TARUD conducted the WASH Needs Assessment in 16 communities. A stakeholder workshop to review the results, finalize the report, and prioritize sites was held on April 18th. The 38 workshop participants comprised stakeholders from the MoFWR&NAM, DoFish, NEA, Department of Water Resources, Department of Parks and Wildlife Management, Department of Health, Department of Community Development, USAID/BaNafaa implementing partner for facilities construction - GAMWORKS, TARUD, Local Government Authorities from Banjul City Council and Brikama Area Council, representatives from the seven (7) Community Fisheries Centres (CFCs), including at least one woman from each, representatives of TRY Association, NASCOM, National Water and Electricity Company (NAWEC) and representatives of the Media. After proposed adjustments were adopted in plenary, the final recommended priority ranking was as below. The project will make every attempt to follow these recommendations and has begun implementation at the first 6 sites on the list. Stakeholders were informed that if serious constraints arise during implementation at a given site, the next site on the list may be chosen in its place.

Table 1: Prioritization of WASH Sites

No.	Site	Rank( ) and type of site	Comments
1	Brufut	(1) Fisheries	
2	Kamalo	(1) Oysters	
3	Sanyang	(3) Fisheries	
4	Jeshwang	(3) Fisheries and Oysters	
5	Abuko	(3) Oysters	
6	Kartong	(6) Fisheries and Oysters	
7	Tanji	(7) Fisheries	
8	Gunjur	(8) Fisheries	
9	Lamin	(8) Oysters	
10	Kerewan/Daranka	(9) Oysters	
11	Kubuneh	(10) Oyster	
12	Bato Kunku	(10) Fisheries	
13	Ebo Town	(10) Oyster	
14	Faji Kunda	(10) Oyster	
15	Mandinary	(14) Oyster	
16	Bakau	Fishery	ruled out due to mgt. capacity and erosion/sea level rise vulnerability
17	Wencho	Oyster	ruled out due to illegal squatting, health issues, govt. plan to relocate

Figure 18: Needs Assessment Site Mapping at Ebo Town.

WASH site development: In May, a task force visited each of the 6 priority intervention sites to inform them of the selection and to begin process of planning next steps. As of the end of Year 3, the following progress had been made:

- Environmental screening of all six priority sites by GAMWORKS and submittal of a draft Environmental report and Environmental Mitigation and Monitoring Plan for the construction phase as well as recommendations for individual site EMMPs for management of the completed facilities.
- For water supply, four of the six sites are recommended for municipal water connections, two for boreholes. Water quality testing in compliance with USAID requirements will be feasible in The Gambia, except arsenic, for which there is no testing capacity. URI has ordered the USAID approved Hach Arsenic Test Kit for use in the field. The Department of Water Resources and other technical specialists in The Gambia do not expect that the municipal water or any of the sites will have arsenic levels surpassing 10 ppb, the USAID threshold for requiring testing in a certified laboratory.
- Based on engagement and readiness of the communities, Brufut and Old Jeshwang will be the first two sites developed (both municipal water). Both of these sites have put in place their WASH Management Committees with attention to significant representation of women on the committee. Tentative location of facilities at the sites has been proposed by the communities and vetted by GAMWORKS.
- PHAST and Training of Trainer training in outreach on hygiene and sanitation by TARUD was not conducted by the end of Year 3 as planned. TARUD has engaged a consultant as lead trainer and has proposed a training plan.
- GAMWORKS proposed draft sanitation facility designs, which are being discussed at length with the communities in Brufut and old Jeshwang.

2.2 Intermediate Result 2

Institutional capacity strengthened at all levels of governance to implement an ecosystem-based, co-management approach to sustainable fisheries, and to prevent overfishing.

Year 3 Summary Highlights

- Department of Fisheries Capacity Strengthened
  - Stock assessment training on line and in-country
  - Stock assessment for 2011 (most recent data) conducted
  - 2 staff attended URI Leadership in Fisheries Management Summer Institute, 1 attended Population, Health, Environment course in Senegal
  - Degree training in Fisheries for 2 staff in Nigeria
- NASCOM capacity strengthened (see IR1)
- TRY Oyster Women's Association capacity strengthened. (see IR1)
- The Association of Gambian Fishing Companies (TAGFC) capacity strengthened
- Multi-agency National Shellfish Sanitation Planning process initiated. (see IR 1)
- 433 participants trained, 247 of whom were women (57%).
- Report on "Comparative Cost Study on Sole Fish: The Gambia and Senegal" completed, discussed and validated in a stakeholder workshop. Drafting a cabinet paper to engage discussion of issues at the highest levels within the Government is the key recommendation.
- The first Bi-lateral (Gambia/Senegal) Workshop on Artisanal Fisheries Co-Management conducted.
- Annual Governance Scorecard ratings for both the sole and oyster fisheries show improvement.
- Bilateral Climate Change Vulnerability Assessment conducted. Stakeholder workshop of 18 government and civil society institutions from Senegal and The Gambia identified priorities for bilateral climate change adaptation. Add-on request for implementation submitted to USAID/WA.
- Significant sharing of the Co-Management experience outside The Gambia.

a. DoFish Capacity Strengthened

1. Stock Assessment

Training and Technical Assistance: In Year 3, USAID/BaNafaa continued to provide technical assistance to DoFish for the institutionalization of its stock assessment and database management responsibilities, starting with the quarter 1 visit by URI Fisheries Center technical specialists Dr. Kathy Castro, Barbara Somers and Najih Lazar who provided technical assistance to DoFish for the institutionalization of its role in stock assessment and database management, including assessment of organizational structure, staffing, staff training and planning for an adequate Department of Fisheries budget to support these functions sustainably. Training for two staff on-line in stock assessment and database work with distance support from URI was completed. Joe DeAlteris visited The Gambia in May 2012 to support the on-line stock

assessment training and to provide technical assistance for a new stock assessment as part of the co-management plan and to support MSC readiness. The by-catch identification guide for use by DoFish staff for stock assessment data collection was also refined and finalized this year.

Stock Assessment for 2011 Completed: Findings of the stock assessment for 2011 completed in 2012 indicate that for red and black sole the estimated level of fishing mortality may now be greater than the recruitment overfishing reference point. Current data indicating low percentages of larger fish in the population seem to support this finding. The overall catches of sole in 2010 do not appear to be excessive as compared to the 2006-2008 period, but the catches in 2011 appear to be higher. Although these findings raise concerns about the status of the stock being more at risk to overfishing, the process put in place under the co-management plan for the sole fishery is working. The first stock assessment done by MSC was very rough and preliminary, based on little data. With USAID/BaNafaa assistance, DoFish has improved the data and is analyzing and sharing it in the context of a co-management plan. The co-management plan also provides the institutional framework for stakeholders to decide how to act on the findings. The 1 nautical mile (nm) seasonal closure was incorporated into the management plan as a precautionary measure, but might now be considered a significant management action. Additional management measures are also under consideration by NASCOM.

2. Degree Training for DoFish Staff

Within DoFish, there is a strong cadre of approximately one dozen mid-career professionals who cannot be advanced through promotion within the civil service system as they lack the appropriate degree qualifications, in spite of the fact that they have ample experience and competencies. This creates a morale problem and is typically a problem for retaining highly skilled people within the Department. Most of these individuals have completed two-year diploma programs, but require a four-year degree to be promoted. Such degrees in fisheries are not available in The Gambia and require training outside the country. Individuals from DoFish with two years of study already completed have been selected to continue degree training to a four year level (i.e., the Project provides support for an additional two years of education). Degree training at Nigerian universities is very cost effective. Two individuals have been nominated for these degree scholarships, were accepted for admission and began their studies. One has completed his degree in September 2012 and the other is expected to complete his program in 2013.

3. URI Leadership in Fisheries Management Course

Participation in these courses has been a critical factor in building a team of actors from various institutions who work productively together in The Gambia with common goals and approaches. In Year 3, Anna Cham and Ousman Jobe, DoFish Principal and Senior Fisheries Officers participated in the July 2012 Fisheries Leadership course in Rhode Island.

b. TAGFC Capacity Strengthened

In addition to on-going institutional capacity building support to DoFish, TRY and NASCOM as described above and under IR 1, the President of The Association of Gambian Fisheries

Companies (TAGFC) also attended the URI Leadership in Fisheries Management Course in Rhode Island in 2012. TAGFC has been participating in sole co-management activities, but industry actors will play a critical role if The Gambia is to achieve standards, such as traceability, required for eco-labeling.

c. Population Health Environment (PHE)Training

In June 2012, Dr. Bamba Banja, USAID/BaNafaa WASH Coordinator and Faburama Darboe, Health Project Manager for TARUD attended the URI Population, Health and Environment Summer Institute in Rhode Island. It provided the WASH team with project leadership, design, management and implementation capacity development as well as with a broader programming perspective. Anna Cham, Principal Fisheries Officer for DoFish and TRY Association Board Member was also supported by the project to participate in an abbreviated PHE course in December 2011 in Senegal. TRY has already begun incorporating reproductive health into its training programs.

d. Comparative Cost Study on Sole Fish: The Gambia and Senegal

The value chain for sole identified the fact that an unknown quantity of sole is transshipped into Senegal and much of this transshipment is not being fully captured by the DoFish statistics (and distorts Senegal sole capture statistics). The implications for marketing an eco-labeled product is also a concern in terms of traceability requirements as well as proper stock assessments based on landings. Sole is loaded into trucks coming from the Casamance but reported as caught in Senegal and then transshipped to Senegal for eventual processing and export. This illegal trade can have significant impacts on trying to accurately assess landings of sole caught in Gambian waters. Eco-labeling may help curtail this trade, but other measures might be identified to bring this illegal trade into the open. Therefore, additional assessment of the cross border trade was needed to fully understand market context and opportunities for improved marketing that benefits more fully Gambian fishermen, processors and exporters. Since cost differences in the two countries have been cited as key reasons for the lack of processing activity in The Gambia and exports to Senegal, the assessment was designed to also look into the comparative cost structure for processing plants and exports to Europe in the two countries.

The study was conducted by a lead consultant from Senegal and a secondary consultant from The Gambia in addition to three individuals contracted to collect data at 3 border crossing sites. Upon completion of the draft report in February, a validation meeting of Gambian stakeholders reviewed the draft and produced a final report with recommendations for follow-up actions. Although data collection on illegal trade was not successful due to the timing of the study during a period of particularly low movement of product, the study found significant differences between the Gambian and the Senegalese context at all levels in the sole value chain. The differences create an unfavorable competitive environment for The Gambia. The report concluded that the competitiveness, profitability and sustainability of the Gambian fish processing industry depend on addressing 1) financing, 2) utilities reduction costs, 3) infrastructure improvements, 4) associated industries, 5) the supply of raw materials, and 6) information on sole trans-shipment. The key recommendation is to create and interagency committee and draft a cabinet paper to engage discussion of these issues at the highest levels within the Government. Cross border trade issues were also discussed at the bi-lateral co-

management workshop in May in The Gambia. The recommendations and action plan resulting from that meeting is a first step in airing these issues bi-laterally. Drafting of a Cabinet Paper in The Gambia is the next action to be undertaken. This will happen in Year 4.

Figure 19: Bi-lateral Co-Management Workshop participants.

e. Bi-lateral (Gambia/Senegal) Workshop on Artisanal Fisheries Co-Management.

A first of its kind workshop held in Banjul on May 30 – 31, 2012, brought together artisanal fishers, women, fish mongers/dealers, fisheries non-governmental organizations, and government officials from The Gambia and Senegal to deliberate on issues of common concern and interest, including migration, dual registration of fishing canoes, eco-labeling, cross-border trade in fish and impacts on local economies. Also to identify possible areas of collaboration to sustainably manage shared fish stocks including monitoring, control and surveillance. In addition, the workshop participants shared lessons learned concerning approaches for improved co-management of artisanal fisheries. These included institutional and legal frameworks, establishment of marine protected areas and reserves, and introduction of seasonal closures and effort control as management measures to respond to unsustainable resource exploitation as a direct consequence of open access, excess fishing effort and irresponsible fishing practices. Experiences were drawn from Cayar, Senegal, and the sole and oyster fisheries in The Gambia. Sessions were organized as follows:

Session 1: Lessons learned in co-management of artisanal fisheries.
Session 2: Organizational structures and functioning of community-based fisheries management organizations in Senegal and The Gambia.
Session 3: Balancing sustainability and open access.

A final vision was formulated by participants, "*Sustainable use of fisheries resources in order to provide fish for the future generations, create employment, and economic benefits for all.*"

The report is forthcoming, but the outcome and impact of the event is documented in Annex 3 Success Stories.

f. Governance Scorecards Improving

Governance Scorecards for both the sole fishery and the oyster and cockle fishery have been used since the beginning of the project to track progress in key categories. The baseline score recorded in 2009 improved significantly for both fisheries in 2010 (evaluated at the end of Year 1 in December 2010). Results for both the sole and the cockle and oyster fisheries continued to improve in 2011 (evaluated in Year 3 in January 2012 and are summarized in Table 2 below. It is clear that with the approval of the two co-management plans, First Order Outcomes focusing on commitment and capacity have shown significant improvement. Second Order Outcomes, focusing on changes in institutional, individual and investment behavior are progressing more gradually after an initial leap in Year 1.

Table 2: Governance Scorecard Results

Outcome Order	**Sole**			**Cockles and Oysters**		
	2009	2010	2011	2009	2010	2011
First Order Outcomes	14	29	36-37	11	28	33
Second Order Outcomes	14	31	32-37	10-12	27-29	35

An additional perspective on management of the Sole and Oyster fisheries in The Gambia was explored through collaboration with Chris Anderson, a URI Economist (now moved to the University of Washington) who is developing a Fisheries Performance Indicator tool for The World Bank. The World Bank is interested in testing the tool in the context of developing countries where significant investments in improved fisheries management are being undertaken. USAID/BaNafaa and stakeholders in The Gambia will benefit from the information generated on the impact of project interventions on Output (measuring wealth) and Input (enabling wealth) indicators over time. Because this tool is being applied in more than 25 countries around the world in various fisheries, The Gambia will also benefit from the perspective provided by comparative trends and analyses across countries. Chris Anderson visited The Gambia in January 2012 and provided a preliminary report summarizing the pre-USAID/BaNafaa status of the two fisheries in the diagrams below. The exercise should be repeated in 2 years.

