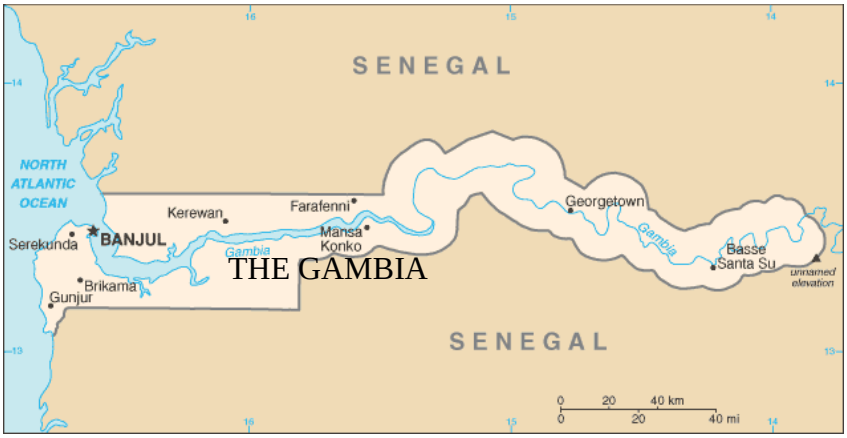
Gambia-Senegal Sustainable Fisheries Project USAID/BaNafaa

Year 4 Annual Report (Fiscal Year 2013)

October 1, 2012 – September 30, 2013

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



A partnership of:

United States Agency for International Development / West Africa
Coastal Resources Center, Graduate School of Oceanography,
University of Rhode Island
World Wide Fund for Nature, West Africa Marine Program
Office, Department of Fisheries

Ministry of Fisheries, Water Resources and National Assembly Matters, The Gambia

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1. Introduction

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

In the first half of Year 4 (FY13), an external evaluation of the project was conducted The Final Report in February, 2013 concluded that, "Through the mid-term, BaNafaa has achieved significant results, which is a highly commendable accomplishment, given the numerous institutional constraints to fisheries sector development in The Gambia. This evaluation's overarching recommendation is to continue BaNafaa's overall program approach due to its successful results in a challenging environment."

USAID/WA did not act URI/CRC's 2012 request for a 2 year cost extension for:

Climate Change Adaptation: to implement measures developed based on the vulnerability assessment.

Biodiversity: to strengthen and expand on significant achievements in fisheries co-management.

WASH: to address unmet WASH needs at fisheries landing sites identified during the initial needs assessment.

URI now understands that USAID/WA has since developed a new Regional Strategy, setting the context for future programming and funding decisions. In light of this, URI now considers that the project will end in April 2014 and is managing activities and budgets accordingly with most field activities except WASH ending in December 2013.

USAID/BaNafaa's approach for Year 4 was to focus on consolidating achievements made and ensuring that measures, systems and procedures already developed are functioning and can be sustained when project assistance ends. Institutionalizing the adaptive management process around which the two

approved co-management plans were designed has been a key priority. Continuing to reinforce the capacity of the government and civil society co-management institutions responsible for implementation of the two plans has been central to all Year 4 activities. This included accompanying them to lead and implement, with the project in a decidedly less proactive role.

This annual report describes Year 4 accomplishments (October 1, 2012 – September 30, 2013).

1.1 Background

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

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

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

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

- Rational and long-term utilization of the marine and inland fisheries resources.
- Improving nutritional standards of the population.
- Increasing employment opportunities in the sector.
- Increasing foreign exchange earnings.

- Increasing and expanding the participation of Gambians in the fisheries sector.
- Improving the institutional capacity and legal framework for the management of the fisheries sector.

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

1.2 Program Goal and Key Results

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

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

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

Key Results for the USAID/BaNafaa Project:

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

Project Strategies

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

Geographic Scope. The Project concentrates on the marine and coastal resources and fisheries stocks shared among the Casamance, the Gambia River and Saloum Delta region—an area of regional biodiversity significance (see Figure 1). The majority of on-the-ground activities occur in The Gambia, where USAID/BaNafaa focuses on the artisanal nearshore fisheries along the Atlantic coastline and the

estuarine and mangrove dominated portions of The Gambia River. A sister project in Senegal, the Wula Nafaa project, is working on fisheries management in the Saloum Delta and Casamance River. Together, these two USAID-supported initiatives are expected to have a significant impact on improved management of this biodiversity-rich area.

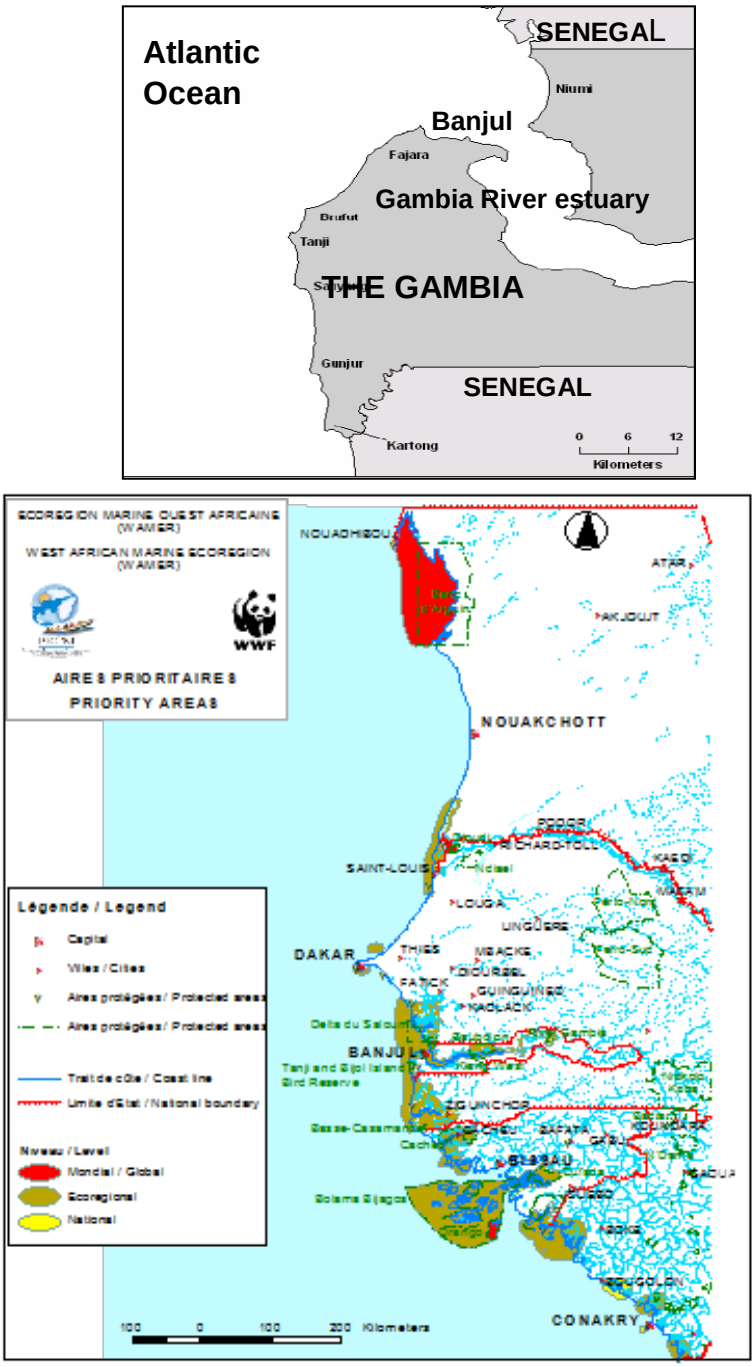


Fig. 1. Areas of Biodiversity Significance in the WAMER and The Gambia River Estuary and Atlantic Coast

2. Year 4 Accomplishments

See Appendix A for The Results Framework, Indicator Results Tables, Results to Date and Life of Project Targets and Appendix C for Activity Implementation Status.

