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Capacity development and information base for improved fisheries management in the Western Region



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Cover Photo: Artisanal fisher in Dixcove, Western Region, Ghana

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Contents

Acknowledgements.....	4
Key Messages – Synthesis.....	5
Section 1: Capacity Development.....	9
1. Introduction.....	9
2. Capacity Development: The World Fish approach.....	10
3. Technical skills for adaptive management of small scale fisheries.....	11
4. Assessing organizational capacity of partners to implement adaptive management.....	17
5. Creation and strengthening of learning networks: a positive deviance approach.....	22
6. From collaborative to participatory community-based research to inform policy and action	27
Annexes.....	44
Annex 1: Prospectus for training on “Technical skills for adaptive management of small scale fisheries” May 11-12 th 2011.....	44
Annex 2: Capacity need assessment survey – Regional Fisheries Working Group.....	48
Annex 3: Excerpts from study tour information package 13-20 August 2011 Senegal	53
Annex 4: Workshop program “Building on the Positive: Informing fisheries management interventions in the Western Region”	57
Annex 5: Workshop participants “Building on the Positive: Informing fisheries management interventions in the Western Region”	61
Annex 6: Workshop “Building on the Positive: Informing fisheries management interventions in the Western Region” group work: Interventions that could be replicated in Ghana.....	62
Annex 7: Workshop “Building on the Positive: Informing fisheries management interventions in the Western Region” group work: Intervention logic for potential projects in Year 3.....	65
References	75

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Key Messages – Synthesis

1. Capacity Building

- The training event in May 2011 on adaptive management met its primary objective. Indeed when asked “What are the three most important things you learned during this training?” participants mentioned adaptive management, scenario planning and the human dimension in fisheries.
- An unexpected positive outcome of the May training was the fact that participants mentioned facilitation skills and group interaction as a learning outcome. This highlights the fact that participants did not often have the possibility to work in diverse groups, share ideas and practice group consensus and conflict resolution; key skills to implement adaptive management.
- The need assessment survey results of the Fisheries Working Group (FWG) conducted in May 2011 show that to redefine the FWG role in sector reform and management, moving from a passive or “command and control” to an “enabling” role in communities, will require extensive training of government staff. The results highlighted that strengthening in-country capacity at both the human and institutional levels, and redefining the role of government officials at the district level will require a step-by-step realistic approach that includes leadership and communication skills training.
- The FWG had a good understanding of what is co-management. However respondents mainly focused on the “process” (i.e. forming groups). The Hen Mpoano project should also prompt partners on the impacts they want to achieve with co-management: what is the shared vision of the fisheries sectors? Why should co-management be implemented?
- Overall the need assessment survey and the adaptive management training have shown that leadership and facilitation/communication skills as well as strategic planning should be an integral part of Hen Mpoano capacity development program in Year 3, in addition to more traditional training topics related to fisheries management and co-management.

- The Senegal study tour in August 2011 gave participants an understating of why co-management is needed in fishing communities and the process involved in its implementation. An important learning outcome for the participants was the essential role women play in fisheries management and community development.
- The study tours were an opportunity for participants to get inspired about new ideas and concepts and bring them back home to share them with their community as part of the capacity development process.
- The Senegal study tour study provides support to ideas about 'positive deviance' as a method of learning where participants see organizations and actors change their environment and address issues that are similar to theirs. Senegal faced similar problems than Ghana regarding illegal fishing but participants saw that it is was not an insuperable obstacle if community's will existed to implement better fisheries management practices.
- The Axim community event in August 2011 provided a number of lessons for future engagement and capacity building with communities in the Western Region: 1) Permanent visual displays of each study tour should be created by the Hen Mpoano communication team to be used in community events, 2) excellent facilitation skills are needed, fisheries extension officers as well as study tour participants must be adequately trained in conflict resolution, group dynamics and communication, 3) it is not recommended that National Volunteers run these meetings; however their involvement in Year 3 should be included in their work plan.
- Community partnerships, through active participatory meetings such as the Axim meeting, can be an opportunity to develop advocacy arguments that are particularly persuasive to policy makers and can effectively influence policy and practices. The information and testimonies collected during these meetings can provide valuable information to feedback during the proposed national dialogue Hen Mpoano initiative during Year 3.
- Community meetings are a good opportunity to identify positive agents of change, individuals that actively engage and can bring about transformative change in their community, as well as individuals who are strongly opposed to any new initiatives. This group of people can be targeted for subsequent interventions in the community.

- The community meeting also provided evidence that much more work was needed in terms of: 1) education (why monofilaments nets are “bad”) and communication of the new Law and its implication for fishers and 2) practices of naval Task-force who is seeking to enforce regulations by force. The recent demonstration in September 2011 in the Sekondi area against the Task-force¹ shows that for voluntary compliance to occur awareness and education campaigns are still needed.
- During the workshop ““Building on the Positive: Informing fisheries management interventions in the Western Region” in August 2011 participants reflected on their study tours. The display produced could be used as a template for future community meetings. It was a great opportunity for study tour participants to reflect on their trip as a group and extract the most important and surprising elements of their experience. It also gave them the opportunity to sharpen their communication skills for future community events if necessary.
- During the workshop participants were also introduced to the concept of “planning and managing for results” (result-based management framework). The importance of defining the goal and vision of potential interventions in fishing communities, and of focusing on performance and achievement of outputs, outcomes, and impacts of a project were presented to participants. This was an opportunity to test participatory ex-ante impact assessment methodologies developed within a WorldFish/IFAD funded project in Ghana.
- The participants identified pilot projects that could be implemented in the Western region. Interesting interventions such as the gear exchange program and betterment of processing facilities with a focus on women’s group should be further explored in the development of the program in Year 3.
- The 27 participants who filled out the feedback form encouraged in the comment section the Hen Mpoano project to conduct this type of workshop yearly or/and in the different districts.
- Overall the participants gained a deeper understanding of what it means to design an intervention through the “Happy Horse” parable, games and group work. The need for

¹ see http://www.ghanatoghana.com/Ghanahomepage/sekondi-fishermen-vow-vote-ndc#.Tpc_QJtFuso

behavioral change to achieve a shared vision of sustainable fisheries for the region was highlighted throughout the three days. Participants felt empowered with new knowledge, a key element for transformative social change.

- In Year 3 of the Hen Mpoano project, follow-up of the capacity development program participants in each of their communities will be needed to ensure that their learning experience and knowledge trickles down to their communities and within their government agencies (i.e. District Assembly and Fisheries Working Group). Interviews of participants should be conducted during the first quarter of 2012 to capture stories, highlighting changes in skills, abilities and knowledge, changes in practices and changes in networks and supports.

Section 1: Capacity Development

1. Introduction

Capacity can be understood as “the ability of people, organizations and society as a whole to manage their affairs successfully” (OECD 2006 p.6). One of the objectives of the ICFG program, also referred to as the Hen Mpoano initiative, is to create and strengthen capacity over time in order to facilitate or catalyze change in fisheries management in the Western Region. In year 2, the Worldfish Center has been mandated to:

- 1) present impartial analysis on key issues, involving key players as contributors, convene workshops, field trips and exchange visits to promote dialogue and a shared understanding of key issues and
- 2) identify champions to lead informed debate and help build consensus on critical issues.

The objective of this report is to share the preliminary results of WorldFish activities related to these components of the capacity development program. The report first introduces WorldFish approach to capacity development. It then presents the main activities conducted by the Center in 2011:

- Training: technical skills for adaptive management of small scale fisheries (May 2011)
- Assessing organizational capacity of partners to implement adaptive management (May-August 2011)
- Creation and strengthening of learning networks through study tours - a positive deviance approach (August 2011)
- Through community meeting and a workshop promotion of reflective learning and building the capacity of partners in the identification and design of projects using a “result-based management” approach (August 2011)

2. Capacity Development: The World Fish approach²

Investment in capacity is essential to yield innovation and development impact beyond the life of a project and to up-scale results to other geographical areas. The Worldfish Center promotes the nonlinear, iterative nature of learning and the relationships and networks needed to support it. The approach melds thinking in social learning and innovation systems to solve problems in development. Additionally, capacity building *must be demand driven* and the mode of delivery diverse. Another particularity of the WorldFish approach is explicitly forming links between capacity development, investments in monitoring and evaluation (M&E) and impact assessment, and knowledge sharing. WorldFish investment in capacity development centers around five aspects:

- **Technical skills** in integrated natural resource management and resilience. Understanding drivers of change to ensure sustainability and guide management and governance responses.
- **Creation and strengthening of learning networks.** Scaling out lessons from local scales to national and international scales and vice-versa is an enduring challenge that must be met for project to achieve their ambitions.
- **Organizational capacity of NARS partners** to address development challenges. Capacity development in areas of decision making, resource mobilization and management, communication, coordination and conflict resolution.
- **Adaptive management of production systems.** Improving the ability of target communities to adopt/adapt and sustain innovation is of paramount importance for WorldFish. This will involve developing individual and collective capability to produce and refine new innovations in resource management.
- **Action Research.** Adopting an action research approach that seeks to learn by doing and to engage people in an explicit process of diagnosis and action. It aims to place the capacity for generation and use of that knowledge in the hands of people who are trying to improve their lives. Investment in skills and capabilities such as facilitation, co-learning, collaboration, observation, reflective learning is crucial.

² For more information see CRP 1.3 proposal (http://www.worldfishcenter.org/resource_centre/media/pdfs/CRP1.3_Final_4_March_2011.pdf). This section borrows extensively from this document.

Capacity building activities developed within the project in 2011 have been organized around these five aspects.

3. Technical skills for adaptive management of small scale fisheries

The report “Western Region Fisheries Sector Review” (Finegold et al. 2010) highlighted that the fisheries sector in Ghana has experienced multiple drivers of change over the years. There is a need to understand what coping and adaptation strategies fisherfolk adopt, and to identify tools that can enable adaptive management. Since ecological systems are dynamic, management strategies must incorporate uncertainty, non-linearity, and policy experiment. Adaptive management in fisheries science deals with the unpredictable interactions between people and ecosystems and emphasizes the importance of feedbacks from the environment and the ability to learn and experiment. The objective the capacity building event conducted May 11th and 12th 2011 was to introduce the concept of adaptive management in fisheries by focusing on two aspects: 1) the importance of the social dimension in management and the complexity of ecosystems and 2) the introduction to an adaptive management planning tool, scenarios (Figure 1).



Figure 1 Participants Training May 2011

The first aspect was presented in a mini-symposium, where participants were introduced to the concepts of resilience, adaptive management and the human dimension in fisheries management. The objective was to give participants frameworks and tools to understand how fisherfolk adapt to change. The event was also a sharing session, where the project team presented preliminary results on the state

of the fisheries in Ghana and discuss them with participants through group exercises. The second event was a one day scenario training workshop where participants learnt scenario-building methodologies. Participants were introduced to the concepts of uncertainty and strategic planning, and through a practical exercise they experienced some of the steps in scenario development and policy analysis (see Annex 1 for program). The training targeted staff and volunteers from the Hen Mpoano program, the Regional Fisheries Working Group staff and some influential Chief Fishermen.

Dr. David Mills presented in a session the major changes observed in the Western Region Fisheries based on preliminary results from the fisheries survey and institutional analysis ("*What happened in the last decades*"). The changes presented were:

- Massive and continuing increase in the canoe fleet. Widespread adoption of light fishing despite it being illegal
- Increase distance to fishing ground
- Governance change (Traditional to centralized, Centralized to decentralized and Decentralized to community-based)

In three groups, over two days, participants identified the main drivers behind these changes (Table 1 and Figure 2), answering the question "*Why did these changes occur?*". The objective of the exercise was for participants to reflect on the preliminary results of the project and understand what drives changes in the fishery. A driver was defined as any natural- or human-induced factor that directly or indirectly brings about change in fisheries and aquaculture production systems.