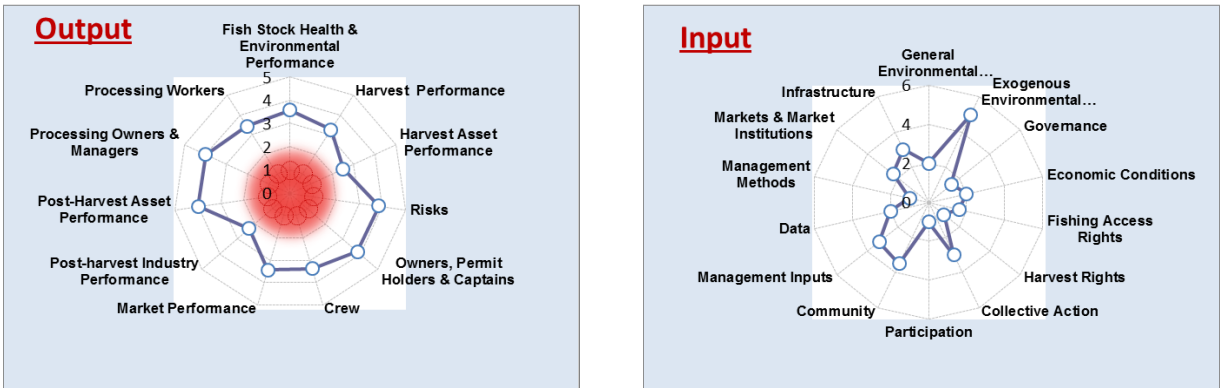


Figure 20: Baseline (retrospective pre-USAID/BaNafaa) Fisheries Performance Indicators for The Gambian artisanal sole fishery.

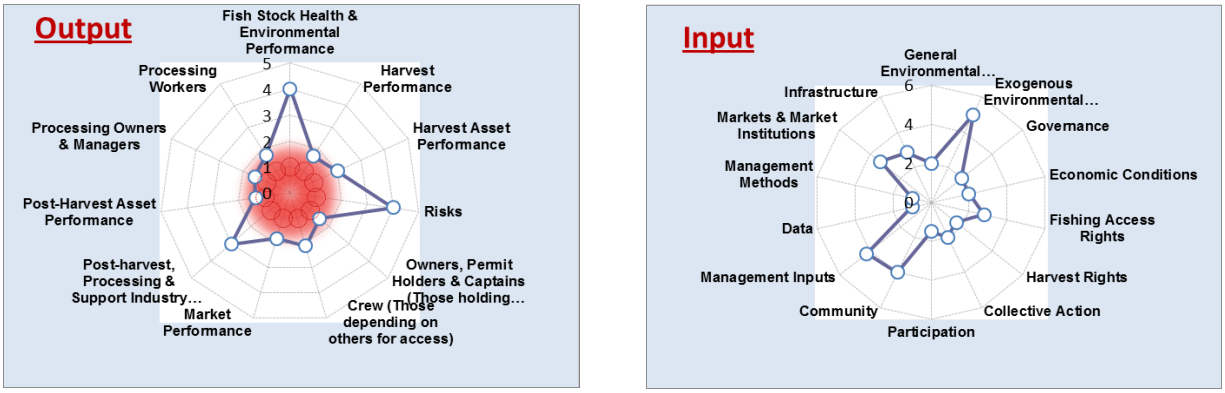


Figure 21: Baseline (retrospective pre-USAID/BaNafaa) Fisheries Performance Indicators for The Gambian oyster fishery.

g. Sharing the Co-Management experience outside The Gambia

One of the justifications for working in The Gambia to develop a participatory, ecosystem-based co-management planning process is the potential for the model, it successes and its challenges, to be shared nationally, regionally in West Africa, and in the developing world in general. Below is a brief list of some of the exchanges that took place in Year 3. None were funded by USAID/BaNafaa, but all involve the sharing of results made possible by Project assistance.

- Translation of Co-Management Plans to French. Distribution to Senegalese Government and other stakeholders working with the USAID/COMFISH Project in Senegal.
- The Chief of Party and Deputy Chief of Party of the USAID/COMFISH project in Senegal participated in the launch of the Co-Management Plans in The Gambia and in field visits.
- Ousman Drammeh, USAID/BaNafaa Project Manager presented The Gambia experience at a MSC Workshop in Senegal organized by WWF-WAMER and the Department of

Marine Fisheries of Senegal. MSC has included the Gambia experience in one of its recent publications on certification in developing countries.

- Ousman Bojang, the President of GAMFIDA and member of NASCOM has been named an Ambassador for the Prince of Wales' Charities International Sustainability Unit. He attended a workshop in the UK to share The Gambia co-management experience and is featured in one of the initiative's publications in February 2012.
- Dr. Kathy Castro of the URI Fisheries Center presented "Fisheries Sustainability in The Gambia: MSC Process as a Framework for the Journey" at a MSC conference in Madrid, Spain titled, "Fishery Certification in Developing and Emerging Economies" in February 2012. She also made a presentation on The Gambia's co-management experience at the World Fisheries Conference in Scotland in May 2012.
- Dr. Michael Rice of URI presented the Shellfish Sanitation Planning work in The Gambia at NOAA's Milford Aquaculture Seminar in Connecticut in March 2012.
- Fatou Janha, Executive Director of TRY sponsored by the Banesto Foundation of Spain through the Association of Small Scale Enterprise and Tourism in The Gambia attended training for Leaders in Social Entrepreneurship at INSEAD Business School of the World in France in November 2011. It was attend by 38 participants from 18 countries. She was interviewed on Spanish radio.
- Dick Day, Peace Corps Regional Director for Africa visited the TRY Center in 2012. Twelve TRY women attended and shared the skills and experience they have gained.
- The TRY Executive Director and the newly elected TRY President participated in the USAID/COMFISH Gender workshop held in Senegal the week of March 20th. Women from various regions of Senegal exchanged ideas. Those involved in oysters and cockles have requested an exchange visit with TRY.
- The TRY Executive Director attended a Regional Validation Workshop held by the West African Association for the Development of Artisanal Fisheries (WADAF) in Dakar in 2012. Fisheries professionals from Gambia, Senegal, Mali, Guinea, Sierra Leone, Mauritania, and Guinea Bissau attended to identify priorities for capacity building of professional fisheries organizations for their involvement in fisheries management.
- In April 2012, Ousman Drammeh, USAID/BaNafaa Project Manager presented The Gambia Co-Management experience at a Fisheries Governance Dialogue hosted by the USAID/Integrated Coastal Management and Fisheries Governance Project in Ghana implemented by URI. One of the recommendations was that Ghana amend its fisheries legislation to explicitly mention co-management as is the case in The Gambia.
- BBC Radio aired a feature of TRY Association in September 2012, including photos on the BBC Radio Website.

TRY was selected from 800 applicants as one of the top 25 winners of the UNDP Equator Prize, with a $5,000 award. The Executive Director traveled to Rio+20 in Brazil in June 2012 to accept the prize. The winners attended Community Aldeia, an 8 day conference on sustainable development hosted by the UNDP Equator Initiative. The objectives of the conference included:

- Sharing experiences and best practices among participants
- Providing training and workshops in different areas of interest
- Meeting and interacting with global and national policy makers and programmers

- Celebrating the Equator Prize winners and the achievements of each group and organization.

TRY continues to be featured in UNDP publications that also note USAID/BaNafaa support.

Figure 22: Fatou presents on TRY Association during Community Aldeia in Rio on June 15, 2012**.**

"Upon hearing the news of receiving the Equator Award, the women cheered and clapped at the TRY Centre, quickly forming a circle around one woman who began dancing in celebration, slowly at first and then faster to the excited claps of the women. I knew if I could bring just a small sliver of their energy, their laughter, and their relentless determination with me to Rio, the participants of Community Aldeia and the international community would easily understand why TRY received this Award. The women knew I would be carrying with me the TRY name, their efforts, and their stories and that I would share these with individuals from all over the world. By receiving this Award, the women understood they were being recognized for their years of labor, which has been passed down through numerous generations, for their years of quietly providing for their families amongst many hardships, and for their most recent efforts of coming together and working for common goals under TRY Association.

Receiving this Award will increase international awareness of TRY's efforts in The Gambia, which will hopefully lead to future partnerships, friendships, and possibly funding opportunities. Locally, we hope Gambians will increasingly recognize TRY as a legitimate organization which produces quality products, and, more importantly, we hope they take national pride in the organization and in the TRY women.

The psychological effects of receiving this Award, however, far surpass the international recognition, the potential networking, and financial benefits. It has helped to inspire confidence in each individual woman of TRY as well as in the women as a group. It reminds them that in their quest to improve their lives, they are doing it responsibly and sustainably, and therefore admirably. The Award also increases the trust they have in themselves, in each other, and in the Association. This confidence and trust building brings the women together as a stronger unit with a stronger voice."

Fatou Janha, Executive Director, TRY Oyster Women's Association, from Rio de Janeiro, Brazil, June 21, 2012

h. Bi-Lateral (Gambia/Senegal) Climate Change Vulnerability Assessment

Climate change impacts present additional challenges for fisheries management — to the ecosystem, coastal communities and fisheries infrastructure. Studies of the WAMER predict that changes in climate will drive changes in the migration and abundance of commercially important fish species, and affect fishing communities, landing sites, and critical estuarine ecosystems. Consideration of climate change is part of the underpinning of an ecosystems-based approach to fisheries management.

In July 2011, the USAID/Ba-Nafaa project received approval for a US$155,440 add-on component for a bilateral fisheries climate change vulnerability assessment of the Saloum Delta and Gambia River estuary area. In Year 3, in October 2011, USAID/BaNafaa contracted an interdisciplinary team coordinated by WWF-WAMPO to conduct the Bi-lateral Vulnerability Assessment. The objective was to assess the vulnerability of central coastal Senegal (Saloum) and The Gambia marine and estuarine ecosystems and fisheries communities to climate change. USAID's "Adapting to Coastal Climate Change: A Guidebook for Development Planners" was a key reference document. Local experts compiled, reviewed and analyzed the considerable body of work already available on the actual and potential impacts of climate change in the study area. In some cases, limited additional data was collected and analyzed. The five components of the study were:

- The inundation vulnerability study by Pr. Isabelle Niang from the University of Dakar.
- The GIS vulnerability study by Malick Diagne from Centre de Suivi Ecologique, Dakar.
- The socio-economic vulnerability study by Cheikh Tidiane Sall.
- The Mangrove vulnerability study by Richard Dacosta from Wetlands International.
- The Fish species vulnerability study by Famara Darboe, Assistant Director of Fisheries, The Gambia.

The individual studies and a consolidated report were completed in April 2012. A bi-lateral workshop attended by 44 participants was held on April 10-11, 2012 in The Gambia to review the findings of these reports and their recommendations among the technical specialists and a broad group of 18 government and civil society stakeholder institutions from Senegal and The Gambia.

The vulnerability assessment concludes that significant degradation of landscapes with its consequence on communities' livelihoods and coastal and marine ecosystems is occurring in this zone since the early 1960s. Climate change (sea level rise, coastal erosion, mangrove degradation soil salinization), among other causes, is a major driver of these changes. Coastal and marine zones such as The Gambia and Saloum estuaries and coastal areas are among the most vulnerable. Key findings include:

- In the scenario of a 2m inundation level by 2100 (associated with a 20-49cm sea level rise), 52% of the Saloum Delta area will be inundated as well as the City of Banjul, the village of Albreda and 90% of the mangrove in The Gambia Estuary. Islands will vanish, as well as more than 2/3 of human settlement living on islands in the Saloum Delta.

- Reduced precipitation (35% drop) and less regularity of rainfall (1 year in 5 flooding) will result in salt intrusion, less exposure of the mangrove ecosystems to fresh water, less organic matter discharge to the ocean and subsequent increased mangrove die-back, disturbed fish biological processes (food chain and reproductive state) and loss of rice fields and orchards.
- The whole coastline open to the ocean is exposed to coastal erosion. The sandy nature of beaches make the coastal zone very sensitive to increasing intensity of wind and waves.
- Livelihoods in the study area are heavily dependent on fisheries, agriculture and other ecosystem-based activities, including tourism. Value added and alternative livelihoods are limited for the most climate change vulnerable communities.
- Positive examples of adaptive capacity include two ecosystem-based fisheries co-management plans recently approved in The Gambia, mangrove restoration activities in several communities in both countries in recent years, and pilot alternative economic activities in The Saloum, such as salt production, that capitalize on changing conditions.

Participants considered how this body of knowledge, although it is incomplete and evolving, can serve as a foundation for adaptive action to reduce the vulnerability of the study zone's fisheries, fishing communities and coastal ecosystems which are of significant local, national, bi-lateral, regional and global importance. Priority vulnerability "hotspots" within the study area, priority socio-economic activities and priority climate change adaptation measures within the scope of the USAID/BaNafaa Project were identified as shown in the Figure below.