2.1 Intermediate Result 1[1]

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

Year 4 Highlights

The Fishery Co-Management Plan for The Gambia Sole Complex approved in Year 3 (January 2012), bringing 121,245 ha under improved management. ***Exclusive use rights*** to the sole fishery within this zone granted to NASCOM. Management measures include, seasonal closure of one nautical mile from the coastline from May1 to October 31 for all fish species and gear types, a minimum fish size, a minimum mesh size and a ban on use of drift nets for The Gambia River mouth.

NASCOM, its decentralized Landing Site Sole Co-Management Committees (LACOMs) and DoFish made significant progress implementing the plan in Year 4 with project assistance:

- NASCOM trained in administrative and financial management. A Standard Operating Procedures Manual and Business Plan developed. Office furniture and equipment purchased
- The first annual review meeting for the Sole Plan hosted by NASCOM in October 2012
- Annual Sole Stock Assessment update for 2012 finalized and presented at the meeting. Update for 2013 (final report pending) produced for consideration at the upcoming meeting.
- Outreach to fishing communities and local authorities about the Co-Management Plan and the 1 nm closed area conducted by NASCOM.
- Implementation of the seasonal closure started on May 1, 2013. NASCOM deployed 42 locally made spar buoys to mark the area.
- Monitoring and enforcement of management measures conducted, including local fishermen engaging their own resources to accompany local authorities. As of September 2013, NASCOM began to receive penalty payments for noncompliance.
- Private sector engagement: Donation of 100,000 Euros to NASCOM by German Seafood Company Kaufland to support progress towards Marine Stewardship Council certification. Demonstrated commitment by Atlantic Seafood Company in The Gambia to collect and share data for stock assessment.
- Adaptive Management: New research on gillnet mesh size and catfish conducted. Recommendations to increase minimum mesh size and incorporate Catfish will be considered as

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

amendments to the co-management plan at the 2nd annual co-management plan review meeting in November 2013.

— Demonstrated *institutionalization of the processes* articulated in the co-management plans for continued and active engagement of stakeholders

The Cockle and Oyster Fishery Co-Management Plan for the Tanbi Wetlands National Park Special Management Area approved in Year 3 (January 2012), bringing the 6,304 ha RAMSAR site under improved management. TRY granted ***exclusive use rights*** in this area. Management measures include, an extended (8 months) closed season, a minimum harvest size, and gear restrictions to reduce damage to mangroves.

- TRY implemented the plan for the second consecutive year in Year 4 (FY13) with project assistance:
- TRY trained in administrative and financial management.
- The first annual review meeting for the Oyster and Cockle Plan hosted by TRY in January 2013. The meeting sparked a daily call-in segment on local radio featuring sustainable management of the oyster fishery that continued for a week due to public interest.
- Compliance with the 8 month closed season for a second year in 2013 implemented.
- The price per cup for oysters on the local market doubled due to increased oyster size.
- Biological sampling of oysters conducted by TRY at sales points during the open season. Preliminary results indicate the stock is not overfished at the sites sampled.
- Atlantic Seafood visited by TRY members to learn about improved processing.
- UNDP funding leveraged for a Senegal exchange visit on processing, construction of processing infrastructure at 15 oyster sites and hygiene and fish handling training for 300 TRY members.
- GEF, British Council and Taiwanese funding leveraged for oyster rack culture scale up.
- Health classes for TRY members linking them to local health services and service providers organized. 80% of trainees accessed services as a result of the training.
- 15 TRY daughters completed TRY's 2 year skills training program, including health topics.
- Adaptive Management: TRY members reconsidered the difficulties of the extended (8 month) closed season and voted on a proposal to change the season and to reduce it. After consideration of available information and results to date, they overwhelmingly decided to maintain the closure as specified in the approved plan.

Water quality testing at 19 oyster harvesting sites every 2 weeks for a 3rd year and shoreline sanitation surveys twice a year since 2012 continued to build baseline data and local capacity for development of

an interagency Shellfish Sanitation Plan. This process aims to enable Gambian shellfish to meet standards for high-end local (and in the long term international) markets.

A bilateral (transboundary) Oyster and Cockle Co-Management planning process initiated in the Allahein River estuary on the border of The Gambia with Southern Senegal (Cassamance). Stakeholders forming a joint management body, Allahein Kafo.

WASH management committees formed at 4 of 6 selected fisheries/oyster landing sites. Participatory Hygiene and Sanitation Transformation (PHAST) training and Training of Trainers in community outreach completed at these sites. WASH Management Plans and infrastructure (except final public water connections) completed at 2 sites. Two additional sites nearing completion.

347 people (77% women) received USG supported training in NRM and biodiversity conservation in Year 4.

Project activities described below have contributed significantly and directly to this IR in Year 4. The results of the strategies identified, tested and applied in economic and social terms and the degree to which they are influencing a broader sustainable fisheries agenda in the WAMER are positive. The quantification of number of businesses and persons benefitting economically, as reported in indicators for this IR, are exceeding targets specified in the Project Design. However, the numbers do not reveal the underlying complexity of the benefits and the degree to which they are sustainable. USAID/BaNafaa project activities have, to date, focused on creating the enabling conditions for longer term sustained benefits to artisanal fishing communities. Integration of WASH activities at fishery and shellfish landing sites is also aimed at ensuring that health and economic benefits are realized at the community level. The achievements under this IR also contribute to increasing recognition in the region and beyond of Gambian artisanal sole and oyster fisheries as a model for best management practices led by those directly benefitting socially and economically. Marine Stewardship Council (MSC) engagement and Kaufland Seafood Company's support for the development of a sustainable sole fishery, as well as award of the UNDP Equator Prize to TRY Association in 2012 are just a few examples.

a. An Effective Sole/Multispecies Demersal Fishery Co-Management Plan

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

Gazetting of the Plan and Outreach at the Ministerial Level. Twenty months after its approval, the Sole Plan has yet to be gazetted by the Government of The Gambia. NASCOM was granted audience with the current Minister of Fisheries and Water Resources in May 2013. NASCOM wrote several letters requesting a meeting to brief the Minister (appointed only in November 2012) on co-management activities and the need to gazette the Plan. Following the meeting, the Ministry of Justice, where the gazetting process is managed, took steps to prepare the plan text for public notice. In late September 2013, The USAID/BaNaffa URI/CRC Team Leader and the WASH Coordinator met with the Minister of Fisheries and Water Resources and DoFish staff. The Minister promised follow up with the Ministry of Justice to get the plan gazetted.

First Annual Sole Plan Review Meeting. Following approval of the Sole Plan in January 2012, it was important early on that stakeholders experience the participatory and adaptive process moving forward and that it not be perceived to be just on paper. With financial and technical support from the USAID/BaNafaa project provided through a seed grant, NASCOM took the lead to convene and host the first annual review meeting in October, 2012. The meeting was attended by 60 participants (including a strong showing of 29 women) from the Ministry of Fisheries and Water Resources, the Department of Fisheries, NASCOM, LACOMS, the National Environment Agency (NEA), USAID/BaNafaa, the University of Rhode Island and the media. The meeting reviewed the Sole Stock Assessment based on 2010/2011 data, reviewed the results of the Gillnet Study on hanging ratio conducted in 2012, and considered the local ecological knowledge and scientific knowledge studies conducted on Catfish (See sections below for more detail). The second annual review meeting is scheduled for November 2013.