The increase in the canoe fleet was associated with an increase in coastal population, lack of alternative livelihoods, the open access nature of the fishery, and perceived profitability of the sector. Widespread adoption of light fishing is an (mal-) adaptive response to the seasonality of the fishery, the lack of options during the lean season and an observed decline of catch during the high season. This is compounded by weak enforcement of regulations by the government, and lack of peer pressure to discontinue this practice. The increased distance to fishing grounds observed during the surveys in 2010 were associated with the use of more efficient gear and the introduction of technological innovation such as ice and geographic positioning systems (GPS) as well as the increase in the number of canoes.

The governance changes were associated mainly with external drivers such as change in donors' perspective, and a shift in fisheries management towards more decentralized approach. The various

changes over the year were also attributed to the increased level of interest from the national government towards this lucrative industry.

Table 1 Drivers of change in the Western Region Fisheries – Consolidated group exercise results

Changes from WF report	Drivers from participants
Increase in canoe fleet	Increase in coastal population Lack of alternative livelihoods Open access & perceived profitability of the sector
Widespread adoption of light fishing	(mal-) adaptive response to seasonality Lack of options during the lean season Decline of catch during the high season Weak enforcement & lack of peer pressure
Increase distance to fishing ground	+ efficient gear & technological innovation (ice/GPS) Increase No. of canoes
Governance change	Change in donors' perspective Paradigm shift in fisheries management Interest from the national government towards this lucrative industry

Figure 2 Groups analyzing drivers of changes in the Western Region fisheries May 2011



Once the participants understood what could have triggered changes in the past, they were introduced to policy design and scenario planning methodology (Box 1) and backcasting. The concept of backcasting involves answering the questions: “What do we need to do today to reach successful outcomes and avoid negative ones in a particular scenario?”. The groups were presented with one normative (desirable) scenario for 2025: chief fishermen together banned light fishing by 2014, women refused to buy “red fish” [caught with illegal methods], community monitoring showed increased catches in high season and from 2015 fuel subsidy phased out at 7% per year and the money saved is used to support alternative livelihood. Participants were given the task to identify what step would be needed to achieve this desired future and avoid negative impact of the proposed interventions. In a second step they were asked to explore potential solutions/options and identify bottlenecks.

Box 1 What are scenarios (Badjeck et al. 2010)

Scenarios are not forecasts or predictions, but rather plausible descriptions of how the future may develop, based on a coherent and internally consistent set of assumptions about key relationships and driving forces. There are three modes of thinking about the future - **predictive, explorative and normative**. The **predictive** type of scenario attempts to get an indication of what will happen by trying to find the most likely development in the future (close to forecasting, “If trends continue what would the future look like?”). **Normative** scenarios involve taking normative (desirable) goals into account and exploring the paths leading to these goals (“What do we want the future to be?”). **Explorative** scenarios are characterised by the openness to several possible events and different developments. They challenge conventional assumptions and deal with high levels of uncertainty and ambiguity (“What could the future be?”).

Preliminary analyses of the group results suggest that raising awareness through education and training of fishermen, fish mongers **and** government officials is seen as a first step to address the issue of light fishing. Other interventions include empowering chief fishermen through an official letter, have a swearing of oath systems and deny premix fuel supply to offenders. Alternative livelihoods in aquaculture and the oil industry should be explored.

The training event met its primary objective. Indeed when asked “What are the three most important things you learned during this training?” participants mentioned adaptive management, scenario planning and the human dimension in fisheries (Figure 3). An unexpected positive outcome of the training was the fact that participants mentioned facilitation skills and group interaction as a learning outcome. This highlights the fact that participants do not often have the possibility to work in diverse

groups, share ideas and practice group consensus and conflict resolution; key skills to implement adaptive management.

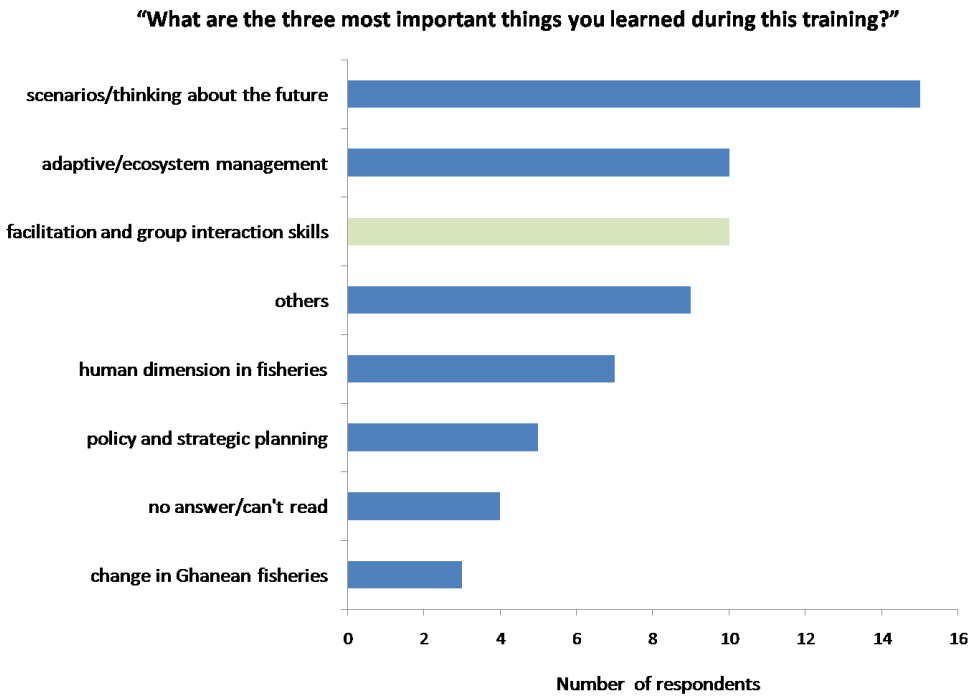


Figure 3 Participant feedback on learning outcomes

Overall the participants were satisfied with the delivery of the training as well as the method of instruction (Figure 4). The project team also asked the participants what could be improved for future training. The two main issues raised were more days devoted to training as well as more interactive/innovative ways to transfer knowledge. Indeed while the group work was one of the outstanding activities of both events, the participants suggested to the team that lectures should use different medium, such as videos.



Figure 4 Participant feedback on training design and delivery

This was the first fisheries management capacity development event provided by the project and the team identified some additional key lessons to incorporate in future events:

- Target group need to be more focused. This training workshop was originally designed for project staff, university students and technical officers. However the actual training included participants with an heterogeneous background that was not always appropriate for the material presented
- More interactive exercises and group work to ensure uptake of knowledge and to increase communication and facilitation skills of participants
- Throughout the training identify means to assess whether participants are able to understand the material delivered and if changes in the delivery are needed

4. Assessing organizational capacity of partners to implement adaptive management

The WorldFish team recognizes that the capacity for development program must directly respond to the needs of project partners and provide a space for learning and reflexivity. The team undertook a rapid

knowledge and need assessment analysis of the Western Region Fisheries Working Group (FWG), a key partner of the Hen Mpoano project. The survey was designed to understand:

- Challenges faced in each district by the sector and the members of the FWG
- Respondent understanding of the concept of co-management
- Training need, design and delivery preferences
- Expectations from a potential study tour

The survey instrument was applied during a FWG meeting (20/05/2011). The survey objective and questions were presented to the participants before they completed the forms individually (Annex 2). Fourteen members of the FWG were surveyed, all male averaging 45 years old. They have been working for their respective government organization for an average of 18 years in different positions/assignments. The group is not homogenous, with standard deviations of 10.6 years for age and 10.4 years for time spent in the same organization. Less than half have a university level education (43 percent), while 36 percent have secondary level education (mostly middle school). During the meeting it was observed that survey respondents had difficulty in articulating their needs: “we were never asked before”. Compounded with the heterogeneity of the group, this highlights that strengthening in-country capacity at both the human and institutional levels, and redefining the role of government officials at the district level will require a step by step realistic approach that includes leadership and communication skills.

Fisheries management challenges

The respondents felt that the major challenge faced by the fisheries sector in their district/region was the non-compliance of fisheries regulations with the use of illegal fishing methods such as light fishing, monofilament nets and dynamite. Another issue was the lack of resources available to implement fisheries policies, including human capital (Figure 5).

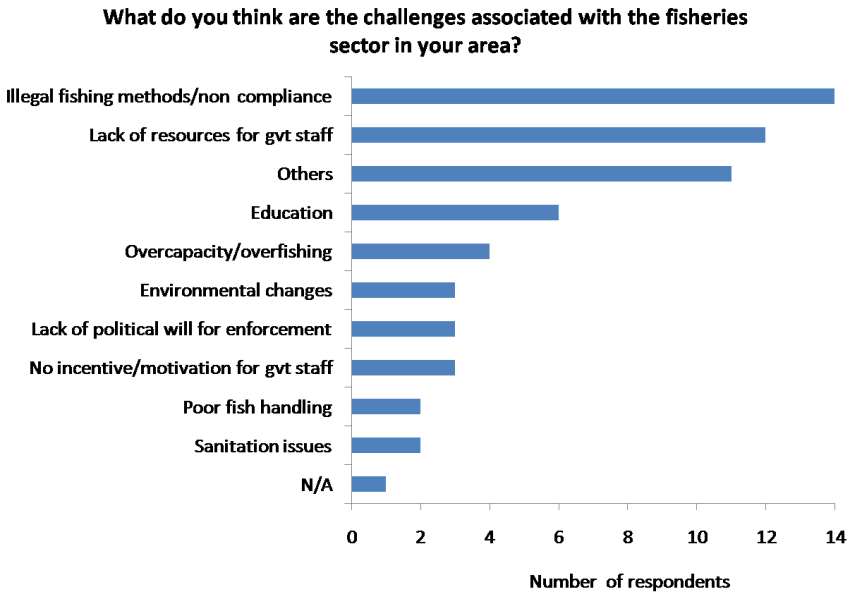


Figure 5 Fisheries Working Group perception of challenges in the fisheries sector

Ten out of 14 participants felt that in their position they could address these challenges; despite the current fisheries crisis respondents still felt positive of the role they could play in bringing about change. The constraints they face to address these challenges were identified as: lack of resources to enforce regulations, lack of skills to change attitudes and behavior of actors in the sector, lack of awareness and education on issues related to conservation and sustainability.

Co-management

Only one respondent mentioned he had never heard of the term co-management before. Respondents mainly conceptualized co-management as trying to involve fisherfolk and other actors in the fisheries sector in decision-making (Table 2). This is in line with the current literature on co-management, where the term is defined as the relationship between a resource-user group and another organization or entity (usually a government agency) for the purposes of fisheries management in which some degree of responsibility and/or authority is conferred to both parties (Evans et al. 2011). However, it is important to note that co-management interventions might be the outcome of a project, but they are not the overall goal/impact, it is a process that must lead to a shared vision of the fisheries sector. Respondents focused on the “process”, but the Hen Mpoano project should also prompt partners on the impacts they want to achieve with co-management (“why should we implement co-management?, what do we want to achieve”).

Table 2 What is your understanding of the word “co-management” in fisheries?