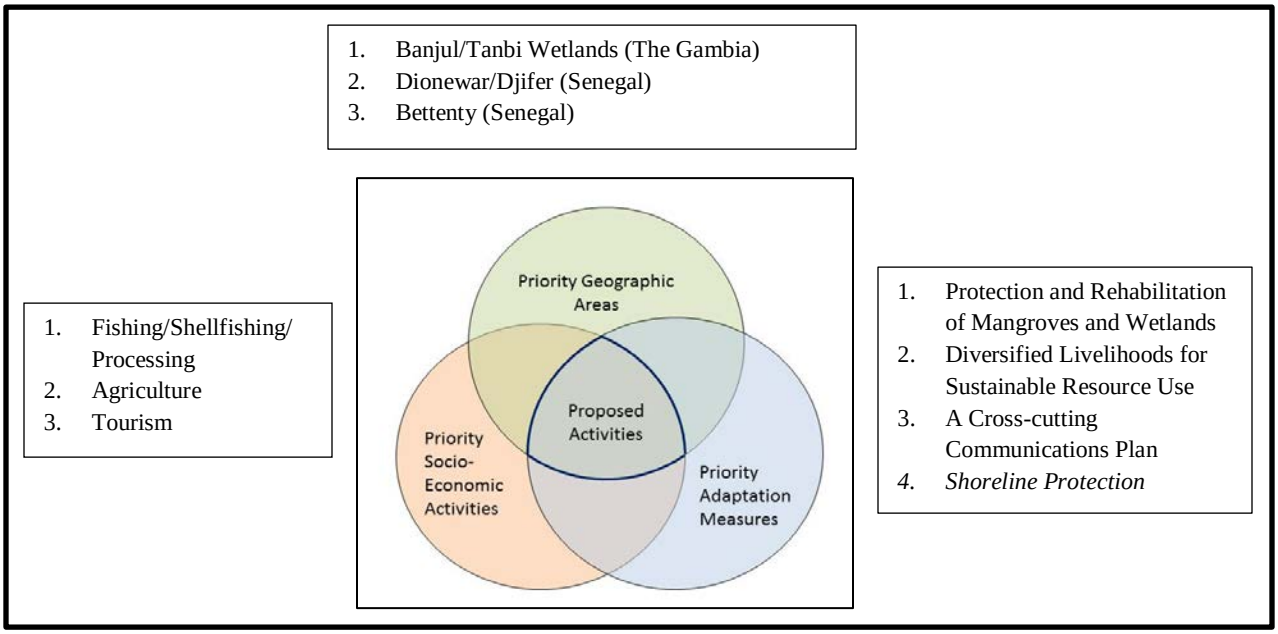


Figure 23: Workshop Outputs regarding recommended priority areas, economic activities and adaptation measures

The area wide vulnerability assessment provides the basis for the strategic focus of USAID/BaNafaa Climate Change Adaptation (CCA) activities proposed in an add-on request submitted to USAID/WA on July 27, 2012.

2.3 Intermediate Results 3 and 4

Nursery areas and spawning areas for critical life stages of commercially important species and for associated marine turtles and mammals are protected

Change unsustainable and destructive marine resource use practices that threaten improved biodiversity conservation in the West Africa Marine Ecoregion.

Year 3 Summary Highlights

- *Fishery Co-Management Plan for The Gambia Sole Complex* approved and implementation initiated (see IR1).
    - 121,245 ha under improved management (the entire Atlantic Coast of The Gambia out to 9 nautical miles)
    - Seasonal closure for all species and gear types out to 1 nautical mile from May to October
    - Fish size limits and gear restrictions
- *Oyster and Cockle Fishery Co-Management Plan for the Tanbi Special Management Area* approved and implementation initiated (see IR1).
    - 6,304 ha under improved management (the entire Tanbi Wetlands National Park)
    - Seasonal Closure for Oysters from July to February
    - Gear restrictions for mangrove protection
    - Mangrove reforestation
    - Shellfish size limits
    - Shellfish Sanitation Planning, including bi-weekly water quality testing and bi-annual shoreline sanitation surveys.

a. Sole Fishery and Oyster and Cockle Fishery Co-Management Plans

Traditional Ecological Knowledge obtained from the fishers at landing site level and also from community meetings and training workshops as part of the co-management planning process has confirmed that the sole fish come annually from deep waters to shallow waters and into the estuary to spawn, and juveniles tend to stay in shallow waters close to the shore until they are mature enough to go inhabit deep waters. This fact is true for most species and the fishers have asserted that the spawning periods for the majority of marine fish species is between May and October (the onset of the rainy season and the end of the rainy season in The Gambia). The consensus among fishers to declare area closure for all fisheries of 1 nautical mile from the shoreline for 6 months (May to October) each year is a management measure that will allow fish to spawn and juvenile fish to grow without being targeted for capture. This management measure is reflected in the sole fishery co-management plan approved by the Minister of Fisheries in January 2012. It should also be noted that by-catch studies for the sole fishery showed that marine turtles and mammals are not at risk from the sole fishery in The Gambia.
In the Oyster and Cockle Co-Management Plan for the Tanbi Wetlands National Park, also approved in January 2012, seasonal closure for oyster harvesting is specified during the

spawning season and has been extended for longer than was previously practiced to reduce the take of juvenile oysters. The co-management plan also specifies gear restrictions that are designed to reduce damage to mangroves during the harvesting process. As specified in the co-management plan, TRY is also undertaking mangrove reforestation efforts. The Shoreline Shellfish Sanitation Planning process, including water quality testing and two comprehensive Shoreline Sanitation Surveys for the Tanbi undertaken at 6 month intervals in Year 3 provide critical information about pollution hotspots in this protected mangrove ecosystem and will be the basis for additional actions to achieve improved management of this protected area.

Figure 24: 121,245 hectares under improved management for the artisanal sole fishery out to 9nm.

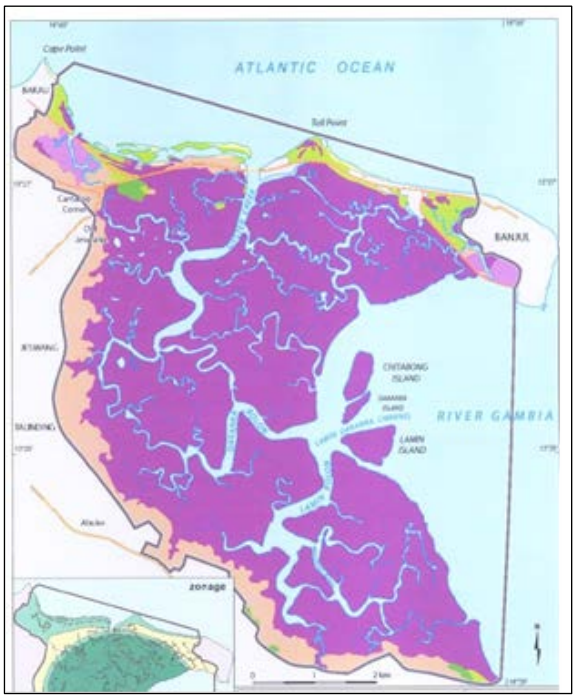


Figure 25: 6,304 hectares under improved management for the oyster and cockle fishery in the Tanbi

2.4 Gender

Gender considerations have been a central focus of the USAID/BaNafaa Project in project design and throughout implementation. A desire to address the needs of economically marginalized women in the fisheries sector and the existence of a nascent community-based organization (the TRY Oyster Women's Association), led to the decision to select the oyster and cockle fishery as one of the project's focal fisheries. Furthermore, the project's participatory, ecosystem-based co-management approach to sustainable fisheries management is an approach that lends itself to working with community groups, such as women's groups, that have not previously had an opportunity to share their local knowledge of the fishery and to have their voices heard in decision-making. As detailed in the sections above, addressing women resource users' needs in an integrated manner has been one of the keys to success. Access to credit, literacy, safety at work/sea, value added activities for oyster processing and marketing, action research on aquaculture, skills training and education for their children and especially their daughters, sanitation and hygiene, and mangrove restoration are just a few examples of the diversity of activities that in combination enable these women to engage in sustainable resource management.

With approval of the Cockle and Oyster Co-Management Plan in January 2012, TRY may be the first African women's organization granted exclusive user rights for sustainable management of a national fishery and The Gambia may be the first African country to grant such rights to a women's group. As expressed by the Executive Director of TRY in her comments (above) after winning the UNDP Equator Prize, the solidarity, trust, and empowerment experienced by women TRY members as they have worked together in their common interest to preserve the resources upon which their livelihoods depend is now beginning to be recognized and validated among themselves, within The Gambia and by the larger global community of which they are also a part. The USAID/BaNafaa project has been a key contributor to this very significant achievement.

In the sole fishery, the project has also applied the participatory, ecosystem-based co-management approach that has drawn women processors and fishmongers into the co-management institutions and, thus, the decision-making process. For training activities targeted at artisanal sole fishing communities, water quality/shoreline sanitation work and climate change, the percentages of women participants has generally been in the range of 10% to 30%. For WASH activities, it has been higher. As of the end of Year 3, 70% of the participants trained with USAID/BaNafaa assistance since the project began have been women.

2.5 Sustainability

The USAID/BaNafaa Project has registered some significant results over the past three years. Project assistance has been designed and delivered in a manner that has created the enabling conditions for the approaches and processes leading to these achievements to be institutionalized and sustained. The participatory stakeholder involvement in the development and implementation of fishery co-management plans, the establishment of good and vibrant governance regimes, capacity building and institutional strengthening, credit and savings, development of non-fisheries (alternative) livelihood programs, community-led action research,

and instilling in the minds of the primary beneficiaries the belief and feeling/sense of ownership of initiatives and outcomes supported by the project, are among the elements that will ensure the sustainability of these initiatives and outcomes. Continued support, in particular for strengthening the capacity of the co-management institutions, NASCOM, TRY and DoFish, as well as the four other government agencies signatory to the Oyster and Cockle Co-Management Plan will now be critical for sustainable implementation. While continuing to build the capacity of government departments, reducing the dependence of the two civil-society institutions (TRY and NASCOM) on the inputs of their government counterparts, who often have limited capacity, is one of the key strategies to be implemented going forward.

3. Indicator Results Tables & Description of Year 3 Accomplishments

See the spreadsheet in Annex 2 for reporting on standard USAID/ROECCR indicators for Year 3 (FY12). Targets for FY 13 and FY 14 are also included. The following section provides detailed discussion of some of the indicator numbers reported.

Note that Year 4 Workplan submitted to USAID/WA in mid-September proposes adjustments to the Performance Monitoring Plan Indicator Tables to align indicators more closely with USAID standard indicators. The changes proposed are of two types:

- Reduction in the number of indicators tracked, eliminating several of the custom indicators and retaining USAID standard indicators (Retained indicators highlighted in blue).
- Adjusting the wording of indicators to harmonize with the wording of USAID standard indicators.

For purposes of this Year 3 Annual Report, the details below reflect the indicators as they appear in the Year 3 Workplan. However, discussion focuses on the USAID standard indicators.

3.1 Intermediate Result 1

No	Indicator	FY12 Target	Q1	Q2	Q3	Q4	FY12 actual
1	Number of businesses economically benefiting	250		122	0		122
2	Number of persons receiving econ. assistance packages (grants, training, etc.)	260		157	0		157
3	Number of people with improved access to loan capital	250		122	0		122
W1	Improved access to water and sanitation facilities	0	0	0	0		0
W2	Number of persons receiving Participatory Hygiene and Sanitation Transformation (PHAST) Training.	280	0	0	0		0
W3	Number of persons receiving training and outreach messages on hygiene promotion	1000	0	0	0		0
W4	Community water and sanitation committees established and trained with program assistance	2	0	0	0		0

Indicators 1, 2 and 3 have not reached targets specified for this year, but have already exceeded LOP targets. Furthermore, 100% of the beneficiaries counted under these indicators are women from the TRY Oyster Women's Association. Those individuals (each of whom is considered a business) who have benefitted from microfinance loans this fiscal year are counted for indicators 1 and 2. Individuals who have received business related training as well as loans are counted for indicator 2. Because these indicators are significantly duplicative, URI proposes in the Year 4 Workplan to retain a single indicator 2 using the ROECCR/USAID standard indicator language:

Number of people with increased economic benefits derived from sustainable natural resource management and conservation as a result of USG assistance (ROECCR 2.1.1)

FY 2012 targets for PHAST Training and outreach communications (Indicators W2 and W3) under the WASH component were not met this year because training was originally scheduled

for the final quarter of Year 3 and is now scheduled for the first half of Year 4 to leave more time for module development and establishment of WASH Management Committees at each site before training begins. Note that in the Annex 1 spreadsheet, the targets for Number of people with improved access to water and sanitation facilities (W1) for FY 13 and 14 have been revised downwards to 20,000 from the original proposal of 56,000 following the final selection of WASH sites and estimation of the actual population of users. One of the reasons is that two of the largest sites, Banjul and Tanji are not among those selected while several of the smaller oyster sites are.

3.2 Intermediate Result 2

No	Indicator	FY12 Target	Q 1	Q2	Q3	Q4	FY12 actual
4	Number of govt. agencies or management bodies strengthened or created	1	0	0	0	1	1
5	Number of government personnel, community leaders and private sector stakeholders trained in natural resources management[3]	260	1	238	191	3	433
6	Improvements on a governance scorecard covering, goals, constituencies, commitment and capacity dimensions, including measures that legislation and regulations are being implemented and complied with, and budgetary investments by government in fisheries management[4]	Sole & oyster improving	na	Sole & oyster improving	na	na	Sole & oyster improving
7	Number of fishermen and women with collective or individual use rights (collective quotas or territorial use rights, saleable licenses)	810	0	810 500f 310m	0	0	810
8	Number of stakeholders participating in regional meetings and/or exchange visits	60	1	0	129	0	130
9	Number of workshops/meetings on policy reform for the artisanal fisheries sector held between Senegal and the Gambia	3	0	1	2	0	3
10	Number of reports documenting transboundary issues and alternative solutions	1	0	1	0		1
11	Number of policies laws, agreements or regulations promoting sustainable natural resource management and conservation that are implemented as a result of USG assistance.	2	0	2	0		2
CC1	Number of climate vulnerability assessments conducted as a result of USG assistance	1	0	1	0		1
CC2	Number of stakeholders using climate information in their decision making as a result of USG assistance	30	0	0	44		44
CC3	Number of institutions with improved capacity to address climate change issues as a result of USG assistance	8	0	0	18		18

[3] Wording to be adjusted to USAID Standard language.
[4] Scorecard based on governance indicators in UNEP/GPA Ecosystem Based Management Guide

Indicator 4: The FY2012 target of one additional institution strengthened with USAID/BaNafaa assistance was met. This institution is The Association of Gambian Fisheries Companies (TAGFC) as described under IR 2 above. Institutions supported in previous years were also provided significant additional capacity building support this year, but not counted as additional institutions.