Stock Assessment. At the Annual Sole Plan Review Meeting in October 2012, DoFish technical staff presented the stock assessment conducted in 2012 based on 2010/2011 data. USAID/BaNafaa, URI, the Atlantic Seafood Company and DoFish worked together to collect and analyze the sole data. The data show signs of overfishing related to small numbers of adult/mature fish and high fishing effort. The recommendations in the text box below were made by the review meeting to address this issue.

In 2013, DoFish staff with URI technical assistance have now prepared an updated stock assessment using additional sole data from 2012 provided by the Atlantic Seafood Company. Preliminary results also indicate signs of overfishing. The results will be finalized, disseminated and discussed with stakeholders at the Second Annual Sole Co-Management Plan Review Meeting scheduled for November 2013. It is significant that the current process of annual co-management plan review is being firmly established as a legitimate and recognized forum for discussion of stock assessment results and adaptive management decision-making.

Sole Fishery Management Recommendations – October 2012

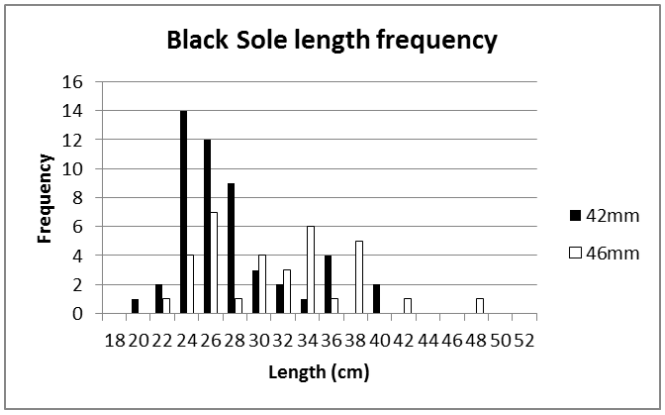
- Increase mesh size from 40mm to 42mm or 46mm (bar length. Stretched corresponds to 80mm, 84mm and 92mm respectively).
- Fishers are responsible for juvenile landing through use of small mesh size, an auto-regulation approach should be introduced to bring defaulters to task.
- Monitoring Control and Surveillance (MCS) of the 1 nm seasonal closure shall be the responsibility of NASCOM/LACOM members. They should check fishing activities at sea and gears used to ensure compliance with the recommended and legal mesh sizes. Funding donated to NASCOM by German Seafood Company Kaufland will be used in part for purchase of surveillance boats and engines.
- A national forum on best and destructive fishing gears should be held, to include beach seine, purse seine and shrimp nets considered the most destructive.

Mesh Size Gillnet Study. Following analysis of the Sole stock assessment at the annual review meeting and the recommendation to consider increasing the minimum mesh size specified in the co-management plan, USAID/BaNafaa provided technical assistance for a Mesh Size Gillnet Study. The previous 2012 study on the "Effect of Hanging Ratio on the Catch of Sole and Catfish in The Gambian Bottom Set

Gillnet Fishery" determined some improvement to selection was possible. However, the added work of attaching the net to the hanging lines, difficulty of enforcement and the loss of fish makes this feature unattractive as a management measure. Therefore, the committee opted to examine the increase of mesh size as a possible management option. This study was designed to test the change in catch between the standard net used (84 mm stretched mesh, which is already larger than the 80mm legal minimum) to a larger mesh size (92 mm stretched mesh).

Four crew members were involved in the study (2 local fishers and 2 from the USAID/BaNafaa team). The fishing trials were conducted in a 5 nautical mile radius off the coast of Kartong on the Atlantic coast of The Gambia, locally known to be a hotspot for the Sole fishery and other locally important fish species. Fishing trials were conducted from May 25-June 22, 2013 resulting in 29 net hauls. Two monofilament nets (one with 84 mm mesh, one with 92 mm mesh, and both 720 meters long) were fished side by side. Both nets were hauled every 24hrs. Different fishing grounds were used during the study and the GPS coordinates were recorded. Data on species, length, weight, gear type and mesh size were recorded.

The overall results of the catch comparison of the 84 mm and 92mm bottom gillnet used in the study indicate that significantly larger Sole, Catfish, Sompat grunt, Bigeye grunt, Lesser African threadfin and butterfish are caught with the larger 92 mm mesh net than in the 84 mm net.[2] Both nets caught most of the same species and the total number captured was not considerably different between the two nets.



[2] Note that this study did not determine selectivity of the gillnets.

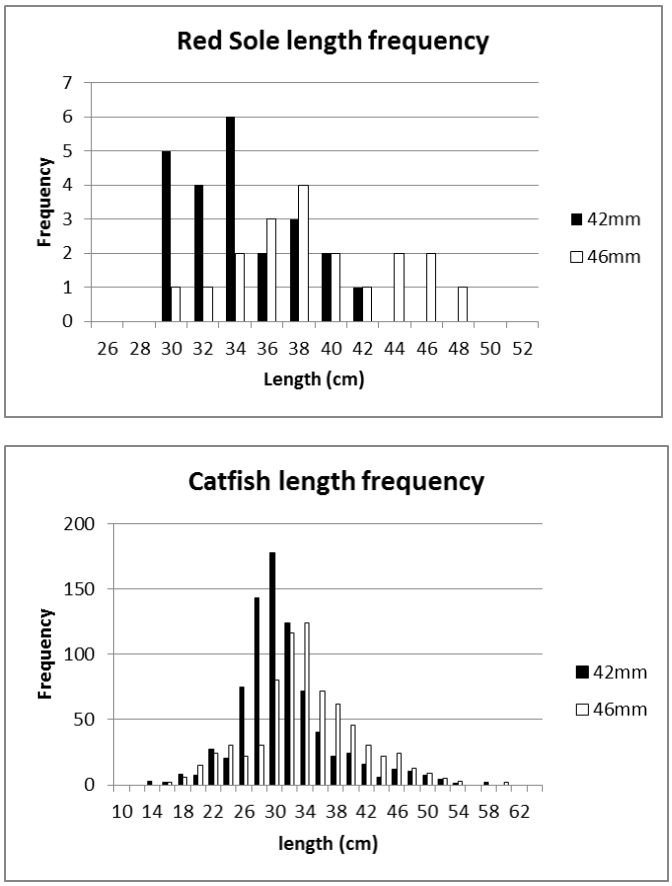


Figure 2. Length frequency of Red and Black Sole and Catfish caught with the two mesh sizes.

The study concludes that increased mesh size has the potential to be a meaningful management tool for the Sole and Catfish fisheries while also improving the status of grunt and butterfish. Current mandated minimum mesh and fish size have been arbitrarily determined. New (although not complete) information on sole maturity can now be matched with mean size of fish captured using different mesh sizes. With better biological information, it will greatly improve harvesting rules and fishery sustainability. For example, preliminary data indicate that 50% maturity of Catfish (Arius spp) occurs between 20-25 cm lengths. Increasing mesh size to 84 or 90 mm will shift the mean size of fish captured to between 31-34 cm, well above the 50% maturity size. Although the current mandated minimum mesh size is 80 mm, fisherman use both the 84 mm and 92 mm stretch mesh, so conversions can be made rapidly and easily. Based on these results, as a conservative, preventive management measure, an amendment to the Sole Plan to increase minimum mesh size to 46mm (92mm stretched) has been drafted for approval at the November 2013 annual review meeting.