It simply means the involvement and participation of stakeholders especially the direct users of the resource
Various stakeholders coming together with ideas regulations and measures to help solve what's hindering the development of their world
What I am understanding it is to form a group
It comprises of chief fishermen his elders and fisherfolk
It is an approach to fisheries management which involves active participation of all stakeholders (fisherfolk, government and NGOs) to sustainably manage fisheries resources within their jurisdiction
How to work with the chief fishermen collaborate or working together how to change fisheries management
It is the stakeholders, social management and other people to help the management of the resource of the community
Co-management means managing fisheries resources by involving the local people and all the other stakeholders in decision concerning the fisheries resources
It refers to all stakeholders in fisheries coming together as one unit to help manage and protect the fisheries resources
Example the fisheries commission should be able to identify stakeholders in the industry including NGOs who are interested in fisheries activities to plan and implement and manage resources together
The effective management or usage of the natural resources or environment, involving the people involved i.e. fisher folks and the managers example fisheries commission
Refers to managing a resource by involving the primary users of that resource, more rather than less, a bottom up approach to resource management
Fishers coming together to form cooperative

Training and expectations from a potential study tour

In an open ended question respondents identified the topics they would like to see addressed in a training program. The training topics most frequently mentioned were fisheries/resource management, policy, strategic planning/co-management, and leadership and facilitation skills (Figure 6). Respondents were also asked to rank (From priority need, to not needed) the following training topics: fisheries ecology, increasing the role and advocacy of women in the fisheries sector, leadership, consensus building, conflict resolution and communication skills, participatory planning and co-management of natural resources, and financial management for community groups. Leadership, consensus building, conflict resolution and communication skills was considered as a priority training need for the Hen Mpoano project, followed by fisheries ecology and participatory planning and co-management. It becomes clear that leadership and facilitation/communication skills as well as strategic planning should

be an integral part of Hen Mpoano capacity development program in Year 3, as well as more traditional training topics related to fisheries management and co-management.

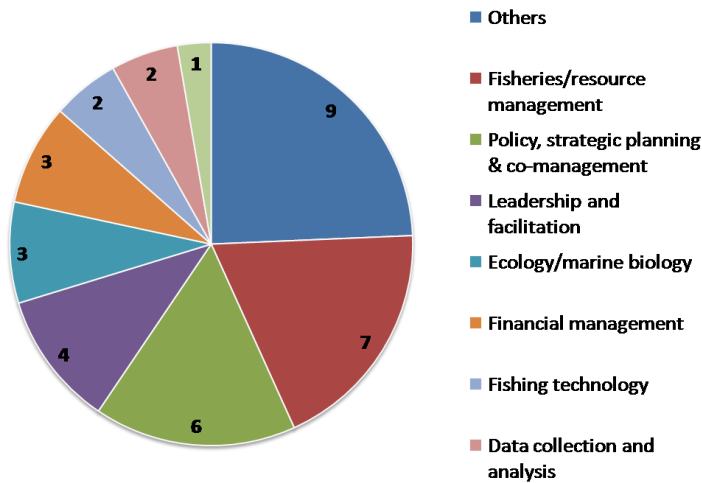


Figure 6 Preferred training topics for FWG respondents (Counts out of 37 answers)

When answering an open-ended question, preferred training delivery methods identified were field trips (31%), group work/participatory methods (31%) and classroom/formal training (21%), while on average the preferred training duration was 3 to 4 full days. Finally, respondents expected from potential study tours to learn about a variety of topics including successful enforcement approaches, fishing methods and aquaculture.

In addition to the survey, two unstructured interviews were conducted in Axim and Dixcove with technical fisheries officers. One officer mentioned how no training was provided for conflict resolution, human and financial resources management, and strategic planning. Lack of resources for mobility within the district was also mentioned.

The FWG need assessment has shown that to redefine their role in sector reform and management—moving from a passive or “command and control” to an “enabling” role in communities will require extensive training of government staff. As pointed out by Cavaye (2000): “A dual service delivery/community capacity role obliges government agencies to go through the same process of capacity-building as the communities they serve” (p. 3). Additionally in fisheries management leadership

(lack of) has been recognized as an important determinant for the success of co-management initiatives (Gutierrez et al. 2011).

Hen Mpoano should significantly increase the skills of FWG members in Year 3 in leadership, facilitation skills and conflict resolution. This will help build community capacity but there are limitations requiring a dual approach: “government cannot build community capacity - only local people can build the capacity of their community. However, public agencies can support and facilitate community capacity building” (Cavaye 2000 p.5)

5. Creation and strengthening of learning networks: a positive deviance approach

The classical approach to capacity development focuses on increasing the knowledge base of beneficiaries, which will lead to changes in attitudes, engendering changes in practices (Box 2). However, this linear process should be challenged; through practice, attitudes can be changed and knowledge can be up taken. Additionally, in the natural resource management literature there is a tendency to advocate that a set of “pre-conditions” are necessary for the establishment of successful institutional arrangements (see for instance Ostrom 1990). Awaiting the “ideal” pre-conditions, instead of “building islands of success in a sea of failure, without first having to change society, the economy and the political system” (E. Allison pers. Communication) is not an appropriate strategy in the face of a steep decline of fisheries resources. These two elements of learning-by-doing and leveraging knowledge from islands of success to build a stronger and more informed constituency and improved their ability to implement adaptive management can be found in the positive deviance literature.

Box 2 KAP (Ref)

- **Knowledge** is the capacity to acquire, retain and use information; a mixture of comprehension, experience, discernment and skill
- **Attitudes** refer to inclinations to react in a certain way to certain situations; to see and interpret events according to certain predispositions; or to organize opinions into coherent and interrelated structures
- **Practices or skills** mean the application of knowledge that leads to action

The positive deviance approach was initially used in health and malnutrition work; researchers observed that despite poverty in a community, some poor families had well nourished children. The premise was that solutions to community problems already existed within the community: how could this be explained and replicated to other households? (Sternin 2003; Sternin and Pascale 2005). In natural resource management, and more specifically interventions whose focus is institutional and behavioral change, positive deviance is finding situations where on the surface positive changes are taking place: “This is a very different entry point from much conventional poverty and social inclusion analysis where the preoccupation is with describing how bad the situation is, and what are the barriers and constraints to change” (Biggs 2008).

Using a modified positive deviance approach, learning from others who face similar problem and not only focusing on challenges but also on successes, is at the core of WorldFish approach to building learning networks. Real life experience is the best foundation for conceiving relevant solutions and a study tour for 12 Ghanaian participants was organized between the 13th and 20th of August (Figure 7). The objective of the study tour was to uncover exiting practices in Senegal that promote the sustainable use of fisheries resources and maintain or enhance livelihoods. A particular focus was on:

1. Monitoring, control and surveillance (MCS) through self-regulation, catch limits and gear regulation;
2. The role of the post-harvesting sector and women as agents of change.



Figure 7 Study tour participants in August 2011 with representatives of the women association "Dynamique Femme" in Joal, Senegal

To maximize potential for analysis the tour was given a strong structure with visits focusing on organizational development (meetings with community groups and associations), community-based MCS and relationships between fishers and government bodies (meetings with Marine Protected Areas and Department of fisheries officials), value chain issues (visits of landing sites and processing facilities). The visits took place in three communities: Yoff, a small fishing community in Dakar, Kayar, 80 Km north of Dakar is the third-biggest fishing centre of Senegal, and Joal-Fadiouth south-east of Dakar, one of the largest artisanal fishing ports in the country (see Annex 3). Yoff was chosen because of its urban setting while Joal-Fadiouth and Kayar were chosen for their co-management arrangements, implementation of Marine Protected Areas (MPAs). Joal had the additional interest of being the biggest processing site in Senegal. Both towns also implemented MPAs. The study tour was organized with assistance from Aliou Sall founder and board member of CREDETIP (a research center for the development of intermediate technologies in fisheries), Omar Sow from CREDITEP and Ndiaga DIOP, program manager at the Network for Fisheries Policies in West Africa (REPAO). The study tour took place in August during the Ramadan season, a challenging month to conduct visits in a Muslim country, however it was lean season which meant that fisherfolk had more time during the day to meet the study tour team.

In Kayar and Joal participants met with a series of groups including local fisherfolk organizations, representatives from the National Committee of Artisanal Fishers of Senegal, MPA management committees, young fishermen organizations as well as guilds and inter-professional groupings. Particular attention was given to meetings with women's groups, fish processors and fishmongers associations (the latter, contrary to Ghana, not only women). It was made clear to the Ghanaian participants that the decline in fish catch was the main trigger of collective action at the local level, leading to a bottom approach based on concerted decision-making. A number of discussions centered on community-based MCS and measures promoting voluntary compliance. Illegal fishing methods in the communities visited are reported by volunteers and fishermen offenders are punished. While fishing regulations exist at the national level, Senegalese emphasized that at the community scale more restricting by-laws are enforced regarding mesh size, fish size, fishing zones, number of trips and their length.

The intricacies of the different co-management arrangements and the number of organizations and actors involved were a striking feature of institutional arrangements for the study tour team. While they appeared successful to a certain degree, the transaction costs of implementing these arrangements in Ghana seemed high, and difficult cross-scale interaction between the local, district and national level was observed. However, co-management strengths in Senegal include the integration of active youth

and women groups in fisheries management, and collaboration, networking between the different groups at the local level. During the week participants also were exposed to the importance of leadership and conflict resolution skills.

Understanding the role of organizations in fisheries management was central to trip. In one group exercise participants were asked to list organizations they had met and answer the following questions: what are the functions of these organizations? How did they come into being (history of establishment, resulting from what kind of trigger, any assistance received from government, NGOs, private sector etc.)? What sustains them (e.g. member contributions, management systems, high perceived need)? (Figure 8a). In the case of the “Dynamique Femme” association in Joal, study tour participants realized that the group was not only focusing on fisheries management and post-harvesting issues, but also local development through water projects and health and education (Figure 8b). This highlights that management objectives goes beyond fisheries and should focus on maximizing community resilience and improving adaptive capacity provide, the ability of actors and systems to adapt to change.

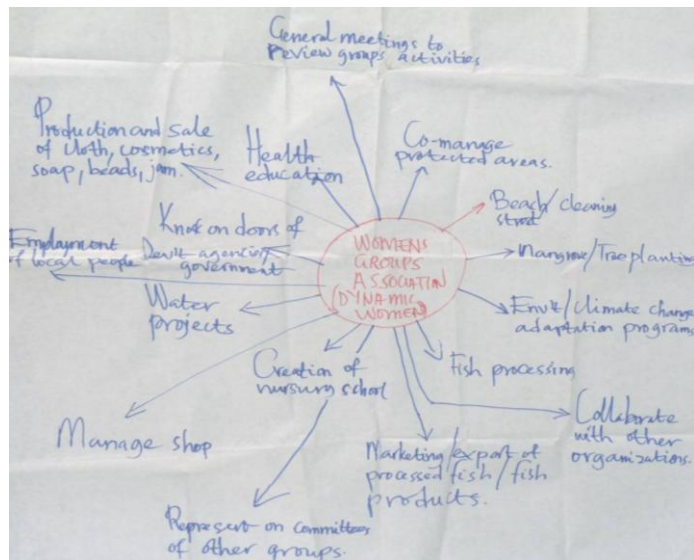
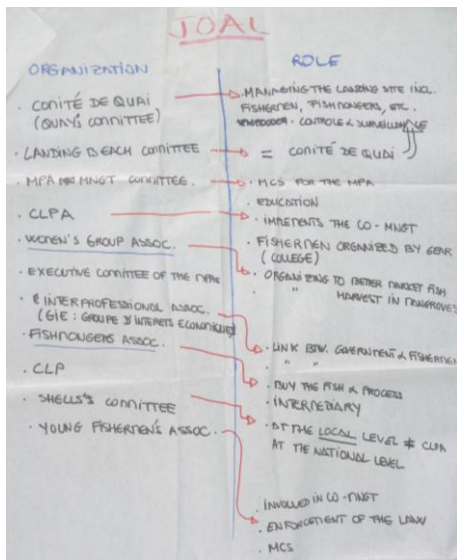


Figure 8 a) Organizations and their role in Joal b) Understanding the role of the “Dynamique Femme” women association in Joal-Fadiouth

Communication was not always easy due to language barriers but this did not prevent the Ghanaian to show great interest during the visits; this was reflected by the long questions/answers sessions after each meeting and the level of curiosity expressed during the visits of landing sites. On the landing sites, they got practical examples on fish product traceability, licensing of canoes through fishers “card/licenses” and matriculation of boats, price information, post-harvest losses and fish processing.