Indicator 5 represents the number of participants as documented in TraiNet (see detailed table below). The FY 2012 target was exceeded as not all planned events were captured in the target.

Indicator 7 targets were achieved when the two co-management plans were signed in January 2012. All 500 TRY members are considered to have exclusive use rights. The estimated 310 sole fishermen is based on the best available data on the registration of artisanal vessels in The Gambia that the project has been able to gather to date. This number represents the number of registered vessels in LASCOM sites, not necessarily the number of vessel owners or the total number of crew. DoFish registered the vessels and collected information on gear and species fished for each vessel, but an official report has not yet been produced. Project staff visited individual landing sites and attempted to record the data from hand written ledgers at these sites. NASCOM is currently conducting its own exercise to confirm the number of sole boat owners who are members of NASCOM. Membership in NASCOM and the LASCOMs that make up NASCOM is the actual number of persons that collectively have exclusive rights. Since in each of the cases of the sole and oyster fisheries, exclusive rights are granted to the association rather than an individual, the wording of the indicator is a bit misleading. In reality, with group user rights, it would be more accurate to say how many individuals benefitong directly from group use rights. This number would include all of the TRY membership (500) and all sole fishers (boat owners and crew, estimated at approximately 1,240).

Indicator 8 exceeded the FY 2012 target by almost double due to the larger than expected participation in the bi-lateral fisheries co-management and climate change vulnerability workshops (see details in TraiNet Table).

For Indicator 9, the three workshops on policy issues were the Bi-lateral Climate Change Vulnerability Assessment, The Comparative Cost Study (Gambia/Senegal) for Sole, and the Bi-lateral Co-Management Workshop. The Indicator 10 report is the Comparative Cost Study for Sole.

Indicator 11 represents the two co-management plans signed in January 2012 for the sole fishery and the oyster and cockle fishery in the Tanbi Wetlands.

The Climate Change indicators are those documented in the previous section on the Bi-Lateral Climate Change Vulnerability Assessment and associated Stakeholder Workshop.

3.3 Intermediate Results 3 and 4

No	Indicator	FY12 Target	Q1	Q2	Q3	Q4	FY12 to date
12	Hectares in areas of biological significance[5] under improved management: • Hectares covered by fisheries management plans • Oyster fishery areas designated and allocated as community managed and no-take areas	158,332 6000	0 0	121,245 6304	0 0	0 0	121,245 6304
16	Number of vessels registered/licensed	0	0	0	0	0	0
17	No. of HA in areas of biological significance showing improved biophysical conditions as a result of USG assistance. (ROECCR AO1 – Goal level indicator)	progress towards BRPs tracked					

The FY2012 target for Indicator 12 has been achieved with the approval of the two co-management plans in January 2012. Hectares are documented in the maps provided in the previous section. The total hectares for the sole fishery are 121,245, less than the estimated total of 158,332, as the project had originally estimated that the managed zone might extend to 12 nautical miles seaward. In the final co-management plan, it is 9 nm. Note that the original total target hectares for sole was revised upwards from 20,000ha at the end of Year 2, when it was evident that the management plan would include a seasonal closure along the entire coast of the Gambia. For the Oyster fishery, the entire area of the Tanbi Wetlands National Park is covered by the Co-Management Plan. This area has been determined to be slightly larger than the originally estimated 6000 ha at 6,304ha.

Vessels were licensed in Year 2 and no additional licensing was conducted this year. However, the previously reported 1000 vessels may be an overestimation based on the data that the project has tried to collect in the absence of the official DoFish report. The number may be closer to 700.

For indicator 17, the sole stock assessments serve as the best available data for tracking Biological Reference Points for this indicator. The MSC pre-assessment conducted in 2008 and the USAID/BaNafaa supported stock assessment for 2011, conducted this year. For oysters, the biological sampling that TRY is beginning to collect at selected sales points during the open season is the best available data for the oyster fishery at this time.

[5] The entire area from the Saloum Delta in Senegal, The Gambia and Casamase rivers, and adjacent marine coastline has been identified as an area of regional bio-diversity significance in the West Africa Marine EcoRegion (WAMER)

4. Success Stories

See Annex 3. Success Stories include:

1. Consumers in Europe Contribute to the Development of Sustainably Sourced Gambian Sole
2. "Our Sole, Our Wealth and Our Lives": Gambia Fishing Communities Gain Exclusive Use Rights for a National Artisanal Fishery—Transforming Decision-Making on Resource Use. Approval of the Co-Management Plans
3. Dialogue Among Fisheries Stakeholders on Improved Management of Artisanal Fisheries Between The Gambia and Senegal Breaks New Ground

5. Project Management

CRC/URI has now established its own in-country office in The Gambia, primarily to manage the WASH component that began in Year 3, but also to implement directly some of the fisheries work with local partners previously managed under the WWF sub-contract. A WASH Coordinator, Dr. Bamba Banja started on September 1, 2011. An Administration and Finance Assistant was recruited and started on November 1, 2011. The WASH Coordinator is supervised by the USAID/BaNafaa Project Manager and provided oversight by the U.S. based USAID/BaNafaa Team Leader.

The WWF National Program Coordinator in The Gambia serves as a senior advisor to the project. Mat Dia was in this position until November 1, 2011. Alagie Manjang on secondment from the Department of Parks and Wildlife is currently interim Program Coordinator.

The Project has benefitted from direct collaboration with Peace Corps volunteers based in Kartong, in Banjul at TRY and in Banjul at the USAID/BaNafaa office. A Gambian student intern Albert Jammeh, who is studying at the University of Cheikh Anta Diop in Dakar, Senegal spent 2 months in December and January learning and assisting the project on Climate Change activities.

5.1 International Travel

This international travel schedule does not include travel between The Gambia and Senegal, which for planning and management purposes is considered local travel. The following list captures all international travel other than within and between The Gambia and Senegal.

First Quarter Actual

- Kathy Castro, Najih Lazar and Barbara Somers traveled to The Gambia from October 29 to November 7, 2011. Participation in the final stakeholder meeting on the sole co-management plan and DoFish TA.

Second Quarter Actual

- Mike Rice: Shellfish Sanitation - January, 2012

- Karen Kent: Management Plans launch event - January 2012.
- Chris Anderson: January 2012 – Sole & Oyster Economic Fisheries Indicators application of World Bank tool in the developing country context.
- Dr. Bamba Banja: to Ghana for the USAID Environmental Compliance Training March 2012.
- Brian Crawford: March 30 – April 1, 2012, monitoring visit add-on from Senegal trip.

Third Quarter Actual

- Karen Kent + Hilary Stevens: April 2012 Bi-lateral Climate Change Vulnerability Assessment Stakeholder workshop in The Gambia. Karen for WASH Needs Assessment Stakeholder workshop.
- Chris Parkins: Gillnet study April 2012.
- Kim Kaine: Administrative oversight of new URI BaNafaa office and staff. TraiNet support – April 2012.
- Joe DeAlteris: May 2012, stock assessment training and technical assistance for compiling data for MSC application by The Gambia.
- Kathy Castro: Bi-lateral Workshop, May 2012
- Dr Bamba Banja, USAID/BaNafaa WASH Coordinator and Faburama Darboe, TARUD WASH Project Manager: June 2012 to URI for PHE Summer Institute.

Fourth Quarter Actual

- Ousman Jobe and Anna Cham of DoFish and Alagie Sillah of TAGFC to URI Fisheries Leadership Summer Institute in Rhode Island, July 2012.
- Karen Kent: Work planning and WASH implementation.

5.2 Environmental Monitoring and Compliance

Based on the revised initial environmental evaluation (IEE) approved in 2011 for the project and in accordance with the Year 2 (FY11) Annual Report, monitoring and mitigation schemes are in place to ensure no significant environmental impacts are occurring for those actions identified in the IEE with a negative determination subject to conditions. Key activities conducted this year that have conditions include:

- Fisheries management plans
- Water and sanitation improvements at landing sites

The status of these activities is included in the annual Environmental Mitigation and Monitoring Report in Annex 4. Dr. Bamba Banja, USAID/BaNafaa WASH Coordinator, attended the USAID Environmental Compliance Training in Ghana in March 2012 and is immediately applying what he learned to the implementation of WASH and other Project activities. Dr. Banja conducted a debriefing presentation of the Ghana training in The Gambia in April 2012. It was attended by 2 staff each from WASH implementing partners TARUD and GAMWORKS as well as by Fatou Jahna, TRY Director, Ousman Drammeh, USAID/BaNafaa Project Manager and Karen Kent, USAID/BaNafaa Team Leader.

5.3 Branding

The USAID/BaNafaa Project provides information through many existing channels, including presentations at meetings, conferences, outreach sessions and other forums, print media—e.g., peer-reviewed articles in professional journals, locally produced Information, Education and Communication (IEC) materials, pamphlets, brochures, policy briefs, guides, and PowerPoint presentations. The main target audiences include local communities, local government agencies, national policymakers, grassroots NGOs, and other donors. Acknowledgement is always given to the generous support of the American people through USAID in all Project communications and materials. Also recognized are partnerships and support from local government ministries, agencies and departments who participate in various activities of the Project.

Synopsis of Communication Items Affected by USAID Marking/Branding Regulations (ADS 320/AAPD 05-11)

Item	***Type of USAID marking***	***Marking Code***	***Locations affected/ Explanation for any 'U'***
Press materials to announce Project progress and success stories	USAID logo (co-branded as appropriate)	M	Primarily a Gambian audience
Project brief / fact sheet	USAID logo (co-branded as appropriate)	M	Primarily a Gambian audience
PowerPoint presentations at meetings, workshops and trainings	USAID logo (co-branded as appropriate)	M	Primarily a Gambian audience
Brochures/posters on environmental issues	USAID logo (cobranded where/as appropriate)	M	Primarily a Gambian audience
Landing or marketing site facility improvements	USAID logo / stickers (cobranded where/as appropriate)	M	Primarily a Gambian audience
Project Office/room within WWF/Gambia office in Banjul	Project sign in English and local dialect name as well *(USAID/BaNafaa*) but no USAID identity used	M	Primarily a Gambian audience
CRC Project Office/room within TRY/Gambia office in Banjul	Project sign in English and local dialect name as well *(USAID/BaNafaa*) but no USAID identity used	M	Primarily a Gambian audience
Fisheries management plans		PE	Primarily a Gambian audience
Project vehicles, office furnishings and computer equipment purchased for project administration by WWF	No USAID identity used	U	Standard exclusions under USAID marking guidelines/policies

Marking Codes: M = Marked, U=Unmarked, PE = Presumptive Exception, W=Waiver

5.4 TraiNet Data on Trainings Conducted during the Reporting Period

The Ba Nafaa Project Office compiles information on all training events as required by USAID, This information is submitted to CRC where the data is entered into the TraiNet electronic reporting system. A summary of trainings conducted to date is provided in the following table.

Training program	*Location*	*Start date*	*End date*	*Participants*			*Estimated Cost*
				Male	**Fem**	**Total**	***US $***
Study Tour to Sine Saloum	Senegal	12/16/2009	12/18/2009	1	31	32	3,507
Co-management Training on Sole Fishery	The Gambia	1/25/2010	01/26/2010	37	3	40	2,188
Co-management Training on the Oyster Fishery	The Gambia	02/01/2010	02/02/2010	2	51	53	2,373
Aquaculture training	The Gambia	01/12/2010	02/05/2010	60	0	60	2,696
Training on Entrepreneurship (study tour to Baddibu)	Gambia	03/18/2010	03/19/2010	2	11	13	600
Stock assessment training	The Gambia	03/15/2010	03/22/2010	14	5	19	3,144
Training on Improved Processing & Packaging	Gambia	30/4/2010	12/4/2010	0	300	300	750
Coastal Adaptation to Climate Change	US	4/6/2010	25/6/2010	2	0	2	26,000
Cayar Study Tour	Senegal	13/6/2010	18/6/2010	11	4	15	4,500
Oyster Aquaculture Training	Gambia	17/6/2010-	28/6/2010	1	36	37	750
Water Quality Assessment Training Workshop	Gambia	23/6/2010	23/6/2010	18	5	23	100
Fisheries Leadership	US	16/8/2010	3/9/2010	3	1	4	32,000
Biostatistics course	Gambia	09/20/2010	09/27/2010	10	2	12	5,832
GRAND TOTAL YEAR 1				***161***	***449***	***610***	***$84,440***
Micro-credit and enterprise development	Gambia	25/10/2010	2/11/2010.	0	250	250	1,290
Climate Change workshop	Senegal	3/22/2011	3/25/2011	52	8	60	50,900
Study tour to Tanzania on res. mgt and livelihood development	Tanzania	2/7/2011	2/12/2011	0	1	1	2,145
Water quality and shellfish sanitation	USA	5/21/2011	6/5/2011	3	0	3	15,910
Fish stock assessment	USA	5/21/2011	6/12/2011	3	2	5	34,387
MPA-PRO Certification Training	Kenya	6/13/2011	6/17/2011	1	0	1	3,000
BS Degree Training – Fisheries technology	Nigeria	5/15/2011	on going	1	0	1	10,000
BS Degree Training – Fisheries technology	Nigeria	8/29/2011	9/30/2012	1	0	1	10,000

Training program	*Location*	*Start date*	*End date*	*Participants*			*Estimated Cost*
				Male	**Fem**	**Total**	***US $***
TRY members to FENAGIE	Senegal	09/2011	xx	0	4	4	2,759
GRAND TOTAL YEAR 2				***61***	***265***	***326***	***130,391***
CUMULATIVE GRAND TOTAL TO DATE END YEAR 2				***222***	***714***	***936***	***$214,831***
PHE workshop	Senegal	12/4/2011	12/07/2011	0	1	1	1,174
Training of the Facilitators for WASH Needs Assessment	The Gambia	12/27/2011	12/29/2011	8	2	10	1,128
TRY literacy training	The Gambia	11/2011	On-going	0	30	30	TBD
Shellfish Sanitation Shoreline Survey Training	The Gambia	1/5/12	1/11/12	8	0	8	TBD
Shellfish Sanitation Shoreline Survey Training	The Gambia	1/16/12	1/16/12	25	5	30	945
USAID Environmental Compliance Training	Ghana	3/19//12	3/23/12	1	0	1	TBD
Stock Assessment	The Gambia	1/20/2012	09/30/2012	2	0	2	TBD
TRY Microfinance training	The Gambia	2/6/12	2/24/12	0	67	67	TBD
TRY hygiene/food handling training	The Gambia	1/31/12	2/1/12	0	90	90	TBD
Bi-lateral Climate Change Vulnerability Assessment Workshop	The Gambia	4/10/2012	4/11/2012	35	9	44	TBD
WASH Needs Assessment Stakeholder Workshop	The Gambia	4/18/2012	4/18/2012	25	13	38	961
Shellfish Sanitary Shoreline Survey Report Stakeholder Workshop	The Gambia	4/19/2012	4/19/2012	17	4	21	775
Bi-lateral Fisheries Co-Management Workshop	The Gambia	5/30/2012	5/31/2012	60	25	85	TBD
Population, Health Environment URI/Summer Institute	USA, Rhode Island	6/4/2012	6/22/2012	2	0	2	TBD
Fisheries Leadership	USA, Rhode Island	7/2/2012	7/20/2012	2	1	3	TBD
GRAND TOTAL YEAR 3				***186***	***247***	***433***	
CUMULATIVE GRAND TOTAL TO DATE END YEAR 3				***408***	***961***	***1369***	

5.5 Estimated Financial Status

The following table shows a pipeline analysis of expenditures in relation to obligations through September 30, 2012.