NASCOM Capacity Strengthened. Based on a preliminary assessment of NASCOM's institutional capacity conducted by the project, a seed grant was provided to NASCOM in the last quarter of FY 12 to strengthen its institutional capacity. Sound administrative and financial management systems and the capacity to operationalize them is of immediate and growing concern for NASCOM as it attracts donor funding. NASCOM also has an ambitious agenda for collecting and managing its own membership fees, fines and penalties for non-compliance with co-management plan measures and for initiating a

revolving credit program for members. NASCOM's reputation and credibility will depend in part on its real and perceived strength as capable and transparent in financial management. In Year 4 the following activities were implemented under the seed grant:

- Hosting the first annual review meeting for the Sole Fishery Co-Management Plan.
- LACOM by-laws reviewed and revised.
- Regular Quarterly and Executive Committee Meetings conducted.
- NASCOM office established with equipment and furniture.
- Administrative/Financial Management Training for NASCOM, TRY, TAGFC and TARUD conducted by URI in Q1, with logistics and finances for the training managed by NASCOM. Three NASCOM management team members attended the 3 day training, followed by a mini audit of NASCOM's seed grant accounts conducted by URI. As per recommendations from the training and mini-audit, the URI in-country Admin./Finance Assistant continued to provide targeted follow-up mentoring one on one in Q2 and conducted a one day follow up training for all local partners.
- Development of a Standard Operating Procedures (SOP) manual and Business Plan.
- Deployment of 42 locally made spar buoys in May and June 2013 at 1 kilometer intervals along the Atlantic coast to mark the 1 nautical mile seasonally closed area from May 1 – October 31 and to test the viability and cost-effectiveness of the locally made buoys. The NASCOM Chairman, Secretary and Treasurer were part of the deployment team.

By the end of Year 4, NASCOM had begun collecting fines for violations of the closed area and had received annual institutional membership fees from 11 institutional members.

Figure 3: Buoy deployment trip from Kartong on The Gambia's southern border. (photo credit: MSC)

MSC and Kaufland Seafood invited NASCOM to the European Seafood Exposition from April 22 - 24, 2013 in Brussels. Kaufland handed over a 100,000 Euro check donated to NASCOM at a media event at the MSC stand. These funds were raised by Kaufland in a consumer campaign to support sustainable seafood from The Gambia and will be used for:

- Co-financing the sole fishery's assessment to the "MSC standard for well-managed and sustainable fisheries" Purchase of 3 boats and engines for monitoring, enforcement of the closed area as well as search and rescue at sea.

- Purchase of sanitation equipment and materials (dustbins, rakes, spades, wheel barrows, shovels etc.,) for environmental sanitation.
- Purchase of ice boxes to maintain quality of fish and improved fish and fishery product handling at sea and landing sites etc.
- Revolving loan program among members.
- Data collection.
- Outreach meetings with LACOMs members country wide.

Figure 4. Kaufland handing over € 100,000 check to NASCOM Secretary Dawda Saine.

Outreach at the Community, Fisherfolk and Institutional Stakeholder Level. In late June 2013, NASCOM visited two fish landing sites daily to conduct an outreach campaign to inform fishing communities, Department of Fisheries field staff, local Government Authorities and Security personnel on the start of monitoring and enforcement of the management measures in the plan, especially the seasonally closed area from May 1 – October 31 each year along the Atlantic coast of The Gambia out to 1 nautical mile for all fish species and all fishing gear types. The sites -covered were Kartong and Gunjur, Sanyang, Tujereng/Bato Kun ku and Tanji, Brufut and Bakau, Old Jeshwang and Banjul. Participants included LACOMs, the Department of Fisheries and its Extension Unit, Security personnel (Military, Sea Rescue and the Police), Alkalos, Councilors, and Village Development Committee (VDC) representatives.

The communications emphasized that:

- Agreement on the closure specified in the co-management plan was participatory. Thus, the need for a shared responsibility on monitoring and enforcement of the area.
- As primary beneficiaries of the success of the closure, fishermen were tasked to use the auto-regulatory approach and take ownership of the closure.

- The role of the local government, authorities and security personnel is important in monitoring and enforcement of the closure to ensure complete compliance.
- The campaign was simultaneously broadcast in the media for 2 weeks by the Gambia Radio and Television Services' (GRTS) FM Radio and Janneh Koto Community FM Radio in Gunjur.


Figure 5. Site meetings with Alkalos and Councilors, including military, DoFish, Sea Rescue and Communities (LACOMS)

The co-management plan and its implementation is significant for stakeholders in the Gambian artisanal sole fishery to demonstrate progress on management of the fishery at a standard that aims to meet the eligibility criteria for MSC certification, although certification is not the objective of USAID/BaNafaa project support. The Gambia is one of MSC's pilot countries for fisheries implementation plans, which helps developing countries move towards sustainability. USAID/BaNafaa will continue to support the Gambian stakeholders to pursue the MSC process in the final months of the project.

2. Integration of Catfish into the Sole Co-Management Plan.

Based on the Bycatch study conducted for the Sole Co-Management planning process, Catfish, Cymbium, and Sole make up 80% of the catch by weight for the Sole targeted fishery using gillnets. Since this fishery is associated with the same nets, landing sites and fishermen as sole, a catfish management plan along with sole can be easily integrated with work already done on sole and involves the same stakeholder groups. Management responsibilities for this stock could also be added to the charge of the sole management committee. This will close existing gaps in the ecosystem based sustainable management approach. The potential for economic benefits to artisanal fishing communities will, likewise, be broadened under a multi-species plan.

Following the Local Ecological Knowledge (LEK) and Scientific Knowledge studies on Catfish that were presented at the Sole Co-Management review meeting in October 2012, additional research on Catfish has been done in the context of the Mesh Size Gillnet Study (report pending, see the section above). Sampling of catfish caught in these nets in May and June 2013 confirmed that this is a period when egg development and spawning is occurring in females and mouth brooding of eggs is occurring in males (see Figure 6 below). Thus, the closed season starting from May 1 seems especially appropriate for catfish as well as sole. It may be more critical for catfish given the very high parental investment in a small number of eggs relative to most fish species.