In terms of learning outcomes, participants in an open-ended question mentioned how women organized themselves (Figure 9). In the communities visited, especially Joal, women fish processors and fish mongers were very active, showing leadership and initiative as well as participation in local decision-making. The gender aspects in fisheries are not often discussed in Ghana so it is not surprising that participants considered it as one of the most important thing they learned during the trip. A second aspect was how MPAs were created and implemented, while how illegal fishing, MCS and voluntary compliance is tackle in Ghana were learning items mentioned by participants.

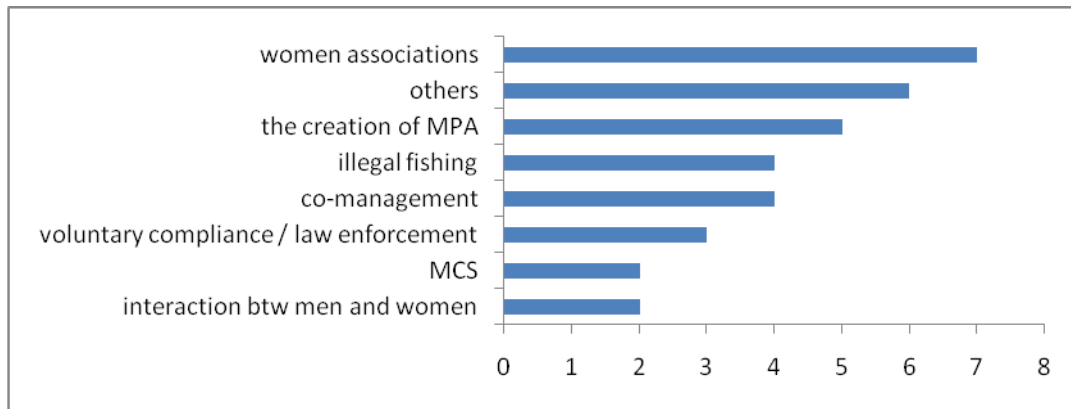


Figure 9 Most important things learned during the study tour in Senegal (Number of answers)

When asked “What was the most inspirational/memorable part of the trip for you and why?” participants answered ranged from meeting women involved in livelihood diversification and marketing of their productions outside of Senegal, how monofilament nets were banned and the level of awareness and voluntary compliance in the communities visited:

“The most inspiring/memorable part of the trip is the marketing research undertook by the head of the women’s group in kayar. She travelled to many countries to learn how they process their fish and the type of fish that the country likes most. She was also able to get customers in countries like Ghana, Ivory Coast etc.” Respondent 5

“The most memorable part of the trip was a walk along the beach on day 3 where I saw a fisherman using [a] cast net from the shore returning [small] fish which in Ghana would have gone for a very matured fish, [it was] returned to sea because it was deemed to be too young. Some young boys were also involved showing how [aware] the entire population is about fisheries management” Respondent 7

To understand how the trip could influence behavioral change two semi-structured interviews were conducted with a marine mechanic and a chief fisherman. The objective was to help individual reflect on what he as seen and learned. Interviews with all participants should be conducted in the coming months to evaluate the impact of the study tour with methods such as Most Significant Change (MSC), a form of participatory monitoring and evaluation to follow up and monitor the qualitative outcomes and impacts of a project.

6. From collaborative to participatory community-based research to inform policy and action

The objective of action oriented research is to make research processes and outputs more relevant to practice, policy, and social action (Small 1995). It tries to change the system while at the same time generating critical knowledge about it. WorldFish capacity building activities with communities in the Hen Mpoano project started as a collaborative endeavor where community partners were involved in some of the stages of the research (training/need assessment/study tour), to a more participatory process driven by a convergence of community need and researcher interest/expertise (Small 1995) during a community meeting organized in Axim and a participatory workshop in August 2011.

Axim community meeting:

The community meeting was held in Axim on August 23rd 2011 at the Community Centre. The objectives of the meeting were:

1. For participants to inform the community on what they learnt during the study tours
2. To pilot communication material on illegal fishing methods and drivers of changes in the Ghanaian fishery sector
3. To use this experience to inform future community engagements and partnerships and reflect on the role of community partnerships in effective advocacy

The meeting was organized with the cooperation of Axim fisheries Office with the help of Alhassan Arafat Salifu and Mr. Ebo and promoted through community radio announcements. For this first

community meeting 11 WorldFish and CRC/FON staff were present and seven study tour participants (Table 3). It is important to note that the community meeting took place after the confiscation of monofilament nets in several landing sites between the 10th and 12th of August by a special Task Force. Indeed the government had set up a task force comprising the police, navy and Bureau of National Investigations (BNI) to enforce fishing regulations such as the use of monofilament nets, light fishing, and the use of explosives and pair trawling. The intervention by the Task Force was considered by many community members as a “military operation” that will hinder voluntary compliance.

Table 3 Study tour participants in the Axim meeting

<u>Name of Participant</u>	<u>Study Tour</u>	<u>Place of Residence</u>
Nana Kojo Pegu (Chief fisherman of Apewosika)	Ivory Coast	Axim
John Dickson Eshun (Secretary of the Canoe Council in Axim)	Tanzania	Axim
Nana Kojo Eshun (Chief Fisherman of lower Axim)	Tanzania	Axim
Nana Ekow Esoun (Chief Fisherman in Butre)	Tanzania	Axim
Abaka Edu Mike (Outboard motor mechanic in Axim)	Senegal	Apewosika -Axim
Alhassan Arafat Salifu (Fisheries officer - Axim)	Tanzania	Axim
Emelia Abeka Edu (Fishmonger - Axim)	Tanzania	Axim

Around 200 people attended the meeting, including approximately 30% women. Participants were mainly fishers and fishmongers but also included other members of the community (youth, hairdresser, ZIOL brigades etc.). Prior to the official start of the meeting photo displays of the Senegal study tour were put outside the venue to engage community members (Figure 10). This proved to be highly effective in heightening interest. The displays were captioned in local Fante language and the research assistants provided explanations to curious by standers.



Figure 10 Curious crowd looking at the photo displays. The fishers' shed slowly filling up Bottom right. Children looking at the photo display. Research assistant Samuel Amponsah explaining the pictures. Pictures by Alex Piekutowski.

In the first part of the meeting the project team introduced some of the drivers of change in the fisheries sectors introduced during the training in May 2011. The material was developed with a local artist and its aim was to depict the changes in the sector that prompted some community members and government officials to go on study tours to learn how to tackle the current crisis from others who experienced similar problems. The slides proved highly effective to translate the decrease in catch per unit effort, increase in the number of canoes and usage of light fishing (Figure 11).

Study tour participants then shared their experience with the community (Box 3). There was a one hour of questions/answers session after the summary of the participants' experience. Two types of questions were voiced by community members. The first type of questions was directly related to the study tours, with a particular focus on how the participants' experiences will benefit the community. Other questions included: 1) is there still light fishing in Tanzania?, 2) can we use what you learned in Tanzania in our fishing community?, 3) does the government give a fine if fishermen use monofilament? 4) was monofilament confiscated because of the study tours? 5) What will you do for your community?



Figure 11 From left Top. Kyei Kwadwo presentation: Increase in the number of canoes and slide depicting light fishing and how it also attracts small fishes. From left bottom Increase in the number of people using light and an explanation of the food web. Pictures by Marie-Caroline Badjeck

Box 3 Participants sharing insights from their study tours

Senegal trip by Abaka Edu Mike

Mr. Abaka talked about how in Senegal they formed Marine Protected Areas (MPAs) and how they implemented co-management. In Kayar, he was particularly thrilled by what he saw one morning when a beach cast seiner landed his catch and the children at the beach threw back at sea the small fishes with him. He also said the women in Senegal were very hard working and they really help the men run the family since they had other livelihoods alternative like fabric dye business and soap making. The women had really vibrant associations such as “dynamic women” for example. Finally, he said every canoe had a number [license] and an electronic device which worked like GPS.

Ivory Coast trip by Nana Kojo Pegu

Nana Kojo Pegu explained to the fishermen that in Ivory Coast, they do not cut the fishes on the floor; they first spread a rubber sheet on the floor at the harbor to arrange the fishes according to sizes and measure them. He said it is not the fisherman who sells directly the fish but rather a group/association. After the sales they pay the fisherman so that he can pay his tax. He also said they had co-operatives that help each other in times of need such as accidents at seas. He concluded by saying that there are no political issues in their fishery industry as compared to Ghana and they strictly observe a close season of four months.

Tanzania trip by Nana Ekow Essoun

Nana Ekow Essoun talked about fishermen leaving the lagoons to “rest” since that is where most fishes go to lay their eggs before they grow and go to the ocean. He also advised his fellow fishermen not to be fishing in the lagoons. He also asked them not to cut the mangroves around the lagoons for domestic purposes such as firewood, charcoal and so on since the mangroves serve as “a shed” [refuge and nursery ground] for the fisheries. He concluded by saying that in Tanzania, they don’t use long nets yet they catch twice the fish we catch in Ghana.



Participants of the study tours emphasized the importance of unity among people in the different communities they visited and how they voluntarily comply and self-enforce, not depending on the government and the fisheries department to decide what to do. According to one of the participants, their role now is to meet with chief fishermen to find a way to implement self-compliance within the community. Following a comment from a woman in the assistance, another suggestion was for them to form groups like the ones they saw in the different study tours and see how this can solve fisheries issues in the community. One of the woman study tour participants, Emilia Abeka Edu stated that now she wanted to engage with chief fishmongers to discuss 1) the creation of a group and 2) to share with others what she had learned in Tanzania, particularly regarding the role of women.

The participants also raised the issue of surveillance and how fisheries officers in Tanzania report illegal fishing method and how this system can be implemented in the Western Region. Most of the participants raised the fact that in the countries visited fishermen also found difficulties in obeying the law. Finally one participant mentioned the example of by-laws that were adapted to a local context as a way to more effectively change fishers' behavior. Regarding this issue, one woman suggested that time was needed for people to adapt to changing laws and to change their behavior.

The second type of questions was related to the issues of light fishing and monofilament confiscation: "why our monofilament nets were seized"?. The chief fishmonger of Axim also wanted to know: "why they were not given a grace period of around 5 years before the seizing of nets operation?".

For the first time since the nets were seized the community had a platform to express their discontent: disruptions and heavy debate occurred at several points during the meeting. Kyei Kwadwo (FON) took the opportunity to explain the Fishing Law while Patricia Aba Mensah (CRC) listened carefully to young fishers' discontent outside the "fishers' shed". It took skillful facilitation skills and intervention from other community members to appease the participants (Figure 12). After the meeting, there was a heated discussion among the town folks and it was noted that the chief fisherman had fore-warned them to stop the use of the monofilament nets but it seemed they did not listen to his warnings. A telling exchange was when a fisherman addressed Anita project staff after the meeting: "*What am I going to do now? How am I going to feed my kids? Why did they take away my nets?*". It is a stark reminder that net seizure is not only about enforcement, but has effects on livelihoods and food security.