AMOUNT SUB-OBLIGATED		2,645,995
(total federal outlays as of last SF 425/voucher)		
Expenditures		
Period Covered In Last SF 425	Thru June 31,2012	2,113,728
Estimated	July to Sept 2012	223,253
TOTAL EXPENDITURES (Amt on SF 425 + Recent Expenditure)		$2,337,381
BALANCE OF SUB-OBLIGATED FUNDS REMAINING		$308,614

ANNEX 1: Background Information on the Ba Nafaa Project

1.1 Background

Senegal and The Gambia are centrally located within the West African Marine Ecoregion (WAMER) that spans 3,500km of coast in western Africa (Mauritania, Senegal, The Gambia, Cape Verde, Guinea Bissau, and Guinea). Its most striking feature is the powerful coastal upwelling of cold water that create a tremendously productive food chain supporting incredible biodiversity in one of the most diverse and economically important fishing zones in the world. Over 1,000 species of fish have been identified, along with several species of cetaceans including dolphins and whales, and five species of endangered marine turtles. This immense productivity is further enhanced by several major river/estuary/delta complexes that provide additional influx of nutrients and sediments to the marine realm, adding to its biological productivity. The estuarine wetlands are globally significant breeding and over-wintering grounds for numerous migratory birds.

The ecoregion is also known as the Canary Current Large Marine Ecosystem (CCLME). Fish that spawn in northern nurseries seasonally migrate southwards (as do the fishermen) and provide food for human fishing communities along the way. In addition, recent satellite tracking has confirmed that green turtles lay eggs along the remote beaches of Guinea Bissau and travel northwards through Senegalese and Gambian waters to graze in the rich sea grasses of Mauritania. In short, the unique combination of climate and upwelling supports species and habitats that represent critical resources locally, nationally, regionally, and globally. The stretch from the Saloum Delta in Senegal, The Gambia River and the entire coastline of the Gambia, as well as the Casamance river system is one contiguous area that has regional biodiversity significance.

High levels of fishing effort, however, puts unsustainable pressures on limited fish stocks—only further exacerbated by recent improvements in fishing gear that increase fishing efficiency. As more boats search for fewer and fewer fish, the use of destructive, habitat-destroying fishing techniques such as bottom trawling, and beach seining have increased dramatically. Increased fishing has also led to increased capture of endangered marine turtles, juvenile fish, and expansion of the trade in shark and ray fins.

To address these threats, more integrated management approaches are needed at the local and regional scale, including approaches that move toward more sustainable fisheries utilization with less impact on the rich biodiversity of this region. Reducing overfishing through more sustainable harvesting practices will result in a healthier marine ecosystem, including higher biomass of standing stocks and more balanced species assemblages. In addition, promoting more sustainable use practices will help address the wasteful problem of incidental bycatch and capture of endangered species and will increase adaptive capacity of communities and fisheries to climate change.

Climate change is predicted to seriously modify coastal, marine and estuarine ecosystems and their human uses with social, economic and ecological consequences. In the Saloum, Sangomar Point has completely disappeared and the advancing sea is causing the progressive disappearance of mangroves in the Saloum estuary. Infrastructure in both the Saloum and in The Gambia are threatened by coastal erosion, menacing fisheries centers, and landing and processing sites. By one estimate, climate change will cause a reduction of fish catch in Senegal by 2% of GDP beginning in 2020.

It is therefore important to study the vulnerability of these ecosystems and productive human activities to identify appropriate adaptation measures that support sustainable socio-economic development and reduce the vulnerability of local populations. While the natural resources are trans boundary, resource management in The Gambia and Senegal is strictly national. An ecosystem-based approach to fisheries resource management and adaptation of fisheries to climate change needs to consider both countries and ensure bilateral cooperation and planning.

In short, at stake in a successful ecosystem-based approach to fisheries management is the ability of millions of people to sustain a resource-dependent existence while at the same time protect the overall ecological integrity and biodiversity of the region.

The current food security crisis in The Gambia and The Sahel has increased pressure on fishing communities and ecosystems. In January 2012, the Government of The Gambia declared the 2011/12 agricultural season a failure, seriously affecting more than 409,000 people in rural areas and another estimated 192,850 people living in the poorest urban areas who are still recovering from floods in previous seasons. They are vulnerable to food insecurity, rising food prices and additional economic pressure from helping relatives in affected rural areas. In early May 2012, the US Ambassador declared The Gambia an emergency and USAID/OFDA gave $500,000 in emergency funding. The Gambia food security crisis is taking place in the context of the larger Sahel wide food security crisis. Senegal is also severely affected and the crisis will potentially increase migration from Senegal to The Gambia in general and to the artisanal fisheries sector in particular, where 60% of fishing units at the Atlantic Coast fisheries landing sites are Senegalese owned.

1.2 The Gambia Fishery Context

There are two types of fisheries in The Gambia—artisanal and industrial. The total fish landed from both the artisanal and industrial sub-sectors were estimated at nearly 40,000 MT in 2006 and 47,000 MT in 2007. In 2006, the artisanal fishery contributed approximately 93 %.

In the mid 1960s The Gambia witnessed the transformation of the artisanal fishery from paddled canoes with simple fishing techniques to one with modern fish-capturing technologies and larger canoes with outboard engines, which resulted in an increase in fish landings. Decades of growth in the artisanal fishery combined with the activities of the industrial fishery has caused high levels of exploitation, especially of high-value fish, crustaceans and cephalopods. Production in the artisanal fishery has increased from 10,000MT in 1985 to approximately 40,000MT in 2007,

while industrial production has been declining. Reports of dwindling catch per unit of effort indicate that high-valued demersal species are under threat from high levels of exploitation. Regular assessments carried out by the Demersal Working Group of the FAO's Committee for Eastern Central Africa Fisheries (CECAF) also indicate that the major demersal fish stocks are either fully or overexploited. Pelagic stocks are also considered to be fully or overexploited regionally, but there are some indications that The Gambian stocks may not be fully exploited.

In 2007, a total of 32 industrial fishing vessels operated with a license in Gambian waters—15 shrimp trawlers and 17 fish\cephalopod trawlers. All industrial vessels operating in Gambian waters are foreign-owned and foreign fishermen dominate. These vessels land their catches in foreign ports where the fish is processed, packaged and labeled as products originating from those foreign ports. The absence of a deep water port is the reason that the industrial fleet does not land their catches in The Gambia as is required by fisheries licensing regulations. A deep water landing dock in Banjul is now under construction. This construction project was developed and supported by the Gambia Artisanal Fisheries Development Project supported by the African Development Bank and BADEA (Arab Bank for Economic Development).

The industrial fisheries sub-sector also includes industrial seafood processing plants that purchase fish from the artisanal fishery and provide permanent and part-time employment to between 1,500 to 2,000 people (mainly women). Presently, there are seven processing plants, three of which export to the EU. Two plants are temporarily closed due to lack of material (fish) and high operating costs. Lack of adequate fish for processing is an annual problem, especially when most Senegalese fishers return to Senegal for Ramadan and Tabaski (Islamic holidays). It is expected that the new deep water port in Banjul will reduce the problem of lack of material and the need to operate below capacity. Processing factories also suffer from unreliable provision and high prices for electricity—electricity represents the greatest cost for processing plants with The Gambia having one of the highest kilowatt hour cost of electricity in Africa. Another problem is the high cost of financing.

The artisanal sector, which is the major supplier of both food fish for the Gambian populace and raw material fish for commercial fish processing plants, provides direct employment to 1,410 head fishermen and 4,694 assistant fishermen. Considering fish buyers, processors, boat builders, fuelwood collectors, and other ancillary activities it is estimated that over 200,000 people are directly or indirectly dependent on artisanal fisheries for their livelihoods. Of the 1,410 head fishermen operating in the artisanal fisheries, 805 are Gambian nationals and 605 foreign. In the coastal area, however, foreign nationals—mainly Senegalese—form the majority with 249 head fishermen compared to 167 Gambians. The number of canoes and fishermen operating in artisanal fisheries steadily increased from 1983 to 1997, but thereafter and until 2006 declined. The artisanal subsector is highly diverse, incorporating marine, estuarine and freshwater fishing operations. The majority of the communities located along the Atlantic coastline and close to the River Gambia and tributaries engage in some form of artisanal fishing activity. The more prominent fishing communities are located along the Atlantic coast and include the coastal villages of Kartong, Brufut, Tanji, Sanyang, Gunjur and Bakau, and the riverbank villages of Albreda, Bintang, Kemoto and Tendaba.

Artisanal fishing crafts are predominantly dug-out canoes along the river, and planked open hull vessels (*pirogues*) of the Senegalese type along the marine coast. Most fishermen (74 %) own their canoes followed by joint ownership (14%). The Frame Survey revealed that 94% of the fishermen use canoes for fishing and the most common type of canoe used is dug-out (50%) followed by planked-dugout (37%). There are also 1,082 un-motorized and 625 motorized canoes.

Pelagics are now the dominant catch of the artisanal fishery. Gear used in the pelagic fishery includes surround gillnets and purse seine nets and the main species that are caught are shads (*Bonga*), sardinella, anchovies, mackerel, barracuda and jacks. Demersal species are caught by artisanal fishermen using set/bottom gillnets, drift nets, traps, and hook and line. Various species of croaksers, solefish, catfish, cuttlefish, threadfins, grunts and groupers are captured with these fishing gears. Stow nets and drift nets (*fele-fele*) are especially used by artisanal fishermen for catching shrimps in the estuary and tributaries.

With regard to fish market outlets, about 60 percent of fishermen sell fish catches through *Banabana* (fish dealers) and 31 percent sell directly to consumers. The rest sell through bidding. The artisanal fish catch is either sold among the local communities for processing (drying and smoking) or is transported and marketed in major towns and villages in the interior. Post harvest losses are high due to a combination of oversupply, lack of preservation and lack of market. The processed fishery products are transported and sold in inland markets, and some are exported to neighboring countries. A proportion of the artisanal fish catch of high value (shrimps, soles, sea breams, lobsters) are purchased by industrial seafood processing companies for export abroad. The Ministry of Fisheries and communities at the artisanal fisheries landing sites have indicated that Water and Sanitation are development priorities for the artisanal fisheries sector due to the lack of sanitary facilities and potable water sources at most landing sites. This situation poses a public health threat for users of the site and surrounding communities as well as a threat to the quality of fisheries products handled and processed at the sites.

1.3 Rationale for Piloting Regional Demonstration Activities in The Gambia

The Gambia is the only country in West Africa that has enacted a fisheries legislation that makes it possible to adopt and implement a fisheries co-management plan under the Ecosystem-Based Fisheries Management (EBFM) approach. The Fisheries Act of 2007 is comprehensive legislation that addresses national as well as international fisheries issues in a holistic manner incorporating the FAO Code of Conduct for Responsible Fisheries and other relevant international fisheries conventions and protocols to which the country is a member or has assented to. Thus, a strong legal basis for the implementation of a co-management regime is already in place. The top-down approach to fisheries management is a thing of the past; now the fisherfolk and their communities are fully participating in all aspects of fisheries management including decision-making. Community Fisheries Centers have been established in major fish landing sites and are operating under a co-management arrangement with Government and other stakeholders. However, the fisheries co-management institutions need to be strengthened. The USAID/BaNafaa project has been providing the requisite leadership, financial and technical

support. Much has been achieved yet more work is needed to achieve success and sustainability of a co-management approach that can serve as a model for other nations in the region.

The small size of the country and comprehensive fisheries legislation offer the unique opportunity to introduce the EBFM approach as a pilot and if successful the approach can be adapted in other countries where USAID is supporting sustainable fisheries development programs (Ghana and Senegal). The Gambia is a good model for fisheries co-management in West Africa and other regions with open access fisheries.

The USAID/BaNafaa project focus in the first 2 years of project implementation has been on the oyster and sole fisheries. As of January 2012, a co-management plan for the sole fishery was adopted. The sole fishery is also now closer to meeting the sustainability criteria for certification by the Marine Stewardship Council, and may be the first artisanal fishery in sub-Saharan Africa to get an Eco-label. Other countries in West Africa including Morocco, Mauritania, Senegal and Ghana are interested in the work being done under this project and eager to learn from this experience. The oyster fishery activities are uniquely focused on women harvesters which are typically neglected in fisheries development planning. The co-management plan for the oyster fishery, also approved in January 2012, gives exclusive use rights to the oyster fishery in the Tanbi wetland area to these women oyster harvesters who have now been organized into an area wide producer organization. Exclusive use rights to a fishery resource are rare in West Africa, let alone to women. This is the first case in sub-Saharan Africa where exclusive fishery harvest rights have been legally given to women harvesters.