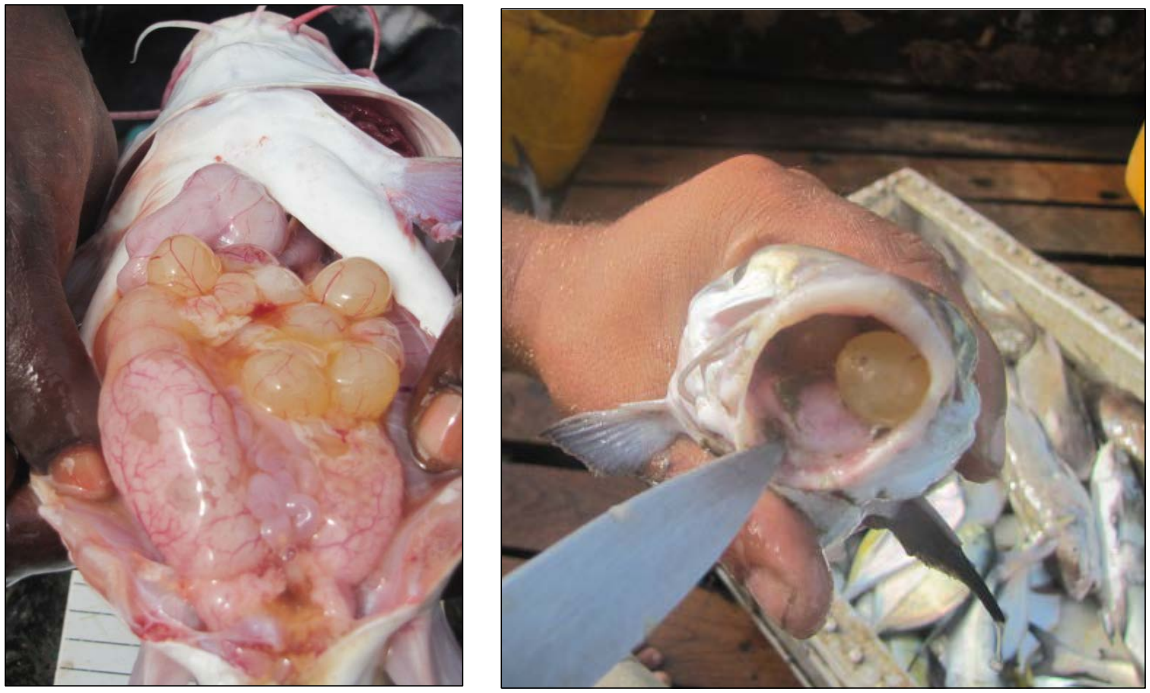


Figure 6. Catfish eggs developing in the female (left) and mouth brooded by the male (right).

As noted in the USAID/BaNafaa Year 4 Workplan, the USAID/BaNafaa Project's capacity to support more in-depth analyses, including stock assessment, otolith analysis, additional gear studies, and a value chain study, is very limited. However, an amendment to add Catfish into the Sole Co-Management Plan has been drafted based on the existing information and will be considered for approval at the November 2013 annual Sole Plan review meeting. It includes additional studies as part of a future research plan for Catfish. New information on Catfish can be reviewed and accounted for in management decision-making annually as is the case for sole.

3. The Association of Gambian Fisheries Companies (TAGFC).

In Year 4, USAID/BaNafaa intended to directly support TAGFC to more fully engage in the co-management process, especially with regard to meeting MSC traceability standards. TAGFC was not able to resolve organizational issues related to its constitution and management structure so direct support was not and will not be possible in the remaining project timeframe. TAGFC members will continue to participate in Sole Co-Management Plan meetings and the Bi-lateral Co-Management Meeting scheduled for November 2013, but it is not clear that they are able to work together as a group on a joint initiative until they have their organizational issues resolved.

b. An Effective Oyster and Cockle Co-Management Plan

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

Gazetting of the Plan. The Oyster and Cockle Co-Management Plan approved in January 2012 has yet to be gazetted by the Government of The Gambia, but is on the same trajectory as the Sole Plan with steps towards gazetting being taken by the Ministry of Justice and followed up by the Minister of Fisheries and Water Resources.

First Annual Cockle and Oyster Plan Review Meeting. Like the Sole fishermen, TRY members, having developed the management measures specified in the Plan for their own short, medium and long term benefit are motivated to implement the Plan while gazetting is pending. TRY has now managed two open season cycles, shortened to 4 months, since the Plan was approved (March – June 2012 and March - June 2013). In January 2013, TRY hosted the first annual review meeting described in the Plan as part of the Plan's adaptive management approach. Forty-eight participants attended, including all key partner institutions, 2 representatives from each of TRY Association's fifteen communities comprising one TRY member and the alkalo (village leader), and the local media. Maria Dacosta spoke on behalf of the TRY Board of Directors. Dr. Michael Rice of the University of Rhode Island/Coastal Resource Center (URI/CRC) spoke on behalf of URI/CRC. Amadou Saine, Permanent Secretary at Ministry of Fisheries and Water Resources, delivered the keynote address. The main objective of the meeting was to review the work of TRY and the other co-signatories of the Plan (Departments of Fisheries, Forestry, Parks and Wildlife Management and the National Environment Agency) over the year since the plan was approved.

Figure 7. Breakout groups discuss the management measures.

Review of the Plan's management measures concluded they are still valid, except the need to revisit the following measure, "No oyster harvester shall operate for more than two days at harvesting sites, but should adopt a shift system." Also noted were the following:

- Need for training of some women on use of axes.
- Hygienic and sanitary processing conditions are imperative and are currently lacking. The women often process oysters without gloves and always in the open air.
- Need for continued outreach and education among members on not engaging school age children in marketing activities.

- Need for improved and open communication between government agencies, especially DPWM, and village leaders. Turnover of government officials and the lack of continuity was one of the challenges identified.

One positive outcome of the meeting was the involvement of the alkalos from TRY's various communities. This is the first time TRY engaged community leaders in this way and they responded very positively. At the end of the meeting, they expressed how happy they were to be included and how important it is for them to be aware of TRY's objectives, activities, and plans for the future. As a result, TRY's next step of establishing the community-based management committees in every community was made much easier with this support of the local community leaders. The local media (including the newspapers, GRTS, and a radio station) provided coverage of the meeting. Kora FM, a local radio station, invited the TRY Director to further discuss TRY and the Co-Management Plan. The call-in radio sessions were continued daily for one week due to the high level of public interest. Such media coverage has helped to inform and educate Gambians about TRY, the Co-Management Plan, and sustainable resource management.

In early July 2013 as the 8 month closed season began, the value of the co-management planning process was further demonstrated. It is through this process that TRY members have better understood the biology of the oyster and cockle resources and can now exercise their user rights and decision-making power. That is exactly what they did at the TRY annual general meeting convened to review the year's activities and make recommendations for the future. The meeting attracted 200 women from all TRY communities. Two Board members were also present. One of the major topics discussed was the co -management plan, which is a living document subject to changes if necessary. Some members had been voicing a proposal to consider shifting the beginning of the open season from March to January and potentially prolonging it by an additional month (i.e., January to May each year rather than March – June). The issues considered by the women when discussing this option demonstrate how far they have come in their knowledge, experience and engagement in managing the fishery. They considered economic, social and biological factors in making the decision. In the end, they unanimously agreed (by vote) that they all maintain the March to June opening and closing. One woman said, "…we have reached grade 12, we will not go back to grade 1."

Figure 8. More than 200 TRY members voting no on a proposal to change the period of the open season for oyster harvesting.

Establishment of Community Committees. In accordance with the Co-Management Plan, TRY Association conducted community meetings in 13 of their 15 communities. The purpose of the meetings was to inform the broader communities of the Co-Management Plan and elect 6 – 8 representatives from each community (youth leader, alkalo, village development committee (VDC) members, and TRY women representatives) to be on the larger Community Committee. The final 2 communities will be completed in FY14.