Figure 12 Discussions during and after the meeting on monofilament net confiscations

The community event provided a number of lessons for future engagement and capacity building with communities in the Western Region:

- Permanent visual displays of each study tour should be created by the Hen Mpoano communication team to be used in community events. These have proven to be quite effective in attracting the attention of community members
- Excellent facilitation skills are needed for these types of meetings. If Hen Mpoano still aims at having weekly meetings in different communities, fisheries extension officers as well as study tour participants must be adequately trained in conflict resolution, group dynamics and communication. This will ensure the sustainability of educational activities such as communication of the Fisheries Law considering the limited Hen Mpoano staff capacity of the project.
- It is not recommended that National Volunteers run these meetings; however their involvement in Year 3 should be included in their work plan.
- The meetings are a good opportunity to identify positive agent of change (people that actively engage) as well as individuals who are strongly opposed to any new initiatives. This group of people can be targeted for subsequent interventions in the community.
- While future meetings will each have a specific agenda, we should always leave space to address issues that the community feel are important, in this case the confiscation of monofilament nets.

- The meeting provided a needed platform for community members to express their discontent regarding the monofilament net confiscation. Dialogue and understanding will be achieved if the Fisheries service is heavily involved in these meetings and community members continue to have the opportunity to raise issues.
- The meeting also provided evidence that much more work was needed in terms of education (why monofilaments nets are “bad”) and communication of the new Law and its implication for fishers.

Finally, community partnerships, through active participatory meetings, can be an opportunity to develop advocacy arguments that are particularly persuasive to policy makers (Ritas 2003). Community involvement and research combined has been proven to effectively influence policy and practices³ by developing advocacy arguments (see Figure 13). The information and testimonies collected during this meeting can provide valuable information to feedback during the proposed national dialogue Hen Mpoano initiative during Year 3.

On the community side	On the research side
<ul style="list-style-type: none"> • A discussion of the practical daily implications of the policy • Anecdotal information about policy effects • Stories about the conditions in the community • Information about practice (v. stated policy) at the community level • An historical perspective including prior policies or practices and their effects. 	<ul style="list-style-type: none"> • Quantitative analysis of policy outcomes at the community level. • Qualitative research documenting community residents’ experience • Cost-benefit analysis of current v. proposed policies. • Theoretical framework for policy proposals. • Review of model programs or policies enacted in other jurisdictions

Figure 13 Community partnerships as effective advocacy tools. Ritas (2003)

Workshop: “Building on the Positive: Informing fisheries management interventions in the Western Region”

³ “A policy is a rule, regulation, or legislation that governs action. Policies include regulated incentive systems such as government grant making. A practice is either the way a policy is carried out, or the way business is conducted in the absence of a defined policy. Practices are often the discretion of particular individuals and to change them will require finesse and negotiation.” Ritas (2003, p. 17)

The workshop entitled “Building on the Positive: Informing fisheries management interventions in the Western Region” was held on the 24th - 26th August at the Volta River Authority in Shama (Annex 4 for workshop program). The objectives of the workshop were to:

1. Give an opportunity to the participants of the Tanzania, Senegal and Ivory Coast study tours to share what they have learned. The event provided a space to critically reflect on positive experiences in fisheries management, both from within the Ghanaian context and from parallel outside situations.
2. To introduce participants to the concept of “planning and managing for results” and the importance of defining what we are trying to achieve: the goal and vision of a potential intervention. The participants then identify pilot projects that could be implemented in the Western region.

The second objective was an opportunity to test participatory ex-ante impact assessment methodologies developed within the WorldFish/IFAD funded project “Ex ante impact assessment of returns on investments in the fisheries and aquaculture sector in developing countries: A Ghana Case Study”. Ex-ante impact assessments measure the potential benefits, costs and effects of different options from a suite of development interventions. They can inform policy makers of the likely distributional impacts of any potential intervention.

The results of the workshop will contribute to the participatory development of Year 3 work plan and activities.

In total, 41 people attended the workshop on the first day, and around 30 the two following days, including the facilitator and assistants. Participants included chief fishermen, fishmongers, fisheries service and district assembly staff from different districts, and project staff (Annex 5). The gender balance could have been greater and youth were under-represented; issues that should be addressed in future activities.

1. Tacking stock and sharing experiences from the study tours and identifying similarities and differences with the Ghanaian context

In group participants were first asked to brainstorm on their experienced during the study tours and to identify an organization/group that they particularly liked during their visits. They were asked to be creative, using flipchart, cards, photos and color markers. The display produced could be used as a template for future community meetings. It was a great opportunity for participants to reflect on their trip as a group and extract the most important and surprising elements of their experience. It also gave them the opportunity to sharpen their communication skills for future community events if necessary (Figure 14).

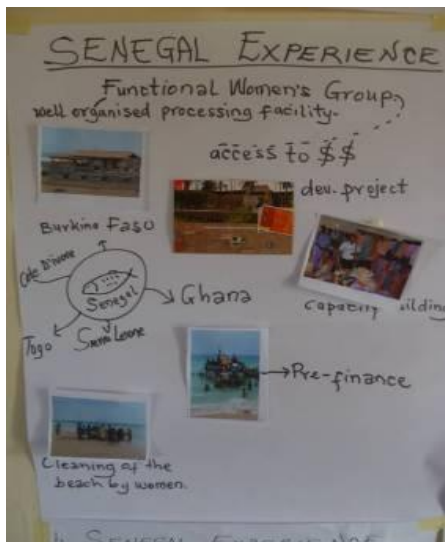


Figure 14 Mr. Marfo from the Fisheries Department sharing the Tanzania group experience with participants. Below from left one of the flip charts designed by Senegal group and on the right by Ivory Coast group

The second group activity was for participants to identify positive interventions that could be replicated in Ghana but also understand why certain things would not work in Ghana. The results from the group work can be found in Annex 6.

2. *“Planning and managing for results”*

As part of the ex-ante impact assessment activities, the participants were first introduced to “result based management” concepts and impact assessment terminology. The objective was to understand the different steps needed to achieve a vision and implement an intervention. To do this the parable of the thirsty horse and the farmer developed by the consultancy group MDF⁴ was used (See Table 4).

Through games and group work, participants gained an understanding of: 1) results/outputs: products and services provided by a project, the horse reaching the water, and 2) outcome: the reaction of the beneficiaries: whether they make use of those products and services in the appropriate way, the horse drinking the water (Figure 15). This step was necessary for participants to be able to brainstorm on concrete interventions that could be used by Hen Mpoano.

⁴ Adapted from MDF training material from the first Outcome Mapping course, 18-20 September 2007 in Ede: Outcome Mapping and Logical Framework Analysis.

Table 4 Happy horse parable by MDF consulting. The Happy horse pictures can be used to clarify the results chain


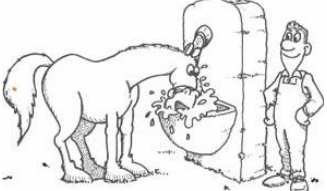
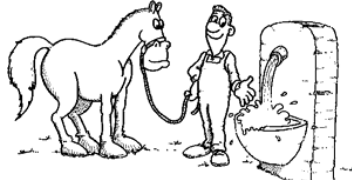
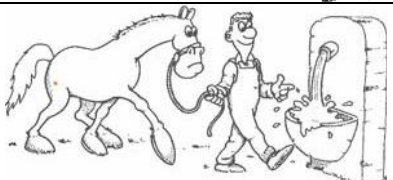
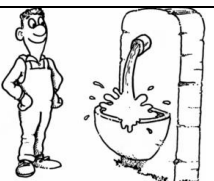

	Happy horse parable	Intervention logic	Explanation
	Happy horse	Overall objective(s)	Importance of the project for the society
	Drinking horse	Project purpose	Reason why beneficiaries need the project
	Horse present at the fountain	Results	What will be delivered by the project
	Leading the horse to the fountain	Activities	What stakeholders and beneficiaries will do
	Fountain and the man	Resources	Inputs required for the activities
	Thirsty horse	What is the problem? (problem analysis)	Starting situation



Figure 15 Participants solving the “happy horse puzzle”, grappling the concepts of results, activities, outcome/project purpose and overall objective/impact

3. Identification of interventions and the series of steps needed to generate the desired impact in communities

In a second activity, participants had to identify a suite of interventions and the series of steps needed to generate the desired impact in communities. In groups participants designed the foundation of a two year project in one of the communities of the Western region. First they defined their overall goal, the

impact on coastal communities the project should have. They needed to brainstorm on a series of project and the different results and activities needed to achieve their vision (Figure 16). One interesting intervention was discussed: the reduction of illegal fishing through a gear exchange program and community-based enforcement. In Box 4 the draft intervention logic is presented, while detailed results from all groups are available in Annex 7.



Figure 16 Group work on reduction of illegal fishing practices

Box 4 Draft intervention logic for a project dealing with illegal fishing methods

Activities:

- Gear registration and licensing of canoes, incentive mechanisms to buy low-cost new gear financed by premix revenues
- Education and training on conservation issues and stock decline, better fishing practices and new fisheries laws and for various actors of the value chain
- Gazetting of chief fishermen to enforce the law and creation of monitoring, control and surveillance (MCS) volunteer groups.

Outputs:

- Registration of all monofilament nets users by 31st of December, gear exchange program in place leading to decrease in use of monofilaments;
- Participatory enforcement leads to efficient and effective MCS and increased compliance
- Better communication between stakeholders
- Knowledge and understanding built on the negative consequences of illegal, unreported and unregulated (IUU) fishing

Outcomes: The decrease of illegal fishing will increase fish spawning and survival of juveniles.

Impact: Expected long term impact of this project is to achieve a better and healthier life for the communities in the Western Region through stock recovery, sustainable fish catch and maintaining and increasing income for fishing households.

This intervention will be used as a case study for the IFAD project. The case study will be an opportunity to explore the links between reduction of illegal or undersized fishing and other practices such as dynamite fishing and its potential impact on ecosystems and livelihoods.

A second interesting project identified was the reduction of post-harvest loss through improved storage and processing facilities. The vision statement for this project was “A thriving fishing industry where actors are sensitized and educated to follow best fishing practices with improved storage and processing facilities to reduce post-harvest losses which will ensure livelihood sustainability to reduce poverty.” The project will address high post-harvest loss the lack of processing/storage facility and insufficient human capacity. The intervention logic is presented in Box 5. The two project interventions logic could form the basis of Hen Mpoano pilot activities in 2012.

Box 5 Draft intervention logic for a project dealing with post harvesting loss

Activities:

- Construction of new facilities. Design of fish processing facility based on Senegal experience but take into account fishmongers in Ghana prefer individual smoking facilities because they keep their financial activity secret.
- Generating funds to pay utility and maintenance of facilities (i.e. levy from usage and taxes paid to the district assembly)
- Train fish processors on the usage of facilities: choker smokers, gas ovens, platform for salting/drying. Targeted training for women (i.e. smoking) and fishermen (i.e. occupational health and safety)

Outputs: Improved storage and processing facilities and develop actors' capacity to use the facilities.

Outcomes: Post-harvest loss reduced

Impact: A thriving fishing industry where actors are sensitized and educated to follow best fishing practices with improved storage and processing facilities to reduce post-harvest losses which will ensure livelihood sustainability to reduce poverty

In a feedback survey when participants were asked :According to you, what was the most interesting part of the workshop?", once the answers were codified, four categories emerged:

- group work/discussion/ability to express opinions (48%)
- facilitators/workshop design and delivery, especially the use of visual aids (24%)
- "happy horse game" (21%)
- Other/NA (7%)

The 27 participants who filled out the form encouraged in the comment section the Hen Mpoano project to conduct these type of workshop yearly or/and in the different districts with statements such as: "I suggest such workshop should be organized to improve the fishing system in Ghana", "such workshop should be extended to the community levels as well as the grass-root" and "I think it must be organized once a year and the timing should be off seasons".