Valuable lessons can be learnt from the implementation of the USAID/BaNafaa project, lessons that can guide the implementation of current and pipeline USAID Fisheries projects in the region. West African countries may also decide to revisit their fisheries legislations and make amendments incorporating provisions that will create a stronger enabling environment for the introduction of co-management and EBFM approaches to fisheries that can protect important marine bio-diversity assets, reduce their vulnerability to climate change and strengthen fish product food security through well managed resources.

1.4 The Legal Basis for Co-Management in The Gambia

Section 11 of the Fisheries Act gives power to the Minister of Fisheries to determine participatory rights in a fishery, such as allocations of the total allowable catch or of the total allowable level of fishing and this may include restrictions as to vessel type, gear type, seasons of operations, and areas in which fishing can take place; and any other restriction relevant to fisheries conservation, management and development.

Under Section 14, the Minister of Fisheries may, in the interest of conservation, management and sustainable utilization of fisheries resources, by Notice in the Gazette, declare any area of the fisheries waters and corresponding adjacent areas, including marine protected areas or reserves established under any other laws, to be Special Management Areas for purposes of community-based fisheries management, and the application of certain conservation and management measures and artisanal or subsistence fishing operations or any combination of the foregoing

purposes or other specified purpose. The Notice published may specify the specified Special Management Area: the persons or groups of persons or types or classes of vessels that may be allowed to fish; the methods of fishing that may be used, the terms and conditions of fishing; and any other conservation and management measure that apply.

Section 15 stipulates that the Minister of Fisheries may, in consultation with the Local Authorities and where applicable, in accordance with the Local Government Act and other laws of The Gambia, establish a Community Fisheries Centre for the purposes of community-based fisheries management and may allocate the Management Areas or parts of them for which a Community Fisheries Centre shall be responsible under this Act and describe the rights and responsibilities of a Community Fisheries Centre in respect of the Special Management Areas or parts of them, taking into account the concerns of communities living within the immediate environs of the area to be declared as a Special Management Area.

The Fisheries Regulations of 2008, mandate that all fishing vessels must be registered and obtain fishing licenses as well.

ANNEX 2: USAID Indicator Results Tables

Indicator	FY 2012Target	Quarterly Achievement				FY 2012Achieved	FY 2013 Target	FY 2014Target
		1st Qtr	2nd Qtr	3rd Qtr	4th Qtr			
Number of hectares under improved natural resource management as a result of USG assistance								
Number of Hectares in areas of biological significance under Improved Management as a result of USG assistance	164332		127,549			127,549	127,549	127,549
Marine	164332		127,549			127,549	127,549	127,549
Terresterial								
Number of hectares of natural resources showing improved biophysical conditions as a result of USG assistance	no target but tracked					no target but tracked	no target but tracked	no target but tracked
Number of Hectares in areas of biological significance showing Improved Biophysical Conditions as a result of USG assistance	no target but tracked					no target but tracked	no target but tracked	no target but tracked
Marine	no target but tracked					no target but tracked	no target but tracked	no target but tracked
Terresterial								
Number of policies, laws, agreements or regulations promoting sustainable natural resource management and conservation that are implemented as a result of USG assistance	2		2			2	3	3
Number of people with increased economic benefits derived from sustainable natural resource management and conservation as a result of USG assistance (SD)	260		157			157	127	0
Number of Women	250		157			157	65	0
Number of Men	10		0			0	62	0
Number of people trained in natural resources management and/or biodiversity conservation as a result of USG assistance (SD)	260	1	238	191	3	433	450	120
Number of Women	254	1	194	51	1	247	225	60
Number of Men	6	0	44	140	2	186	225	60
Number of People in Target Areas with access to Improved Drinking Water Supply as a Result of USG Assistance	0					0	12,000	20,000
Number of Women	0					0	6,000	10,000
Number of Men	0					0	6,000	10,000
Number of People in Target areas with access to Improved Sanitation Facilities as a Result of USG Assistance	0					0	12,000	20,000
Number of Women	0					0	6,000	10,000
Number of Men	0					0	6,000	10,000

ANNEX 3: Success Stories

Success Story

Consumers in Europe contribute to the Development of Sustainably Sourced Gambian Sole

For many developing countries, the lack of capacity to manage exposure to export market demand has been a key factor in the unsustainable and destructive exploitation of the natural resource base, and of the economically disadvantaged communities who depend on those resources.

In The Gambia's case, fisherfolk, fisher associations, processors, exporters, the consumer in Europe, the Marine Stewardship Council and the government of The Gambia are committed to reversing this paradigm by developing a sole fishery that is sustainably co-managed by the artisanal fishing communities whose livelihoods depend on it. USAID assistance through the USAID/BaNafaa Project implemented by the University of Rhode Island in partnership with WWF-WAMPO has supported this process since 2009. Under these conditions, the export market becomes a significant opportunity.

In December, 2012, that opportunity was demonstrated concretely when Kaufland, a chain of 100 fish retailers in Germany announced a 50,000 Euro donation. The funds were raised through a consumer sales campaign to support The Gambia's Marine Stewardship Council eco-label drive. Half of the funds will go towards meeting the Government of The Gambia's fees for certification. The remaining 25,000 Euros will go directly to the fishing communities for activities such as improving health and hygiene; fish quality assurance; and monitoring, control and surveillance in closed fishing areas.

USAID support has provided expertise and financial assistance for technical studies, stakeholder meetings, development of a co-management plan and strengthening of the Department of Fisheries and the fishers' association, the National Sole Fishery Co-Management Committee (NASCOM), who will carry out management responsibilities under the sole fishery co-management plan. As momentum towards MSC certification in The Gambia receives this market driven boost, the USAID/BaNafaa Project's focus will continue to be on the capacity of the co-management organizations. They now have the mandate to ensure that the market continues to be a positive force in sustainable management of the ecosystem, the fishery and the livelihoods of fisher communities.

Learn more at http://www.msc.org/documents/get-certified/fisheries/developing-world-newsletter-communitycatch-december-2011-english

SUCCESS STORY: USAID/BA NAFAA 2012

"Our Sole, Our Wealth and Our Lives"[6]: Gambia Fishing Communities Gain Exclusive Use Rights for a National Artisanal Fishery—Transforming Decision-Making on Resource Use.

Some 200,000 people in The Gambia employed directly or indirectly in the fisheries sector, including many from neighboring Senegal, face an uncertain future. Open access to the resource, limited information, unknown potential harvesting capacity of the artisanal and industrial fleets, poor prices paid to fishermen, a fluctuating export market, waste and inefficiencies including high post-harvest losses combine to threaten the sustainability of The Gambia's fisheries. Add to this the environmental changes brought about by development of coastal zones due to population growth and in-migration and from climate change and the future *could* look even bleaker.

Instead, the Government of The Gambia may be helping turn this situation around by recognizing that successful fisheries management needs a different approach than the one used in the past. That what is needed today is a decentralized, participatory, co-management approach that endows fishing communities with a collective and vested interest in the sustainable management of the resource by providing use rights to fishermen. The Gambian Fisheries Act of 2007 created the legal basis for just such a new and much changed approach. The USAID BaNafaa Project began working in 2009 with the Gambia Department of Fisheries, private sector stakeholders and fishermen to help turn the concept into a reality. By January 2012, these efforts had resulted in the first co-management plan approved under the law—a plan that provides exclusive use rights to the sole fishery to a national co-management committee. An added benefit is that this has helped The Gambia move closer to its goal of having its sole fishery certified by the Marine Stewardship Council (MSC), in turn a first step in meeting the requirements for winning the right to eco-label their products. If successful in this effort, The Gambia Sole Fishery will be the first artisanal fishery in Africa to be awarded an eco-label.

The USAID BaNafaa Project, implemented by the University of Rhode Island in partnership with The Gambia Government and the Worldwide Fund for Nature, provided the technical assistance and the financial resources for stakeholders in the artisanal sole fishery in The Gambia to embark on a consultative and capacity building process. A process that combined information gathered by the Department of Fisheries with local ecological knowledge of fishermen and with new information gathered through participatory research on the sole value chain, by-catch, fishing gear types and use, and biological sampling for stock assessment. While building capacity within the Department of Fisheries, the project also played a key role in establishment of the newly formed National Sole Fishery Co-Management Committee (NASCOM) and its decentralized landing site co-management committees (LACOMS) that now hold exclusive use rights to the fishery and are responsible for its management.

Regulatory authority for co-management of the artisanal sole fishery is now enshrined in the approved plan. The actual transformation of the system of stewardship and the appropriation of responsibility, ownership and capacity by fishing communities themselves happened as a result

[6] Vision Statement of the National Sole Fishery Co-Management Committee (NASCOM).

of the collective actions undertaken during the two year process. Stakeholders came to realize the power of working collectively for a common vision and sharing a common understanding of the process to achieve that vision. This is, perhaps, the most striking result of the co-management planning process to date. It is what provides a solid foundation for the work that will follow as the plan is implemented and as decisions about how to balance economic, biological, social and ecological objectives are made. It is this transformative process of empowering stakeholders that The Gambia will share as it develops more comprehensive fisheries co-management plans at home, bi-laterally with Senegal and in the sub-region.

The Fishery Co-Management Plan for The Gambia Sole Complex, January 2012

THEREFORE, I HEREBY:

Declare as a Special Management Area for the purposes of fisheries management, a sole fisheries zone from the Atlantic shoreline and shorelines adjacent to the estuarine areas of The Gambia River out to 9 nautical miles.

Designate the NASCOM and its associated LACOMs through the Community Fisheries Center Management Committees as having exclusive use rights to the sole fishery in this area.

Delegate authority for the responsible and sustained management and conservation of the sole fishery resources in this area to the NASCOM and its associated LACOMs through the CFCs in accordance with the management plan herein.

Signed, Minister of Fisheries, Water Resources and National Assembly Matters

Figure 26: Gambian sole fishermen participating in a gillnet study. Photo Credit: Chris Parkins, URI/Fisheries Center

"I started fishing when I was 19, and it was then that I built up my local knowledge on fisheries in The Gambia. After a period working for the government, I returned as a commercial fisherman in 1978, and now fish for sole alongside 500 other fishermen spread along the coastline. For the past two years, we have been working on a USAID-funded project (Ba Nafaa). One of our main achievements has been the closure of the sole fishery from May until October within a protected area one nautical mile from the shore. This means we will allow the sole to breed; the young ones will be there; and when they grow, we start to catch them. Each landing site now has its own sole management committee and has written its own by-laws. This brings the management down to the community level… It is no good exploiting the resource without good information. I want to have sustainable fisheries for years to come."

Ousman Bojang of NASCOM, from an interview for "Fisheries in Transition," The Prince's Charities' International Sustainability Unit, Feb. 2012.

For more information on the BaNafaa Project and the , contact Ousman Drammeh, Project Manager, USAID/BaNafaa Project, Banjul, The Gambia email: O_drammeh@yahoo.com, tel: (220) 779 6811 in The Gambia.

Dialogue Among Fisheries Stakeholders on Improved Management of Artisanal Fisheries Between The Gambia and Senegal Breaks New Ground

In an historic event, 86 artisanal fisher men and women, fish processors, fish mongers/dealers, fisheries non-governmental organizations (NGO), and government officials from The Gambia and Senegal met in May 2012 for a bilateral workshop on improved management of artisanal fisheries. Organized by the USAID/BaNafaa Project, the gathering is the first ever forum between fisheries stakeholders in The Gambia and Senegal. Migration of fishers and their families between the two countries predates the advent of English and French colonialism and the demarcation of land and maritime boundaries that divided the two countries. In 1982, the two Governments entered into a reciprocal fishing agreement on maritime fisheries and they now conduct regular bilateral meetings every two years without the participation of people engaged in the fishing industry.

The conservation and sustainable management of fish stocks is a major concern of the Governments of The Gambia and Senegal. Recent statistics indicate stocks continue to decline mainly as a result of overfishing, use of non-selective fishing gears and IUU fishing within and outside the artisanal fishing zone. What is needed is bilateral collaboration and cooperation among and between these two neighboring countries to harmonize policies and adopt management measures that address issues relating to conservation and sustainable management of fish stocks—in particular, stocks shared by neighboring states and targeted by artisanal fishermen. Such efforts can lead to increased economic and social benefits to fishers and their communities.

In the workshop, participants deliberated on issues of common concern and interest, including:

- identifying areas for collaboration and cooperation between stakeholders in the two countries to sustainably manage shared fish stocks
- migration of fishers and their families and the need to respect laws and regulations in either country
- dual registration of fishing canoes operating in both countries
- eco-labeling of artisanal fishery products and sharing of experiences gained in each country
- cross-border fish trade and its impacts on local economies

Participants shared lessons on:

- approaches for improved co-management of artisanal fisheries using the participatory ecosystem based co-management approach supported by the USAID/BaNafaa Project
- institutional and legal frameworks for co-management—drawing from the fisheries legislation of The Gambia
- the usefulness of management measures such as establishment of marine protected areas and reserves, introduction of seasonal closures, and fishing effort control in open access fisheries—drawing from experiences in Cayar, Senegal, and the co-management plans for sole and oyster fisheries in The Gambia

This dialogue helped stakeholders realize that the issues are common in nature and origin in both countries and can be resolved through collaboration, cooperation, regular contact and exchanges. As said by Ms. Khaddijatou Jallow, a fish processor, President of Brufut Community Fisheries Center and Vice President of NASCOM,

"What belongs to all is not given the attention it deserves"

Recommendations for next steps included:

- Establish an ad hoc bilateral committee comprising representatives of fisheries administrations, fishers and fisheries NGOs in the two countries
- Convene a bilateral workshop once a year at alternate venues (next one in Senegal)
- Include fisher representatives in the national delegations in all future meetings on the bilateral (reciprocal) fishing agreement between The Gambia and Senegal
- Ensure both The Gambia and Senegal governments harmonize policies and legislations as fishers migrate freely between the two countries
- Establish "twinning" of fishing villages to reinforce collaboration and cooperation

The event brought the vision of the USAID/BaNafaa Project one step closer to reality:

> *Artisanal fisheries and coastal ecosystems in The Gambia and selected stocks shared with Senegal are being managed more sustainably, incorporating significant participation of fisherfolk in decision making, and attaining improved economic benefits for both men and women involved in the market value chain.*

Figure 27: Artisinal fisher women drying fish.