Biological Sampling. The aim of this research is to compare the size of oysters harvested from the beginning of the oyster open season to the end of the season. This information can be used to assess the biological objective of the Co-management plan (i.e., provide information about the status of the stock as the open season progresses and from year to year). In preparation for the opening of the oyster season on March 1, TRY engaged TRY member's daughters from the skills training program run by TRY, rather than external consultants, to sample oysters at selected sales points for this study. In February, Mr. Kanyi of USAID/BaNafaa trained four of the girls. Together they collected samples during the harvest season at six sites, Kamallo, Wencho, Old Jeshwang, Abuko, Lamin, and Ibo Town. They purchased four cups of oysters at each site two times per month (March – June) on designated days. At the TRY Center they recorded the number of oysters and weight per cup. Preliminary results (report is pending) show that the decline in oyster size over the 4 month open season does not indicate overfishing. This data is not sufficient to determine the status of the stock and will be most useful over time (when collected annually and compared). However, given the lack of any data on oysters collected by DoFish, it is data that is within TRY's capacity to collect systematically from year to year and data that will be owned, understood and easily accessed by TRY members for management decision-making.

Figure 9. Skills Training Program participants (TRY members' daughters) conduct biological sampling of oysters from sales points during the 4 month open season.

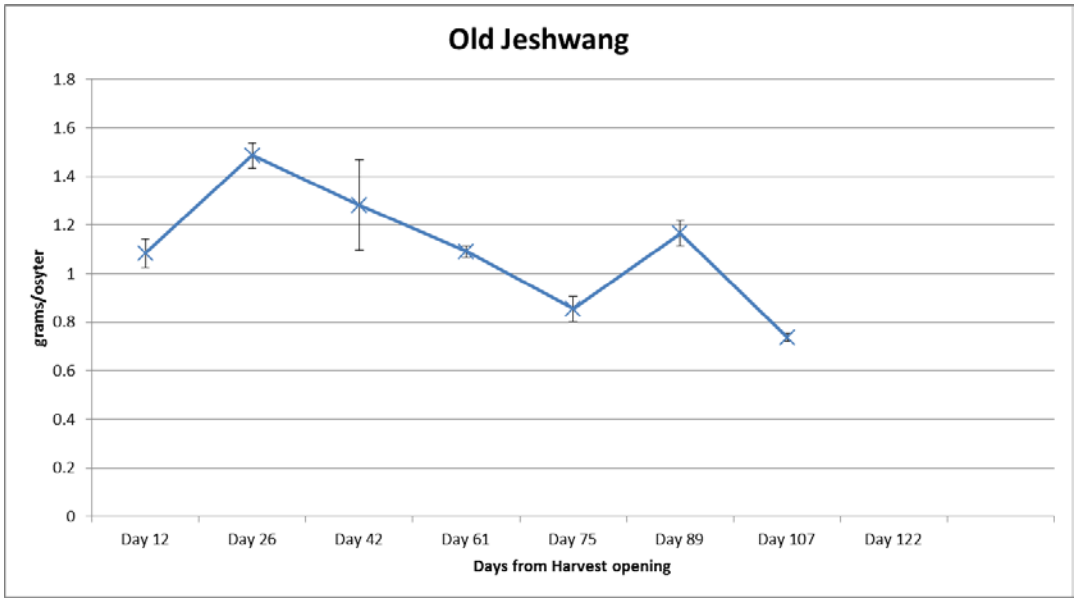


Figure 10. Average size of oysters from Old Jeshwang sold at market over the 4 month open season.

2. TRY Capacity Strengthened.

Implementation of the co-management plan described above demonstrates the growing capacity of TRY and its members. The marketing and processing activities described below also demonstrate the development of this capacity in concrete terms. The USAID/BaNafaa Project has supported these efforts as described in those sections through Seed Grants to TRY and through technical assistance provided by USAID/BaNafaa staff. In Year 4 the following activities have contributed to the growth of TRY's capacity.

Administrative/Finance Training and Support: TRY's Executive Director and the Peace Corps Volunteer posted with TRY attended the Administrative/Finance Management Training for local partners conducted by URI in October in The Gambia. TRY also benefitted from one on one support and a one day follow-up training conducted on March 18th by the URI in-country Admin./Finance Assistant. As TRY continues to attract significant donor funding from multiple donors, begins to increase its own revenues from product sales and manages financial transactions with members, sound and transparent financial management is an increasingly important priority for the short and long term. TRY's Standard Operating Procedures (SOP) Manual was also finalized in Year 4, followed by its' first audit.

While TRY has been successful in attracting grants and in kind donations from other donors (UNDP, Action Aid, Global Giving, the Ministry of Education, etc.) none of these sources cover TRY's core operating costs, key staff stipends (including the Director and Administrative/Finance Assistant), rent, utilities, fuel and transportation. Covering these costs sustainably remains a key challenge for TRY.

TRY has worked to institutionalize and emphasize to its members the importance of timely payment of annual membership dues. Access to participation in the microfinance program, in GEF funded oyster aquaculture activities and to benefitting from school uniforms purchased with Global Giving funds have all been made conditional on timely payment of membership dues. However, membership dues currently only generate a maximum of $5,000 per year. This is not enough to sustain TRY's core operating costs of about $20,000 per year. Investment in developing a sustainable revenue stream from product sales (and services) is TRY's principle long term strategy for covering operating costs (in addition to reducing major costs such as rent by establishing its own center). Seeking donor support for the core operating costs of this young and developing organization as an interim measure will be necessary for the short and medium term. The SOP Manual now identifies these costs and defines the standard process by which they will be budgeted in proposals to donors. USAID/BaNafaa has contributed to core operating costs through its seed grants to TRY.

Peace Corps Volunteer placement with TRY. USAID/BaNafaa's seed grants to TRY have supported housing and project related per diem and transportation for Peace Corps Volunteer's posted with TRY since 2011. On February 20th, 2013, the Acting Director of the U.S. Peace Corps, Mrs. Carrie Hessler-Radelet, visited TRY during her one-day visit to The Gambia. TRY was chosen because of its incredible progress as a community-based organization and because of the role Peace Corps Volunteers have played in developing and supporting TRY. Members from each of the 15 TRY communities attended the event. The local media, including the Daily Observer Newspaper and GRTS, covered the event.

At the end of April 2013, Peace Corps Volunteer (PCV) Fern Aguda-Brown returned to the United States following the successful completion of her assignment with TRY. She made significant contributions to TRY in many areas, including strengthening administrative and financial management systems and health and girls skills training in particular. A new PCV, arrived in May, but as of September 2013, she left her posting with TRY, opting for a village post.

3. Processing and Marketing.

TRY Land Acquisition and Center. TRY continues to pursue its plans to acquire land from The Government of The Gambia to establish a permanent headquarters/processing/marketing and education center. In early December, TRY appealed to the Permanent Secretary of the Ministry of Regional Administration, Lands and Traditional Rulers for a fee waiver for the land application, copying the letter of request to other parties, including the Vice President, the Secretary General and Honorable Minister for Presidential Affairs and National Assembly Matters, National Environment Agency, Department of Parks and Wildlife Management, and Department of Fisheries. TRY has not received a response. Japanese Government representatives from the Embassy in Senegal have met twice with TRY in The Gambia (in January and in May) and are considering a grant to TRY through the Grant Assistance for Grassroots Human Security Projects (GGP) mechanism. However, this funding for a training center will not be available until TRY has secured the land. USAID/BaNafaa staff have accompanied, assisted and advised TRY in the meetings and funding application process.