Overall the participants gained a deeper understanding of what it means to design an intervention through the “Happy Horse” parable, games and group work and the importance and intricacies of group work. The need for behavioral change to achieve a shared vision of sustainable fisheries for the region was highlighted throughout the three days. The participants felt empowered with new knowledge, a key element for transformative social change. However follow up with the participants in each of their communities will be needed to ensure that their learning experience through the meetings and study tours trickles down to their fellow fisherfolk in their communities and within their government agencies (i.e. District Assembly and Fisheries Working Group).

In Year 3 of the Hen Mpoano project, follow-up of the capacity development program participants in each of their communities will be needed to ensure that their learning experience and knowledge trickles down to their communities and within their government agencies (i.e. District Assembly and Fisheries Working Group). Interviews of participants should be conducted during the first quarter of 2012 to capture stories, highlighting changes in skills, abilities and knowledge, changes in practices and changes in networks and supports.

Annexes

Annex 1: Prospectus for training on “Technical skills for adaptive management of small scale fisheries” May 11-12th 2011

Event 1: “Changes in fisheries: Dealing with the human dimension”

Mini Symposium - 11th May 2011

Objective:

The importance of the social dimension in ecosystem management has been acknowledged in recent years (Pauly 2006), and in fisheries management numerous scholars put forward the necessity to incorporate in the management process societal goals and “realities”, as well as the impact of policies and regulations on fishing communities (Caddy and Cochrane 2001; Kaplan and McCay 2004; Pollack et al. 2008). The development of “people-centered” approaches in natural resource management and the impetus to undertake participatory research have also allowed over the years to include users in fisheries research and management (Symes 2006). Despite these advances, our understanding of the interactions between society and marine ecosystems in the context of change is still limited, or if existent, not taken into account in policy development and implementation. Ignoring the “human dimension” leads to policies failing to shape fisherfolk decision making and to engender positive management outcome. The objective of this mini symposium is to introduce participants to the concepts used to understand how fisherfolk and institutions adapt to change. The event will also be a sharing session, where the project team will present preliminary results on the state of the fisheries in Ghana and discuss them with participants.

Duration: 1 day

Activities:

4. “Why fisheries management has to change”. Experience tells us that fisheries are unpredictable, and rigid systems of management are likely to fail. Adaptive management and management for community and livelihood resilience show promise for small-scale fisheries in the developing world; these concepts will be introduced and discussed (D. Mills)
5. “Going beyond ‘fish’: why is it useful to understand the human dimension”. Using humanities and social sciences to understanding interactions of humans with oceans, and why policy or development interventions fail. (M-C Badjeck)
6. “Managing outside the box: a focus on community resilience”. The notion of ‘resilience’ brings with it an awareness of a broad set of drivers that influence fisheries. Case studies from West Africa and the Pacific will be introduced to demonstrate these concepts in practice (D. Mills)

7. “Adaptation to Change in Fisheries: insights from case studies”. Presenting how fisherfolk and institutions adapted to climate variability in Peru and fuel price increases in the UK (M-C Badjeck)
8. Groups work
9. Changes in Ghanaian fisheries”. Ghanaian fishers are, almost by definition, innovators. There is a long history of change and adaptation to diverse drivers. We will look at some of the work done by the WorldFish team as a component of the project, and discuss the drivers, and implications for future adaptation
10. Discuss results; identify knowledge gaps and which tools could be used to address them. The information will directly feed into the preparation of the Year 3 work plan.

Outcome: The outcome of this mini-symposium will be a greater understanding of the importance of the human dimension in fisheries management. Participants will be exposed to concepts used to analyze fisherfolk behavior. They will also provide feedback on the preliminary results of the project. Indeed the symposium will be a learning platform allowing participants to get acquainted with the research and comment on preliminary results and engaging them in an explicit process of diagnosis.

Lecturers: Dr. Dave Mills and Dr. Marie-Caroline Badjeck

Programme

08:30 Registration – Material distribution

Opening session – Basic Concepts

09:00 Welcome, background, introductions, objective and symposium guidelines

09:15 Ice-breaker

09:30 “Why fisheries management has to change” (D. Mills)

10:00 “Going beyond ‘fish’: why is it useful to understand the human dimension”. (M-C Badjeck)

10:30 *Coffee break*

Case studies : sharing insights

11:00 “Managing outside the box: a focus on community resilience” (D. Mills)

11.45 “Adaptation to Change in Fisheries: insights from case studies”. (M-C Badjeck)

12:30 *Lunch*

Implications for Ghana

13:30	Introduction to Group work
14:00	Group work
15:00	Report back in plenary
15:30	<i>Coffee break</i>
16:00	“Change in Ghanaian fisheries” (D. Mills)
16:30	Plenary discussion: What needs to be done to maintain and build the adaptive capacity of the Western region fisheries sector?
17:30	Closure

Event 2: Scenario planning: “looking ahead and adapting”

Training workshop - 12th May 2011

Objective: Localized changes in the productivity of marine and inland waters induced by climate change will pose new challenges to the fishery and the aquaculture sectors in West Africa. However, climate change does not occur in isolation of other drivers of change: processes of environmental, economic and social change can affect the fishery sector, potentially creating additional vulnerability to climate change. Scenarios are a useful tool to explore uncertainties and understand non-climatic drivers of change. Despite their prevalence in global environmental change research, few have focused on the fisheries sector, especially in Africa. At the end of the training, participants should be in a position to use scenario methodologies in their research and field work on fisheries management. The tools can also be applied to sectoral and organizational strategic planning. Scenario exercises look at the how and why of decision-making for adaptation, with a particular emphasis on understanding the trade-offs between different development pathways and policy initiatives.

Duration: 1 day

Activities:

Theory

1. Basic concepts related to scenario exercises will be presented (“why do scenarios?”; “how?”).
2. A series of case studies will be presented at different scales.
3. The participants will be introduced to scenario construction step by step and the “backcasting” technique

Practical

4. In groups participants will undertake a scenario and backcasting exercise.
5. Report back in plenary. Begin a dialogue on how this process can inform future planning at the national, regional and local scale. Discuss the role of scenarios in trade-off analysis and consensus building.

Outcome: Gained overall understanding of the Scenario Planning process as it is applied to fisheries management.

Lecturer: Dr. Marie-Caroline Badjeck assisted by Dr. Dave Mills

Programme

Opening session – Basic Concepts

- 09:00 Welcome, background, objective and workshop guidelines
- 09:10 Ice-breaker
- 09:30 Scenarios: what they are, how they can enable adaptive management
- 10:00 Scenarios example
- 10:30 *Coffee break*
- 11:00 Scenario construction step by step
- 12:00 Using scenarios for policy design: a focus on backasting

12:30 Lunch

Implications for Ghana

- 13:30 Introduction to case study
- 14:00 Group work on backasting
- 15:30 *Coffee break*
- 16:00 Group presentations and plenary discussion
- 17:00 Feedback questionnaire
- 17:30 Closure

Annex 2: Capacity need assessment survey – Regional Fisheries Working Group

Why a Survey?

As part of the Hen Mpoano project, a USAID funded initiative, The WorldFish Center, Coastal Resources Center Ghana and Friends of the Nation are developing a capacity development program for actors in the Ghanaian Western Region’s fisheries sector.

Capacity can be understood as ‘the ability of people, organisations and society as a whole to manage their affairs successfully’ (OECD 2006, p8). The objective of the development program is to create, strengthen and maintain capacity over time in order to facilitate or catalyze change in fisheries management in the Western Region. The capacity development program *must respond to the needs of its participants*. This is why it is important you help us design appropriate training and knowledge sharing experiences that would benefit the Western region fisheries sector.

Instructions for completing the survey

In this questionnaire we are interested in your own knowledge and needs. You should answer with your personal view and are not expected to represent the view of the organization you belong to. All the information will be used to design our capacity development program.

The questionnaire is in four parts: 1) information about yourself, 2) a section that asks your perceptions on current critical issues in fisheries management, a section that asks you to identify training course topics and a final section asking your training design preferences. The questionnaire should take 20/30 minutes.

About yourself

To enable us to get the most of your responses, would you please tell us a bit about yourself?

Your name	
Your age	
Gender	
What is your highest educational qualification?	
The name of your organization	
How long have you worked in your present organization?	
The team, group or department you work in:	

You area of expertise (subject)	
Years of experience in this area	
The region(s) or district(s) or landing site you work in:	

B. Eliciting knowledge on fisheries issues

What do you think are the challenges associated with the fisheries sector in your area? Why?

Challenges	Why?

In your current role can you help address these challenges? Yes: No:

What are the constraints in your role to be able to address these challenges with fisherfolk?

.....

Have you ever heard of the term “co-management”? Yes: (continue to 3.a) No: (continue to 3.c)

3.a. What is your understanding of the word “co-management” in fisheries?

.....

3.b. Do you believe that the co-management approach can be useful in the Western Region? Yes No
Others? How?

.....

3.c. Would you like to learn about the co-management approach? Yes No Other Why?

.....

C. Identifying training topics

Do you think training would be helpful to you in better managing fishery resources in your area?

Very helpful Helpful Not really helpful Not helpful at all

If it is useful, can you give a list of maximum 3 topics you would like to see addressed in a training program? Tick the appropriate box to rank your “need”.

<i>Training Topic</i>	<i>Training need</i>
	<input type="checkbox"/> Need <input type="checkbox"/> Priority need
	<input type="checkbox"/> Need <input type="checkbox"/> Priority need
	<input type="checkbox"/> Need <input type="checkbox"/> Priority need

In addition, to what extent the Hen Mpoano project should cover the following topics? Answer only if these are not covered in your answer to Question 3.

<i>Training Topic</i>	<i>Training need</i>
Fisheries Ecology	<input type="checkbox"/> Not needed <input type="checkbox"/> Limited need <input type="checkbox"/> Need <input type="checkbox"/> Priority need
Increasing the role and advocacy of women in the fisheries sector	<input type="checkbox"/> Not needed <input type="checkbox"/> Limited need <input type="checkbox"/> Need

	<input type="checkbox"/> Priority need
Leadership, consensus building, conflict resolution and communication skills	<input type="checkbox"/> Not needed <input type="checkbox"/> Limited need <input type="checkbox"/> Need <input type="checkbox"/> Priority need
Participatory planning and co-management of natural resources	<input type="checkbox"/> Not needed <input type="checkbox"/> Limited need <input type="checkbox"/> Need <input type="checkbox"/> Priority need
Financial management for community groups	<input type="checkbox"/> Not needed <input type="checkbox"/> Limited need <input type="checkbox"/> Need <input type="checkbox"/> Priority need

D.

Training design and delivery preferences

Have you participated in any training course on fisheries management in the last 3 years? Yes: No:

If yes, please list a maximum of 3 courses that you think were particularly useful for your management role and what you liked about them

1.....

2.....

3.....

What are the 2 most preferred means of learning that you prefer we adopted for a training in fisheries management (only 3 options)

.....

What do you think the most suitable duration of a training course on fisheries management should be?

1 day

2 days

3 days

Others, (specify).....

If you had the possibility of being part of a study tour in another African country, who would you like to meet during your visit?

.....

During this potential study tour, what do you want to learn?

.....

Thank You!