ANNEX 4: EMMR

Environmental Status Report Factsheet

Title of the program: URI-USAID Gambia-Senegal Sustainable Fisheries Project (BaNafaa)
Implementing Partner: University of Rhode Island
Country or Region: USAID/West Africa
Award Number: LWA: EPP-A-00-04-00014-00, Associate Award: 624-A-00-09-00033-00
Program Area: Program Areas 3.1 (Health) and 4.8 (Environment)
Program Elements and Sub-Elements:

3.1 Health
3.1.8 Clean Water & Sanitation Services
4.8 Environment
4.8.1 Natural Resources & Biodiversity
4.8.2 Clean Productive Environment (Adaptation)

Life of Activity: FY2010 – FY2014
Fiscal Year of Submission: FY13 submission of ESR coving FY12 – Year 3

Funding Begin: *05/01/09*	**LOA Amount:** $3,414,566
Funding End: *04/30/14*	**FY Amount:** $1,136,217
ESR Prepared by: (Name/Title/Contact) Karen Kent, BaNafaa Team Leader, Coastal Resources Center, University of Rhode Island. Karen@crc.uri.edu, (401) 874-6630	**Date:** *10/12/12*
Date of Previous EMMR: 10/27/11	**Date of Most Recent IEE:** *05/15/11*

A. Status of the IEE

☒ **No revisions or modifications** of the IEE are needed.

☐ An amended IEE is submitted.

B. Status of Fulfilling Conditions in the IEE, including Mitigation and Monitoring

☒ **All mitigation measures were successful at** preventing environmental impact as specified in the original IEE**.** An Environmental Mitigation and Monitoring Report (EMMR) describing compliance measures taken are attached.

☐ **Improved mitigation measures** were adopted to better reduce environmental impacts**.** An EMMR describing these improved compliance measures taken is attached.

Approval of the Environmental Status Report (as appropriate)

AOTR/COTR _____Date:_____

MEO _____Date:_____

REA _____Date:_____

BEO _____Date:_____

Environmental Status Report Instructions and Format

In two to ten pages, the Environmental Mitigation and Monitoring Report (EMMR) should indicate whether steps need to be taken to amend previous environmental documentation and whether conditions are being met, e.g., mitigation plans are on schedule and the monitoring and evaluation measures being undertaken by the Implementing Partner.

A. Status of the IEE

Use the answers to the following questions to determine if the status of the IEE has changed. Use the same instructions for a categorical exclusion submission in the event all Implementing Partner activities were categorical exclusions.

i. Modified or New Activities

Have new activities been added or substantially modified? Has substantial new funding or time been added to the program? Note the nature of these new activities or extension and reference an updated IEE.

A modified program requires an updated IEE. Keep in mind that activities can be changed or added that do not require a program modification, but which do alter Regulation 216 threshold decisions and would thus require an updated IEE.

ii. Resolution of Deferrals

Did the previous IEE have deferrals? List these and state if they are being resolved through an updated IEE. If not, indicate when an updated IEE will be submitted in order to be able to proceed with the activities.

If the deferred activities have been removed from the awardee's program, submit an updated IEE, explain the removal and present the recommendation that the deferral is no longer applicable.

iii. Updates to the IEE

Based on the above, is an updated IEE needed?

☐ Yes (If yes, attach here.) No ☒

If the previous documentation was a categorical exclusion submission, is an updated categorical exclusion needed to deal with new categorical exclusions for new activities?

☐ Yes (If yes, attach here.) No ☒ Not Applicable☐

B. Status of Fulfilling IEE Conditions

Implementing Partners should take this opportunity to re-evaluate the approved environmental mitigation plan to ensure the commitments made in the IEE are doable and realistic, i.e, not beyond the capabilities and resources of the Implementing Partner to implement. Mitigation and monitoring can be part of normal visits to an area to check on activities, unless specific testing, surveys or the like have been required. Alternatively, experience to date may indicate that the IEE's mitigation and monitoring plan is not sufficiently specific or is lacking in some aspect. If this is the case, the Implementing Partner should specify these challenges and the course of action to address the deficiency.

i. For each component of the program, **list or reproduce the mitigation measures** and monitoring of the IEE conditions.

ii. Describe **status of mitigation and monitoring**. Examples of the types of questions an awardee should answer to describe "status" follow:

a. What mitigation measures have been put in place? How is the successfulness of mitigation measures being determined?

b. What is being monitored and how frequently?

c. What action is being taken (as needed) based on the results of the monitoring?

Environmental Mitigation and Monitoring Report – table for activities under Categorical Exclusion

Classes of actions as per 22 CFR 216.2(c) (2)	**Actions implemented in Year 3**	**Remarks**
(i) Education, technical assistance, or training programs	• Meetings with local communities and officials (Sole & Oyster) • Training in fish stock assessments • Sole stock assessment • TRY Oyster Association Standard Operating Procedures Manual developed. • Shellfish handling and hygiene training for TRY members • Literacy training for TRY members • Sanitary Shoreline Survey training • Training of facilitators for WASH Needs Assessment • Population Health Environment and Fisheries Leadership training at URI Summer Institutes and in Senegal	The core content of most of these activities revolves around sound environmental management.
(iii)Analyses, studies, academic or research workshops and meetings	***Sole Fishery*** • Local Ecological Knowledge study of Catfish (a Sole bycatch) ***Oyster Fishery*** • Participatory rapid appraisal to compile local knowledge of cockle harvesting practices, spawning period, and growth at Kartong • Bi-weekly water quality testing reports • Sanitary Shoreline Survey of Tanbi Wetlands and other oyster harvesting areas. • Hotel market survey to better understand the needs of this market. • Biological sampling of oysters at sales points during the open season to contribute information on status of the stock. ***WASH*** • Needs Assessment of 16 fish/shellfish landing sites and validation/stakeholder workshop to select priority landing sites for WASH intervention.	The core content of most of these activities revolves around sound environmental management.
(xiv) Studies, projects or programs intended to develop the capability of recipient countries and organizations to engage in development planning.	• Bilateral (Gambia-Senegal) Climate Change Vulnerability Assessment and stakeholder workshop • Bilateral (Gambia-Senegal) Fisher Level Co-Management Workshop to exchange experiences and best practices.	The core content of this activity revolves around sound environmental management

Environmental Mitigation and Monitoring Report – table for activities under Negative Determination with Conditions

Planned activities	**Recommended mitigation actions**	**Status of mitigation measures/Actions taken**	**Outstanding issues on required conditions**	**Remarks**
Copy from the IEE Sole: Value chain assessment Development of a sole management plan including managing access and gear Analyses of cost competitiveness of the export processing sector Oyster: Enterprise development training – micro credit, loans and micro-enterprises Value chain assessment Establish special area community management plans (SAMPs) for oysters Fuel wood saving program Reforestation Improve small scale landing, processing and product marketing facilities and outlets	*Copy from the IEE* Observe conditions in section 4.2 of the IEE <u>Conditions for fisheries management plans including managing access and gear</u> Fisheries management activities must be conducted in full conformity with the following points: 1. Areas for pilot fisheries management will be under an approved management plan. 2. Fisheries management plans (FMPs) will: a. Be based on the best available site-specific information on marine species and marine ecosystem status (*e.g.* key animal/plant species, marine habitats and use and ecosystem importance) and local, indigenous knowledge; b. Establish explicit, data-based management objectives for marine and coastal biodiversity conservation; c. Establish site-specific sustainable production/utilization guidelines based on growth and	*Mitigative measures that were put in place* <u>Management Plans:</u> Both the sole and oyster co-management plans were approved and signed by the relevant Govt. of The Gambia authorities in Jan. 2012 (Year 3). All of the conditions in points 1 – 5 have been addressed as documented in the approved plans and accompanying annexes. Draft Management Plans were shared with Robert Buzzard, Acting AOTR on June 7, 2011. Gazetting of the plans is still pending. Implementation of the approved Plans has begun in Year 3, including continued support from USAID/BaNafaa to strengthen co-management institutions and the systems and procedures specified in the plans for environmentally sound, adaptive co-management.	*If mitigative measures were not successful or not implemented, why?* Pilot cockle aquaculture activities in Kartong, which is not under the Oyster co-management plan for the Tanbi, will contribute to developing a draft Shellfish co-management plan for Kartong with TRY members in Year 3. Basket oyster culture action research was conducted in Year 3 using juvenile oysters that are knocked into the mud and die during the normal harvesting of adult oysters. Although successful in terms of growth, the capital investment for returns was determined to not be competitive with the current conditions of wild	*Any follow-up actions/recommendations to meet these environmental requirements?* As implementation of the approved Co-Management Plans continues, the project will continue to focus on institutionalizing adaptive co-management through support for strengthening the systems, procedures and institutions responsible for environmentally sound co-management. Follow up to determine if oyster basket and rack culture

Planned activities	Recommended mitigation actions	Status of mitigation measures/Actions taken	Outstanding issues on required conditions	Remarks
	productivity estimates derived from the best available information; d. Demarcate and define marine resource access and use rights; e. Legally recognize management roles and responsibilities, including an agreement with local authorities to safeguard and maintain the resource base to ensure its continued productivity. Specific management roles and responsibilities will be further devolved to local communities, increasing transparency in management of the areas; f. Reflect a consultation process that allows the general public to comment and provide input on the management plan; and g. Include a monitoring plan of select ecological parameters. (The management plan will, in effect, constitute a locally developed environmental assessment, managed under local by-laws, and endorsed by the Gambian Department of Fisheries) 3. Marine resource management activities will be implemented in accordance with criteria established in the USAID/AFR/SD publication	For example, in Year 3, the project supported a new stock assessment for sole, biological sampling of oysters at sales points and a gillnet study to test hanging ratios for greater selectivity of large sole (reduced juvenile and other by-catch). TRY Association's work in environmental stewardship linked to sustainable resource based livelihoods for marginalized women was recognized by award of the UNDP Equator Prize of $5000 and participation in Rio+20 in Brazil in June 2012. <u>Value chain assessments and improvements</u> Value chain assessments in Shrimp, Sole and Oysters have been conducted in previous years. The USAID/BaNafaa Project will not pursue activities in the Shrimp fishery. For Sole and Oysters, value chain assessments were conducted in the context of the development of co-management plans. For	harvest. This approach will not receive continued support from the project for replication/scale-up. If communities are motivated to continue in some form on their own, they have the knowledge to do so. The same is the case for rack culture of oysters which was the subject of action research in Year 2.	activities were continued successfully in any form by communities on their own will determine if scale up should be taken into account in annual reviews of the oyster and cockle management plan for the Tanbi and for any other newly developed plans.

Planned activities	Recommended mitigation actions	Status of mitigation measures/Actions taken	Outstanding issues on required conditions	Remarks
	Environmental Guidelines for Small-Scale Activities in Africa (Chapter 6: Fisheries – www.encapafrica.org.) 4. Production/utilization will be monitored regularly (see 2g, above). Information generated from monitoring will be used to fine-tune production/utilization guidelines as needed. This information will be shared with other partners and communities engaged in similar work to enhance NRM activities that most effectively respond to national poverty reduction strategies by improving livelihoods while conserving marine resource values (goods and services, including biodiversity conservation, etc.). 5. Because all of the products that might be targeted for production/harvesting and trade have not been identified/selected, potential marketing activities will be reviewed for environmental impact using the Environmental Screening Form/Environmental Review Report (ESF/ERR), or some other approved process/tool. Whether using the ESF/ERR or another tool this will include measures of performance, whereby the implementing partners will assure that effective and efficient environmental practices are an integral part of the overall	sole, the assessment contributes to The Gambian government's effort to achieve MSC Certification. This process was on-going in Year 3. German seafood company Kaufland, through a marketing campaign to support the development of sustainable seafood from The Gambia, has donated funding to The Gambia's MSC efforts through the community-based sole co-management entity NASCOM. This is a positive indication that emerging market opportunities will be closely linked to sustainable management. A comparative cost study on sole fish between The Gambia and Senegal was conducted in Year 3 to better understand the incentives for sole fished in The Gambia to be construed as originating from Senegal and processed/exported in Senegal. USAID/BaNafaa assistance will support further reflection on the findings by a committee		

Planned activities	Recommended mitigation actions	Status of mitigation measures/Actions taken	Outstanding issues on required conditions	Remarks
	assistance to resource users and local private enterprises involved in resource harvesting, processing and/or transformation for marketing. Finally, fisheries management plans will be submitted to the AOTR and Regional Environmental Advisor for review prior to implementation. Specific AOTR approval of these plans is required prior to implementation. <u>Conditions for value chain assessments and improvements</u> Value chain improvements must be implemented as complements to fishery management plans to ensure sustainability of fish stock harvests. A formal management plan does not have to be officially adopted prior to initiating work on value chain improvements, but a process must be underway that is working towards formal adoption of such plans. To ensure value chain improvements contribute to or promote sustainable fisheries, they should aim at obtaining international certification (*e.g.* Marine Stewardship Council certification/eco-labeling) for export products. <u>Conditions for enterprise development training – micro credit, loans and micro-enterprises</u>	mandated to develop a Cabinet Paper on the issues, including the impact of potential recommended actions on sustainable management of the stock and the eco-system. The findings of this study were presented at a bilateral co-management meeting among Gambian and Senegalese fishermen in May 2012 and will be presented again at the first annual sole co-management plan review meeting in Year 4. Project assistance for improvements in the oyster value chain has supported the process of development of a Gambian National Shellfish Sanitation Plan for the Tanbi. This approach focusses on inter-agency cooperation to monitor and management water quality and environmental hazards as a means to improve the health and quality of the oyster stock and as the basis for market opportunity. <u>Enterprise development</u>		

Planned activities	Recommended mitigation actions	Status of mitigation measures/Actions taken	Outstanding issues on required conditions	Remarks
	Activities relating to the expansion of micro-finance and or micro-enterprises shall be subjected to environmental review. The *Ba Nafaa* project will assure that in any support for micro-lending, financial intermediaries (FIs) fully implement an <u>environmental due diligence</u> process which: • enables 'Environmentally Sensitive Activities' , as defined below, to be identified in loan applications; • bars funding to activities which are prohibited under the Sections 118 & 119 of the Foreign Assistance Act; • bars funding for "classes of action normally having a significant effect on the environment (per 22 CFR 216.2.d) pending an Environmental Assessment acceptable to USAID and USAID's approval of that assessment; and • ascertains compliance with Gambian and Senegalese environmental statutes/regulations as a condition for loan-making. However, if one or more of the participating FIs have environmental due diligence procedures that depart in some measure from these requirements, project staff will consult the REA for a determination whether the existing procedures substantially satisfy the intent of this condition and are acceptable.	<u>training – micro credit, loans and micro-enterprises</u> The micro-finance activities conducted in Years 2 and 3 under the BaNafaa project were initiated by the TRY Oyster Association in order to build savings and financial management capacity among its members in the context of the Oyster Co-Management Plan for which TRY now has co-management responsibility. Under the co-management plan, environmentally favorable harvesting and management practices are specified and institutionalized. Loans are for a small, fixed amount and not granted based on specifically identified individual activities. USAID does not have direct control over the provision of these loans and financial services.		