UNDP Processing and Marketing Support. In FY 13, TRY received funding from UNDP in collaboration with the Ministry of Trade, Industry and Employment for the following:

- An industrial vacuum packing machine
- Equipment, including cold chests, an LCD projector, flat screen TV, and DVD player
- Fuel saving oyster smoking ovens at 15 TRY community landing sites (based on improvements to the design demonstrated at Kamalo built with USAID/BaNafaa assistance in FY12). One of the main improvements has been to locate the ovens inside of a covered open air shelter (see Figure 11 below). Not only does smoking with these ovens require less fuelwood than would otherwise be used to boil the oysters on a traditional 3 rock fire, but the price per kilogram of smoked oysters is higher than boiled and should bring more value to the women for the limited kilograms they are sustainably harvesting.
- A 4-day study tour to Soucouta, Senegal to learn improved methods for processing, packaging, and preserving oysters and cockles from an established group of female oyster and cockle harvesters. The TRY Director and three members participated in February 2013. To help explain the processing center and its management to the rest of the TRY membership, TRY arranged for a video of the study tour. The video will be used during upcoming trainings and will continue to be a resource for TRY Association. TRY now has an excellent model to use when thinking about and planning its own processing center in the future.
- Capacity building training for 300 women from TRY's 15 communities on shellfish handling, processing and quality control.

USAID/BaNafaa staff provided technical assistance to TRY for the development and negotiation of this proposal and has been accompanying TRY in implementation and monitoring of the services and infrastructure, including understanding of the UNDP financial management and reporting requirements that TRY must comply with. UNDP funding to TRY for 2012 and 2013 activities is considered as Cost Share from TRY under the USAID/BaNafaa project.

Figure 11. Oyster smoking oven infrastructure constructed at 15 harvesting sites.

Visit to Atlantic Seafood Processing Plant. TRY continues to educate its members on improved processing techniques and on best practices in seafood handling and hygiene with assistance under its USAID/BaNafaa seed grant. On May 13, TRY members from Kamallo visited the Atlantic Seafood Plant located on the Banjul - Serekunda Highway. This plant is a joint venture by private owners from the Netherlands. Employees are mostly Africans from surrounding countries, including Gambians. The purpose of the visit was to observe processing and quality control techniques and to understand hygiene and sanitation practices in food production, including proper packaging procedures. During the tour, the women were required to wear uniforms and hair nets and follow correct hand washing protocol. The plant processes various types of fish for the export market. Exporting Gambian oysters is a long term goal of the TRY women.

Figure 12. TRY members from Kamallo visiting Atlantic Seafood processing plant in The Gambia.

Global Giving. With the cash donation that was received from Global Giving, TRY was able to purchase one hundred pairs of protective goggles from Dakar, Senegal. This will help address the problem of eye irritation which has been a major complaint by the women during processing. Because the oyster harvesting season has closed this year, distribution of goggles will be done at the beginning of the next season in March 2014. USAID/BaNafaa continues to support TRY to operate the Global Giving website and considers this revenue as cost share from TRY.

4. Aquaculture Action Research.

Environmentally friendly aquaculture research and development is a management measure specified in the Oyster and Cockle Co-Management Plan. USAID/BaNafaa has been supporting this aspect since the beginning of the project with training and action research pilots on floating basket culture of oysters, cockle ranching and rack culture of oysters conducted by TRY members in their communities.

Floating Basket Culture. A Technical Paper by Dr. Michael Rice of URI entitled, "Modified Taylor Float System for Culturing Oysters in The Gambia," on the results of the floating basket culture of oysters was finalized Year 4. The results were presented and discussed with interest at the Annual Cockle and Oyster Co-management Plan Review Meeting in January 2013. The study found this method of oyster culture is not at this time economically viable for the women to continue on their own. At the current stocking density of 150 seed oysters per float basket, it would take about 17 annual oyster culture seasons to break even on the materials costs of a float basket of this design. Most of the source of the economic imbalance rests largely with the low market prices that the Gambian oyster harvesting women receive for their product in local markets.

Figure 13. The modified Taylor float oyster culture basket deployed in the estuary system close to the oyster harvest sites at Kubuneh.

The women in Kubuneh, the test community, however, have a high level of interest and excitement in continuing to experiment with this method. They reported it to be safer and easier than traditional harvesting; it allows them to work closer to home; it has less impact on the mangrove forests; and it produces marketable, higher value oyster shapes and sizes. The recommendation was that TRY and USAID/BaNafaa continue to lend support to these women to develop more economic ways of creating these baskets/floats, in addition to USAID/BaNafaa's continued support for improvements in the handling, processing and marketing aspects of the value chain with the aim of higher returns for the women.

Rack Culture. TRY continues to monitor the oyster culture racks that were constructed in November and December 2012 with the grant they received from GEF. Although the wild harvest is currently so plentiful it is not evident that aquaculture could produce comparable volume with comparable effort and cost/benefit in the immediate term, donor support is enabling TRY to continue to develop this technique and to scale it up. USAID/BaNafaa staff provide technical assistance to TRY for implementation,

including oversight for installation, monitoring and maintenance of the racks at 6 community sites and assistance to prepare reports for GEF. After 2 years, GEF support has ended and the women are expected to continue monitoring and caring for their aquaculture racks on their own. Analysis of the production and marketing results of this activity and its potential for sustainability without subsidy have not been documented to date. Whether the women in these 6 communities maintain and reseed their racks on their own will be the most obvious indicator of sustainability. GEF funding is considered as cost share from TRY on the USAID/BaNafaa project.

Figure 14. GEF funded oyster rack culture.

With technical assistance from USAID/BaNafaa staff, TRY has leveraged additional donor funding for oyster aquaculture including:

- Funding from Taiwan to support to the Department of Fisheries and TRY for $88,000 over 3 years.
- British High Commission funding of approximately $6,800 for expansion of oyster culture in the Tanbi for the remaining oyster communities that did not benefit from the GEF-UNDP Small Grant. TRY was chosen out of 100 applicants.

Brian Crawford's presentation entitled, "Action Research in The Gambia: Can Shellfish Aquaculture And Sea Ranching Enhance Food Security, Incomes And Empower Women Harvesters In The Gambia," delivered at a USAID Aquafish Collaborative Research Support Project event in February 2013, summarizes the lessons learned from The Gambia experience as follows:

"Oyster aquaculture has the potential to increase women's income and harvest yields, and reduce wild harvest pressure…Improving incomes, food security and empowering this disadvantaged group of women requires an integrated approach where no one activity will be sufficient to achieve this goal. Improving production through aquaculture and improved wild harvest management must be coupled with other interventions aimed at a broad range of factors that keep these women in poverty.

Figure 15. Mangroves planted from propogules by TRY (left) in October 2011are surviving and growing, 2 years later (right).

These include - improved literacy, access to credit, a stronger producer association, improved products, markets, and landing site sanitary facilities, exclusive harvest rights, as well as cooperative and capable local government and non-government institutions that can provide support services."

5. Mangrove Planting

The 33.5 hectares of mangroves planted by TRY in October 2011 are surviving and growing (see Figure 15 below). TRY would like to formally evaluate the success of this effort before continuing to plant further hectares, but has not yet found the resources to do so.

Other Programs Directly Benefitting Members.

Microfinance: TRY's microfinance program is continuing with existing active participants. The women are slowly continuing to realize the importance of saving their money.

Skills Training of TRY Daughters. Alternative livelihood development is also a management measure specified in the co-management plan to reduce pressure on shellfish and mangrove resources. Fifteen students graduated from the Skills Development Program on April 19, 2013. The ceremony held at the TRY Center marked successful completion of a 2 year program. Action Aid The Gambia was the major sponsor of this graduating class and USAID/BaNafaa's also contributed through its support for the Peace Corps Volunteer posted at TRY. Certificates were awarded to the students, who performed a drama about teenage pregnancy, HIV and AIDS and how to say no to men and boys. The students displayed the items they produced during the training, including tie-dye and batik, soap and soap powder and handmade bags, followed by a reception with snacks prepared by the girls themselves.