Annex 3: Excerpts from study tour information package 13-20 August 2011 Senegal

OBJECTIVES

The objective of the study tour is to uncover exiting practices in Senegal that promote the sustainable use of fisheries resources and maintain or enhance livelihoods. A particular focus will be on:

3. Monitoring, control and surveillance (MCS) through self-regulation, catch limits and gear regulation;
4. The role of the post-harvesting sector and women as agent of change.

You will be learning from others who face similar problems, listening to your peers instead of “experts”. You will discover the challenges, wisdom and ideas that already exist in Senegal, looking into your own communities’ assets and potential and ***then act – that is apply what you have learned!***

To enable this process of bridging the “knowing” and “doing” gap, after the study tour we will have a meeting in Ghana on the 24th and 25th of August 2011. During this meeting participants from the Tanzania, Senegal and Ivory Coast study tours will share what they have learned. The participants will then identify interventions that can be replicated/modified for the Ghana Western Region context, defining clear objectives and how these interventions could be implemented.

The results of the meeting will be crucial to the development of Phase III of the project, which is to formalize a coastal planning and management program for the Western Region and secure the resources required for its long term implementation.

PARTICIPANTS GUIDELINES

Learning and self-reflection

Participants should become “expert learners”⁵. An expert learner:

1. Actively Engages. He/she is not a passive listener
2. Takes Responsibility for her/his own learning. Expert learners view learning as something they do for themselves, not something that is done to them or for them
3. Practices self-regulated learning. Expert learners use specific processes to motivate themselves and to guide their own learning

⁵ http://golddust.bdplearning.com/planning_for_learning/the_expert_learner.php

To assist in their own learning, participants are expected to review and synthesize their daily learning. Below is a list of questions that will help you remember what you have seen and done and to identify what you have learned and what you still hope to achieve:

- What are my objectives of the day?
- How did I feel at different times of the tour today? Which bits did I enjoy? Which bits did I dislike?
- What have I learned so far in terms of skills, knowledge, and attitudes?
- How does the tour so far relate to my expectations?
- How does the tour so far relate to my work?
- What areas need further exploration during the rest of the tour?
- What questions would I like to ask at this stage?
- What are my feelings about sharing learning on return?

Working as a group⁶

Have respect for each other

- Respect each other's ideas
- Respect the other group members
- Don't interrupt each other
- Everyone's opinion should count
- Be honest with each other

All group members should do an equal amount of work

- Everyone should share the responsibility of the tasks
- Don't take over and don't let others take over

Our group should have a common understanding of goals that need to be achieved

- Help each other to understand all concepts

Be open to compromise

- Be willing to cooperate with others on their ideas
- Keep an open mind

Effective communication

- Make sure everyone is able to be vocal about their ideas and problems
- Give ideas no matter how "off" you may think they are
- Listen effectively
- Don't be critical

⁶ <http://www.oneonta.edu/faculty/vomsaaw/w/psy220/files/GroupWorkGuidelines.htm>

Time management

- Attend and arrive on time to all group meetings

Be positive and enjoy this experience!

SCHEDULE

DAY 1: Sunday, 14th August		DAKAR – HOTEL OCEAN	
Time	Activity		
Morning	Welcome and introduction to the study tour		
Afternoon	1) Briefing by COMFISH on the Senegal fisheries context for co-management and current stages of development and issue. 2) Visit of Yoff (fishing village)		
DAY 2: Monday, 15th August		KAYAR	
Morning	Meeting with the Fishermen’s Association		
Afternoon	1) Visit of the landing site 2) Meeting with MCS staff		
DAY 3: Tuesday, 16th August		KAYAR	
Morning	1) Meeting in the MPA premises 2) Visit of a processing site		
Afternoon	Fishing expedition or walk on the beach		
Evening free - Night at Hotel Océan Dakar			

PARTICIPANTS

Name	Age	Gender	What is your highest educational qualification?	Your current job/position?	How long have you worked in this job/position?	The region(s) or district(s) or landing site you work in
Adwoa Aamissah	60	F	none	Koncohene	fishmonger sine birth but koncohene 8 yrs	STMA Ngyiesia-Sekondi
Papa Kojo Abaka-Edu	47	M	N.U.T.I	marine mehanic - fisherman	25	Apewosika - Axim
John Edward Afful	53	M	M.S.L.C	P.R.D/G.M.C.F.C	12	Sekondi landing beach
Cecilia Amoah	43	F	elementary	fish monger	25	STMA - New Takoradi
Godfred Ameyaw Asiedu	39	M	MSc	research and monitoring specialist, CRC Ghana	2	Ghana coastal districts, WR
Kofi Bekoe		M		chief fisherman	2	Ellemble/Esiama
Adam Alhassan Eduafo	51	M	polytechnic	chief fisherman	6	Shama Aboadze
Nana Efua Tweba Ewur	29	F	BSc planning	projet officer	3	central/western region
Egya Kweku	49	M	primary education	chief fisherman	15	lower Dixcove
Solomon Kwesi Maahia	58	M	nil	fisherman	50	Half-Assini
Alex Sabah	51	M	M.A	civil servant / regional diretor fisheries	22	Western region
Dorothy Yankey	44	F	fish smoker	member	20	Ahamta West distrit

Annex 4: Workshop program “Building on the Positive: Informing fisheries management interventions in the Western Region”

“Building on the Positive:

Informing fisheries management interventions in the Western Region”

Workshop 24th - 26th August 2011

Volta River Authority - Shama

Objectives:

The first objective of this workshop is to give an opportunity to the participants of the Tanzania, Senegal and Ivory Coast study tours to share what they have learned. The event will provide a space to critically reflect on positive experiences in fisheries management, both from within the Ghanaian context and from parallel outside situations.

The second objective of the workshop is to build on the District Fisheries Fora meetings organized by Hen Mpoano in June 2011. The objective of the meetings was to identify voluntary compliance and enforcement strategies that could be implemented in selected communities. During the workshop, informed by what they learned during the study tour, participants will design intervention that address the problem of illegal fishing.

The results of the workshop will be crucial to the development of Phase III of the Hen Mpoano project. The objective of phase III is to formalize a coastal planning and management program for the Western Region and secure the resources required for its long term implementation.

Activities:

1. Tacking stock and sharing experiences from the study tours is an important aspect of this event. Challenges, success and ideas that participants observed in each country will be presented
2. These will be discussed and participants will identify similarities and differences with the Ghanaian context
3. In every proposed development intervention there is an implicit theory of how the intervention will achieve its results. The participants will be introduced to the concept of “planning and managing for results”. Particular emphasis will be placed on the importance of defining what we are trying to achieve: the goal of our intervention
4. Based on other countries’ experiences, potential in their own communities and perceived needs, participants will identify a suite of interventions and the series of steps needed to generate the desired impact in communities
5. Discuss results: the information will directly feed into the preparation of the project Year 3 work plan of the Hen Mpoano project

Results and Outcome:

The results of the workshop will be an understanding of if and how successful interventions from other African countries could be implemented in Ghana. The steps needed to pilot the interventions will be identified, namely the logical sequencing of inputs, activities, short term outputs, and medium term and long term outcomes (also known as impacts). An understanding of the outcome of the meeting will be advice on how the Hen Mpoano project should implement pilots during phase III.

Facilitator: Dr. Marie-Caroline Badjeck assisted by the WorldFish and CRC teams

Duration: 2.5 days

Programme**Day 1 – Wednesday 24th of August**

08:30 Registration – Material distribution

Opening session – Introduction

09:00 Welcome

09:15 Ice-breaker

Sharing insights from study tours

09:30 Group work guidelines

10:00 Group work

11:00 *Break (drinks also available during group work)*

11:30 Report back in plenary and discussion (20 min per country)

13:00 *Lunch*

Implications for Ghana

14:00 Group work guidelines

14:15 Group work

15:00 Report back in plenary

15:30 *Break*

Designing interventions

15:45 Introduction to basic concepts of “result chains”

16:15 Game

17:00 End of Day 1

Day 2 – Thursday 25th of August

Designing interventions: result chain approach (2)

08:30 Ice-breaker

08:45 Revisiting basic concepts from yesterday - Group work guidelines

09:15 Group work

09:45 Report back in plenary

10:15 *Break*

Designing interventions for the Western Region (1)

10:30 Group work guidelines: Identifying goals /visions

11:00 Group work

13:00 Lunch

14:00 Group work guidelines: Identifying results/activities needed to achieve goals (1)

15:30 Break

15:45 Plenary: feedback on exercise

16:15 Group work guidelines: Identifying results/activities needed to achieve goals (2)

17:00 End of Day 2

Day 3 – Friday 26th of August

Designing interventions for the Western Region (2)

08:30 Ice-breaker

08:45 Finish group work

11:00 Break

11:15 Plenary presentations

13:00 Closure

Annex 5: Workshop participants “Building on the Positive: Informing fisheries management interventions in the Western Region”

NAME	POSTION	LOCATION
Emmanuel Ohene Marfo	Fisheries commission – deputy regional fisheries officer	Takoradi
Nana Kojo Pegu	Chief fisherman Axim-Apewosika	Axim
John D. Edhun	Secretary GNCF/FWG CEMAG Axim-Apewosika	Axim
Nana Kwamina Acheanpong	Chief fisherman	Upper Dixcove
Mame Djao Amissah	Konkohene	Ngyiresia
Nana Kojo Konduah	Chief fisherman	Abuesi
Paul Forson	Secretary Jomoro district	Half-Assini
Patricia	CRC	Sekondi
Nana Fredrick Ekow	Chief fisherman	Butre
Esi Bronya	Fishmonger	Ngyiresia
John Edward Afful	PRO/GNCFC	Sekondi
Nana Kojo Eshun	Chief fisherman	Axim
Godfred Ameyaw	CRC	Sekondi
Emilia Abaka Edu	Fishmonger	Axim
Nana Adam Eduafo	Chief fisherman	Aboadze
John Knox Tawiaps	WRCFSC – ex. SEC	Sekondi
Nana Kweku Dadzie	Chief fisherman	Dixcove
Nana Yalley	Chief fisherman	Akatakya
P.K Abaka-Edu	Marine mechanic and member or GNCFC	Axim
Dorothy Yankey	Fishmonger	Dixcove
Solomon Kwesi Maahia	Chief fisherman	Half Assini
Alhassan Arafat Salifu	Fisheries officer	Axim
Alex Sabah	Western Regional director of the fisheries commission	Takoradi
Dominic Dadzie	Teacher	Takoradi
Esi Donkov	Fishmonger	Sekondi - Myiresia
Marie-Caroline Badjeck	WorldFish scientist	Penang, Malaysia
Froukje Kruijssen	WorldFish Post-Doc	Penang, Malaysia
Anne Delaporte	WorldFish research assistant	Penang, Malaysia
Cephas Asare	Research assistant	Axim
Samuel Amponsah	Research assistant	Sekondi
Anita Amegaw	Research assistant	Sekondi
Alex Piekotowski	WorldFish research assistant	Butre

Annex 6: Workshop “Building on the Positive: Informing fisheries management interventions in the Western Region” group work: Interventions that could be replicated in Ghana

Ivory Coast

What things have you seen?	Would it work in Ghana?	Why? Why not?
Sale/processing of fish on tapau line (plastic mat)	YES	easy to do and could start with pilots: Shama, Dixcove, Axim
Effective sale of premix by COOPAMA	NO	1. due to political influence here 2. subsidy in Ghana is high and leads to diversion (low subsidy in IC)
Canoe registration	YES	1. registration has already started as pilot in some areas 2. government has to empower fisheries commission to complete it
Establishment of cooperatives	YES	1. could be done at every landing beach 2. because structures are already there with chief fishermen at each beach 3. they sensitize community 4. see government agencies (eg. Regional minister) for recognition, registration and backing 5. draw constitution
Licensing of canoes	YES	1. inshore fishermen are practicing it 2. the subsidized fuel is sold to only licensed vessels 3. therefore canoe fishermen can link up with premix committees to effectively manage licensing
Enforcement	YES	1. government needs to be committed to resource provision to fisheries for patrols 2. needs to motivate them to prevent corruption 3. national service persons to be posted for patrol purposes