Planned activities	Recommended mitigation actions	Status of mitigation measures/Actions taken	Outstanding issues on required conditions	Remarks
	Environmentally Sensitive Activities are defined as: a. Activities listed in 22 CFR 216.2.d "Classes of actions normally having a significant effect on the environment"; b. Activities prohibited or limited by Sections 118 and 119 of the Foreign Assistance Act; or c. Activities identified by host country environmental regulations as requiring environmental review, licensing or permits. (for a list of activities under a & b, see the ENCAP factsheet on environmental compliance for DCA activities: www.encapafrica.org/documents/ENCAP_AFR_DCA_Factsheet_3Feb2010.doc) If the project undertakes other activities to enhance availability of credit and financial services, it shall assure that where appropriate, environmental due diligence procedures (see above) are either (i) implemented (where USAID has direct control over provision of credit and financial services); or (ii) promoted and advanced to the degree feasible (where USAID does not have direct control). In cases where *Ba Nafaa* has direct control over the provision of credit and financial services, the project will ensure			

Planned activities	Recommended mitigation actions	Status of mitigation measures/Actions taken	Outstanding issues on required conditions	Remarks
	that the Environmental Screening Form (ESF) in the *Environmental Guidelines for Small-Scale Activities in Africa (EGSSAA) Part III, "Guidelines for Micro and Small enterprises"* (tailored as needed) will be used to assist in identifying potential environmental impacts that are likely to occur as a result of such micro-enterprise activities. When screening identifies moderate and high risk categories, mitigation measures will be described using Environmental Review Reports (ERRs). In addition, the URI-appointed Project Manager for *Ba Nafaa* will visit all projects for which ERRs exist to ensure they are not causing any adverse environmental impacts, with a view to correcting and or initiating additional mitigation measures as needed. <u>Conditions for small-scale infrastructure</u> For the rehabilitation of existing facilities, and for construction of facilities in which the total surface area disturbed is less than 10,000 square feet (1,000 sq meters), and where no protected or other sensitive environmental areas could be affected, the condition is that these activities will be conducted following principles for environmentally sound construction as provided in the Chapter 3: Small Scale Construction of EGSSAA			

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	http://www.encapafrica.org/EGSSAA/Word_English/construction.doc. For the construction of any facilities in which the total surface area disturbed exceeds 10,000 square feet (1,000 square meters), the program shall conduct a supplemental environmental review according to guidance in Annex G (www.encapafrica.org/EPTM/AnnexG EPTM_Mar2005b.pdf) of the Africa Bureau Environmental Procedures Training Manual (EPTM) (http://www.encapafrica.org/eptm.htm). Construction will not begin until such a review is completed and approved by the Mission Environmental Officer or REA.			
Sub-grants:	<u>Conditions for sub-grants</u>: Any sub-grants to support this project's activities must incorporate provisions that the activities to be undertaken will comply with the environmental determinations and recommendations of this IEE. This includes assurance that the activities conducted with USAID funds fit within those described in the approved IEE or IEE amendment and that any mitigating measures required for those activities be followed. In addition, environmental screening will be required. The AFR Environmental Review Form	<u>Sub-grants</u>: Small seed-grants to TRY Association were provided in Year 3. All activities in the grants were already considered in this IEE and included additional microfinance training and a second cycle of loans using the recovered capital from the initial loans, an exchange visit to Senegal to visit processing centers, contribution to design plans for a training /processing center < 1000sq. m, Mangrove reforestation, wood saving oyster smoking		

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	and process, including supplemental NRM checklist, will be used for all *Ba Nafaa* small grants made after the effective date of this IEE. The form is available at www.encapafrica.org/documents/AFR-EnvReviewForm-20Dec2010.doc.	oven demonstration model installed at one oyster processing site. Mitigation measures, such as use of USAID guidelines Chapter 3: Small Scale Construction of EGSSAA, have been implemented. A small seed-grant to NASCOM at the end of Year 3 is not yet implemented. It is primarily institutional capacity building, except a pilot study of buoy types to determine appropriate methods for demarcating the 1 nautical mile seasonal closure for sole specified in the co-management plan.		
Water & Sanitation: Water and sanitation planning Test, pilot and conduct research on low-cost, small-scale technologies for water supply or sanitation service provision Construct or renovate boreholes Install mechanized or manual pump systems Construct or renovate hand	Conditions for WASH • All water supply and sanitation activities will be conducted in a manner consistent with the good design and implementation practices described in *EGSSAA Chapter 16: Water Supply and Sanitation*. • All construction activities will be conducted following principles for environmentally sound construction, as provided in *EGSSAA Chapter 3: Small Scale Construction* • Aquifer protection measures and	Water & Sanitation Add-on funding received at end of Year 2. Needs Assessment of 16 fish/oyster landing sites conducted in Year 3. Six priority intervention sites selected. Environmental impact was considered in the needs assessment and site selection, including vulnerability of the sites to sea level rise and other		

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dug wells Construct or renovate connections to extensions of networked water supply distribution systems, including installation of tap stands Construct or rehabilitate water storage tanks Construct rainwater harvesting systems Construct or renovate sanitation facilities (latrines or other) Construct or renovate hand washing stations Improved solid waste handling Operate small-scale water supply and sanitation systems, including maintenance of pumps, pipes and other infrastructure	proper design and maintenance will be undertaken to minimize microbiological contamination of improved wells and springs. • Water quality testing is the responsibility of the *Ba Nafaa* project for interventions that provide potable water. This includes arsenic testing adhering to "Guidance Cable State 98 108651". In addition, the standards and testing procedures described in "*Guidelines for Determining the Arsenic Content of Ground Water in USAID-Sponsored Well Programs in Sub-Saharan Africa*" must be followed. The project will also build capacities and responsibilities that provide reasonable assurance that on-going water quality monitoring occurs. • The standards for initial and on-going testing will follow local laws, regulations and policies. Furthermore, a response protocol will be established in the event that water quality testing detects contamination. • Latrines will be sited far away from shallow wells, cisterns, spring sources, boreholes and wetlands. Latrine pits will be dug in the unsaturated zone above the water table, and latrine pits will be protected against flooding and	impacts due to climate change. Staff and implementing partners with significant experience in environmental compliance have been put in place to implement these activities and Environmental Compliance language, copies of the IEE and screening tools have been included in their contracts. The USAID/BaNafaa WASH Coordinator completed USAID Environmental Compliance Training in Accra in March 2012 and has presented what he learned and shared materials with implementing partners. Principal activities in Year 3were: Facilities design, including environmental screening of the six selected sites and an EMMP for construction activities; Community training and outreach design and preparation; Establishment and orientation of site level WASH management committees who will		Arsenic levels in the zone are

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	overflow due to intense rainfall. *Ba Nafaa* will establish and train community water and sanitation (WAT/SAN) committees to manage, repair and maintain all water points. Also, general concepts of watershed management will be explained to WAT/SAN committees. • *Ba Nafaa* will provide training and education in sanitation and hygiene to local water and sanitation committees and to participating communities with the aims of : o Ensuring community mobilization and public awareness of human health risks associated with water-borne disease vectors; o Encouraging the development of community responses that are environmentally sound, cost effective and safe; and o Ensuring control over the management of the facilities and operations through local community rules and best practices. Verification through site visits and photos will be done to assure practices are in accordance with local community rules and best practices. • *Ba Nafaa* will: o Follow best engineering	develop by-laws, a management plan and an EMMP for their site. These design/planning activities are being done in accordance with the specified conditions and recommended mitigation actions for WASH specified in this IEE. Four of the six sites are recommended for water sourced through connection to the municipal system. Two are recommended for boreholes. Initial Arsenic and other required testing will be conducted in Year 4 Quarter 1 for both municipal and borehole sources.		expected to be < 10 ppb based on previous experience of specialists from the Department of Water Resources.

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	practices with qualified professional expertise including energy and water efficiencies; o Identify and mitigate any direct impacts on the existing physical environment or surrounding socio-economic environment caused by the construction of and presence of the water or sanitation system. These impacts relate to resource use, earthmoving and construction, soil compaction and impacts on neighboring populations. • When feasible, the majority of materials used will be of local origin and will not contain any hazardous materials (*e.g.* asbestos or lead)			
Global Climate Change Planning & Adaptation: Adaptation planning and implementation Climate change adaptation measures such as coastal development setbacks and building standards Small-scale agricultural activities Beach and dune nourishment Structural shoreline	<u>Conditions for Climate Change adaptation measures</u> *Beach and dune nourishment, use of hard structures to combat erosion from sea level rise* Use of hard structures or beach or dune nourishment to combat sea level rise will not be approved without additional screening prior to implementation. Institutions proposing hard structures and beach nourishment should be encouraged to identify alternative options including	<u>Climate Change</u> Add-on funding received at end of Year 2. Bi-lateral Climate Change Vulnerability Assessment conducted in Year 3. Stakeholder workshop and adaptation planning resulting in submission of aBilateral Climate Change Adaptation Add-On request submitted to USAID/WA in July 2012.		

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stabilization	'soft' engineering solutions including abandonment of built structures that are at risk or retreat/movement landward of those that can be moved. Soft solutions, which include restoration of natural vegetation for erosion control and promotion of green coastal barriers to combat erosion or stabilize beaches, are allowed without further screening. *Small-scale agricultural activities that pro and carry out sustainable agriculture activ including tilling, cultivation, fertilization, harvesting, etc.* All agricultural activities will be conducted according to the following principles: **(a)** emphasize and fully integrate environmentally sound practices substantially consistent with *ESGGAA Chapter 1: Small Scale Agriculture; Chapter 11: Livestock; and Chapter 12: Integrated Pest Management* (www.encapafrica.org/egssaa.htm) and the Africa Bureau Fertilizer Factsheet http://www.encapafrica.org/docs.htm#specificagriculture). This shall be an ongoing effort, and it is expected that *Ba Nafaa* guidelines and practices will be refined over time in response to field monitoring. "Environmentally Sound Practices"	Beach and dune nourishment, use of hard structures to combat erosion from sea level rise are not proposed in the add-on request, which includes the following adaptation measures designed to comply with the conditions specified in this IEE: 1: Protection and rehabilitation of mangroves and wetlands Activity 1: Establishment of Buffer Zones Adjacent to Mangroves and Wetlands. Activity 2: Identification and remediation of sites where natural water flow to wetlands and mangrove areas is restricted or may be restricted in the future by man-made barriers or infrastructure. Activity 3: Reforestation of mangroves Activity 4: Study the applicability of REDD and other Payment for Environmental Services mechanisms in the zone 2: Diversified Livelihoods		

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	include basic good hygiene/animal waste management/biosafety practices as a part of animal husbandry TA/training (if applicable), and cleaner production approaches, as appropriate, for agro-processing. If direct assistance to specific processing operations is undertaken, the project must ensure that the operations employ (or will employ, as a result of the assistance) adequate environmental management techniques. These techniques must, at a minimum, satisfy obligations under local law or policy. Where no such requirements exist, the enterprise must employ appropriate, common-sense practices to safely dispose of waste, minimize pollution of surface or groundwater and safely store inputs and commodities. **(b)** include the fundamentals of pesticide safer use if it becomes apparent that beneficiaries are using pesticides in the agricultural production activities enabled by project-funded inputs, training or extension. If such use is observed, the project must take all feasible steps to discourage the use of Class I and Class II pesticides by beneficiaries. *Refer to Section 5.1: General restrictions-pesticides.*	for Sustainable Resource Use Activity 1: Climate proofing livelihoods infrastructure Activity 2: Development of eco-tourism Activity 3: Development of non-fisheries livelihoods Activity 4: Fisheries livelihoods Activity 5: Study of Climate Change related migration impact on artisanal fisheries 3: A Cross-cutting Communications Plan 4: Shoreline protection Activity 1: Policy/regulatory level actions - both national and bi-lateral in scope. Activity 2: Living Shorelines		

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	(c) promote intensification of agriculture, while undertaking all feasible measures to discourage the expansion of beneficiary agricultural production into non-degraded habitat or important ecological areas (*e.g.*, mangroves, undisturbed wetlands, primary forest, *etc*.). If such expansion is observed, the project shall immediately notify the AOTR and REA.			

Date: July 15, 2010