Effective data collection/co-management	YES	<ol style="list-style-type: none"> 1. some fishermen are already taking data of their expeditions 2. others can emulate 3. sensitizing (by tour participants) secretaries of every canoe 4. Fisheries recorders have to collaborate more with fishermen on data collection. Data collection could be done through national service persons/ NYEP
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Tanzania

What things have you seen?	Would it work in Ghana?	Why or why not?
Compliance with fisheries laws (toll free lines, registration of canoes)	Yes	The fishermen are willing to comply because of decline in fish stock
MPA's	Yes	Education, Engineering, Enforcement
Gear exchange	Yes	Fishermen are willing to give up nets if government meets them half way
Eco-tourism	Yes	Some of the fishing communities have the potential
Improving landing beach fish handling e.g. building of sheds	Yes	DA's initiative with revenue generated used to manage the landing beaches
Community base management committees	Yes	If backed by fisheries laws
Canoes with sails	Yes	If subsidy on premix is taken away- would only work for hook and line fishers
Mangrove conservation	Yes	If mangrove conservation laws are fully enforced

Senegal

What things have you seen?	Can it work in Ghana?	Why? Why not?
Co-management	Yes	<p>Already existing structures</p> <p>Youth organizations</p> <p>Everybody's voice should be heard</p> <p>There should be co-management committee with representatives from all actors</p>
Control of fishing trips	Yes	<p>If there is great respect for the chief fishermen</p> <p>Registration of canoes</p> <p>There should be one man one boat</p>
Functional women's group	Yes	<p>It has been done before</p> <p>But shouldn't be politicized</p> <p>There should be unity and understanding in the group</p> <p>There should be moral support form men</p>
Voluntary compliance	Yes	<p>Works if there is voluntary compliance in all the district</p> <p>Needs support from the government</p> <p>Chief fishermen should e empowered</p> <p>capacity building / education</p> <p>Social control</p>

Annex 7: Workshop “Building on the Positive: Informing fisheries management interventions in the Western Region” group work: Intervention logic for potential projects in Year 3

GROUP 1

Vision Statement: A thriving fishing industry where actors are sensitized and educated to follow best fishing practices with improved storage and processing facilities to reduce post-harvest losses which will ensure livelihood sustainability to reduce poverty.

Project Purpose: To reduce post-harvest loss.

Results: Improved storage and processing facilities and develop actors’ capacity to use the facilities.

Activities:

	Who will conduct the activity?	Details
1. Train fish processors on the usage of facilities: Choker smokers, gas ovens, platform for salting/drying	(i) Hen mpoano: Get trainers from communities and relevant institutions Q. EXPLORE THIS (ii) service renders association	(i) <i>Training women groups</i> <ul style="list-style-type: none"> • Fish smoking training (Fish mongers association, Nsiesiefo association) • Storage and hygiene training (Nam amon association) • Marketing training: Development of sub regional market and how to export (Fish mongers association, Nsiesiefo association, Nam amon association) • Fish grilling training (Griller association) (ii) <i>Training fishermen</i> <ul style="list-style-type: none"> • Operation and handling of storage facility • Occupational health and safety
2. Management of storage facility		(i) <u>Generating funds to pay utility and maintenance</u> <ul style="list-style-type: none"> • Source funds from DA funds (Who gain from smoked fish sellers)

		<ul style="list-style-type: none"> • Q. Hen mpoano to find out if money from DA can be used to maintain storage facility • Levy from usage of facilities by fishers <ul style="list-style-type: none"> • Q. Should money levied from the processors and users of facilities in general be directly re invested in improving fishing activity?
		<p><u>(ii) Management of finances</u></p> <ul style="list-style-type: none"> • Finance committee to manage facility and revenue generated <ul style="list-style-type: none"> ▪ Chief fisherman ▪ Konkohene ▪ Executive Hen mpoano to facilitate formation of committee
3. Construction of the facility		<p><u>Source funds</u></p> <ul style="list-style-type: none"> • Banks • Premix community fund • District assembly development fund <p><u>Source labour</u></p> <ul style="list-style-type: none"> • Use communal labour in the construction of storage/processing facility <p><u>Design of facility</u></p> <ul style="list-style-type: none"> • Explore the improved technologies for processing/storage • Structure in Axim should be looked at and possible samples made from it • Design of fish processing facility: Senegal experience can be looked into <u>BUT</u> fishmongers in Ghana prefer individual smoking facilities because they keep their financial activity secret.

		<u>Management of construction</u> <ul style="list-style-type: none"> • Lead by finance committee
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Resources:

- 1) Funds/capital
- 2) Human resources
- 3) Land/space

Problems:

- 1) High post-harvest loss
- 2) No processing/storage facility
- 3) Insufficient human capacity

GROUP 2

Vision statement: Stock recovery in the sea in order to achieve a better and healthier life for our communities.

Project purpose: The decrease of illegal fishing will increase the fish spawn and ... of juveniles.

Result 1: gear exchange program

Activities for result 1:

	Who will conduct the activity?	Details
1. Through education and training	CRC, FoN, WFC, fisheries commission	(i) Training on conservation Target: fish processors, chief fishermen, canoe owners

		<p>(ii) Training on orientation for the need to change (awareness) Target: district assembly sub-committee on fishing</p> <p>(iii) Training on better practices Target: Fishermen: Purse Seine, Drift Gill Net, Beach Seine, Set Net, Bottom Set Net, Semi-Industrial</p>
2. Through gear registration	Chief fishermen and Fisheries Commission and other stakeholders	<p>Time-frame for fishermen to register the number of monofilament nets (in bundles) they have example: from now until 31st of December</p> <p>N.B: (i) the intention should not be made known to CF to promote transparency and accuracy of the program</p> <p>(ii) no extension of the time-frame (after December)</p>
3. Giving incentives to fishermen	Fisheries directors and GNFC, cooperative fishermen Service Center LBC	<p>(i) Financial resource: using premix revenues to purchase approved nets from manufacturers</p> <p>(ii) Reduction of price of multifilament gears as part of giving incentive to fishermen</p>

Result 2: enforcement of the law in every landing site in the Western Region

Activities for result 2

	Who will conduct the activity	Details
1. Licensing of canoes can help identify offenders → deterrent	Fisheries Commission District Assemblies (Chief Fishermen once licensing is on)	<p>(i) Without registration, no access to premix (3 months to register)</p> <p>(ii) Carving of registration number (pilot of metal plate did not work)</p> <p>(iii) Hiring of National Service persons to help doing the registration</p>
2. Explanation of the law	(i) CRC, FoN, Fisheries	(i) Educational videos on responsible fishing, comparison between different

<p>at the community level</p>	<p>Commission, FWG</p> <p>(ii) Chief fishermen, fisheries commission</p> <p>(iii) FoN</p>	<p>gears used and catch, women showing different prices</p> <p>(ii) forums</p> <p>(iii) Radio: follow-up of FoN Radio Drama on responsible fishing</p> <p>(iv) Theater by community members → learning by doing</p>
<p>3. Gazetting of chief fishermen to enforce the law</p>		<p>(i) Chief fishermen should be elected by their people and his power should be recognized by visiting fishers from other communities</p> <p>(ii) Elected chief fisherman should be presented to the traditional leader of the area</p> <p>(iii) Laws given to chief fishermen should be clearly stated on paper and endorsed by government</p> <p>N.B. chief fishermen are not traditional leaders.</p>
<p>4. Creation of volunteer groups (fishermen) to do MCS/building awareness</p>	<p>Fisheries commission, canoe owners, FoN, CRC, chief fishermen, FWG</p>	<p>Public forum → education → young volunteers</p> <p>(functional group in Dixcove with fishermen and fishmongers)</p> <p>Topics for the public forum:</p> <p>(i) Complying to fisheries law and how and why to comply to these laws</p> <p>(ii) Reasons behind the laws → give examples from other places/countries, best practices + ensure study tour teams share their experience together (ie. Don't lose the team we built together).</p>

		<i>Resources needed:</i> boats, out board motors, toll free lines, torch lights, life jackets
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Group 3

Vision statement: An improved sustainable fisheries resource use that leads to community development and improved standard of living.

Project purpose	Result	Activity	Who will conduct the activity?	Detail
behavior change	awareness of community people	sensitization	Study tour participants	debrief with study tour participants from each country backed by video clips / photos from study tours
availability of twine nets for use by fishermen with sized monofilaments enforcement then arrests	a ready letter for MoFA/fisheries commission	(i) Meeting of GNCFC / canoe owners ass. In WR with Hen Mpoano – planning/drafting letters for meeting with fisheries commission/ ministry of agriculture on regulations (monofilaments). (ii) Task force seizing nets.	Hen Mpoano, government, ministry of fisheries and agriculture, GNCFC	

				<p>(ii) Government to make available twine nets at subsidized price.</p> <p>Send a directive so that government can empower chief fishermen to do effective arrests.</p> <p>Ministry of fisheries and agriculture (MOFA) to mandate chief fishermen to enforce regulations.</p>
Effective data collection/ MCS activities in communities	a prepared letter to MoFA on the issue	write a letter to fisheries commission and MOFA	Hen Mpoano, GNCFC	requesting NYEP (national youth employment program) and national service volunteers to be posted to landing beaches (minimum of 1-2 at each landing site)

	a letter for MoFA/fisheries commission	(i) carry out drama in major landing beaches once every two weeks (ii) Public Addresses system by district assembly (write a letter to the assembly)	Abuesi drama group, Hen Mpoano	- Main topics will be issues on illegal fishing, sand winning, environmental issues, sea turtles, dolphins. Transport sponsored my Hen Mpoano. Hen Mpoano to provide scripts and director for Abuesi drama group
	Nana Kondua's letter for informed constituencies – district assemblies, Hen Mpoano, landing beaches	communities must involve representatives of premix committees in all community meetings		
MCS for enforcement	a reminder to Hen Mpoano for action	FWG to follow up on request to Hen Mpoano for patrol vessels meant for monitoring (the vessels should be equipped)		
Food glut : curtail post harvest losses (food	letters to MoFA for	Chief fishermen at Half Assini and	Chief fishermen	

security)	action on cold storage facilities.	New Takoradi to send reminder (letter) to MoFA on cold storage facility promised to the landing beach (sod cutting has already taken place)		
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Resources available:

- Study tour participants from each community to take charge of education
- Chief fishermen in various communities
- Opinion leaders
- Fisheries commission
- District assemblies (esp. Shama)
- Hen Mpoano
- Navy
- Landing beach / premix committee
- Canoe owners association (Dixcove, Sek)
- GNCFC
- Funds (53% from premix funds)

Lessons learned and way forward:

- Interesting interventions such as the gear exchange program and betterment of processing facilities with a focus on women’s group should be further explored in the development of the program in Year 3.
- A preliminary assessment of the feedback forms has shown that the main learning outcomes for participants were:
 - An deeper understanding of what it means to design an intervention through the “Happy Horse” parable

- The importance and intricacies of group work
- The need for behavioral change to achieve a shared future vision of sustainable fisheries. The focus was particularly on illegal fishing methods and the shift needed towards voluntary compliance
- The feedback received during the workshop and in the forms highlights again the importance of building the capacity of key Hen Mpoano partners to act as agent of change in their communities through greater facilitation, communication and interaction skills.

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