Figure 16. Skills training graduates completing their two-year program at TRY.

Health. In Year 4, TRY began a health education initiative to educate TRY members on health topics relevant to their lives and chosen by the women themselves, including sexual and reproductive health, malaria, cancer, nutrition, oral and eye health. This initiative came in response to requests from the TRY women for health classes. The activity was funded by the Peace Corps SPA (Small Project Assistance) Program. However, because the costs are minimal ($45-$60), this program can be continued by TRY once SPA funds end. Classes were held on the topics of female and male reproductive anatomy, menstruation, menopause, breast health, STIs, HIV, cervical cancer and family planning. Of the 50 women who participated in the cervical cancer session, 80% later showed up for scheduled appointments at a local clinic. Rarely do Gambians, especially uneducated women, have the chance to speak freely with willing health professionals as TRY members were able to do as a result of this activity. The classes will also help make the women more confident in understanding and accessing health services, especially sexual and reproductive health services, available in the Greater Banjul area. Fatou Janha, TRY Executive Director was invited by The Woodrow Wilson Center in Washington DC to speak about TRY's integration of health activities into natural resource management programs. She spoke on July 26th on a panel entitled "Oysters, Octopus and Resilience."

7. Allahein River Estuary Trans-Boundary Oyster and Cockle Co-Management Plan

Based on the PRA conducted in 2012, in Year 4 the next stage of the participatory management planning process was undertaken in Kartong/Allahein River estuary at the southern border of The Gambia and Southern Senegal (the Casamance Region). Following a two day meeting in March that brought together community stakeholders from both countries, it was agreed an Association be formed named "ALLAHEIN KAFO". The communities are interested in working together to prepare and implement a co-management plan. However, the communities will first be trained and capacities built on co-management. Since the March meeting, outreach and awareness raising on these ideas was carried out in each community and TRY has invited women from the Senegal communities to participate in TRY training activities in Banjul. The Senegalese communities in the Allahein estuary have also begun respecting the closed season for oyster harvesting that started on July 1, 2013 now that they are aware of

it and its purpose. In FY14, USAID/BaNafaa will support TRY to identify and document the next steps in the bi-lateral co-management process so that it can continue even as USAID/BaNafaa project support comes to an end.

8. Water Quality, Sanitary Shoreline Surveys and a Gambian National Shellfish Sanitation Plan (GNSSP).

Water quality testing to determine whether there are public health risks from contamination of oyster harvesting areas was continued for a 3rd consecutive year in Year 4 at 15 oyster harvesting sites within Tanbi Wetlands and Western Region. In January 2013, 4 additional important harvesting sites deep inside the Tanbi were added to the testing protocol. Testing is conducted on a fortnightly basis and analyzed at the laboratory in Abuko. Total and fecal coliforms are determined by the membrane filtration method, using standard TC and FC media. Coliform counts are done using 25 mL of filtrate and reported as colony counts per 100mL of sample as is routinely reported in shellfish sanitary water quality literature (e.g. Graybow et al, 1981). The results of the study to date show that both total coliform and fecal coliform counts were relatively low in all sample sites. The data from the Tanbi sites appears to be reasonably clean in comparison to U.S. NSSP Total Coliform water sanitation standards, although Fecal Coliforms are higher. The data also show that there is a distinct wet season signal and variability in the maxima from month to month indicating that there are definite transient contamination events from time to time in some locations (Figures 17 and 18). The wet season of 2013 appears to have been less intense as coliform levels this year were significantly lower. Data from deep inside the Tanbi shows that all four sites are very clean, meeting NSSP standards throughout the year, except for a single day at one site, indicating a transient contamination that dissipated quickly (Figure 19).

In addition to water quality testing, shoreline sanitation survey techniques enable decision makers to identify areas of critical threat to shellfish sanitation. Based on the twice yearly schedule put in place, the third shoreline sanitation survey was completed in February 2013.
One of the next steps in the process is classification of water quality zones. Profiles of baseline water quality in the different zones will be the basis for making management decisions regarding closure at times of risk for human consumption. In addition to the technical framework for a GNSSP, USAID/BaNafaa will focus on encouraging documented procedures for interagency collaboration and budget appropriations for GNSSP work in the future after project assistance ends.

The process being undertaken in The Gambia was shared by Dr. Rice of URI at the USFDA 65th Annual Mid-Atlantic Interstate Seafood Seminar in Rehoboth Beach, DE, “Changing Environments for the Future” on April 16th.

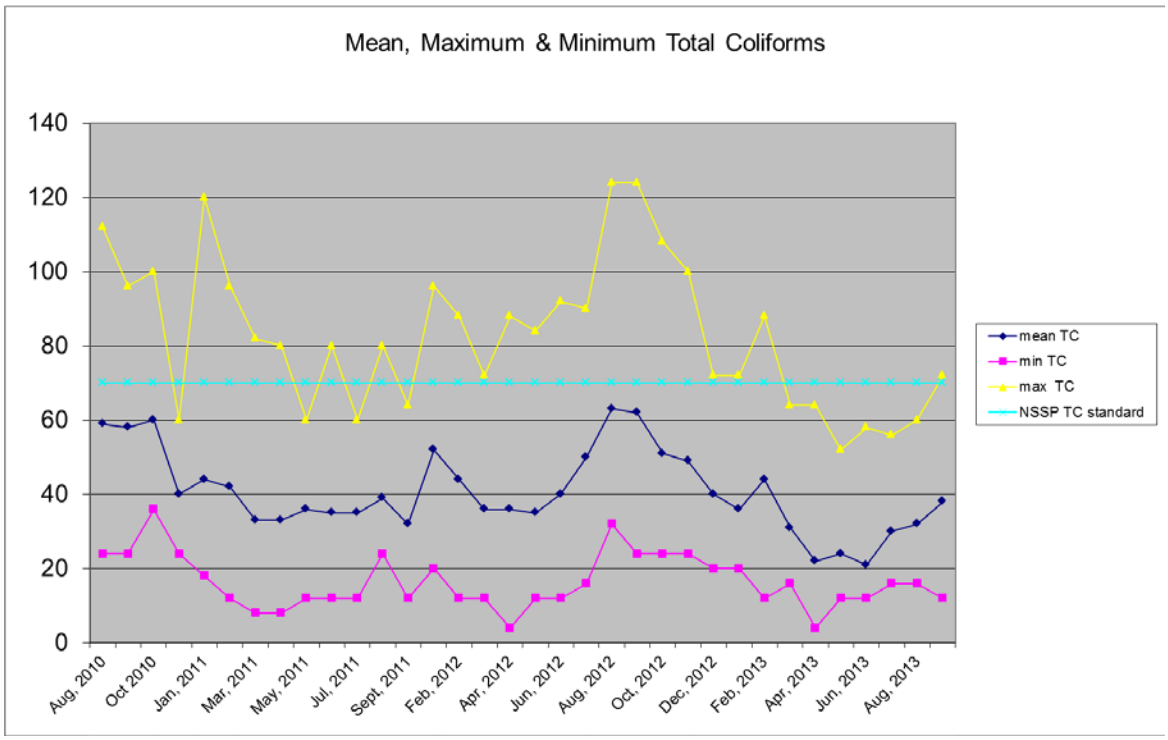


Figure 17. Average Total Coliforms at oyster harvesting sites August 2010 – September 2013.

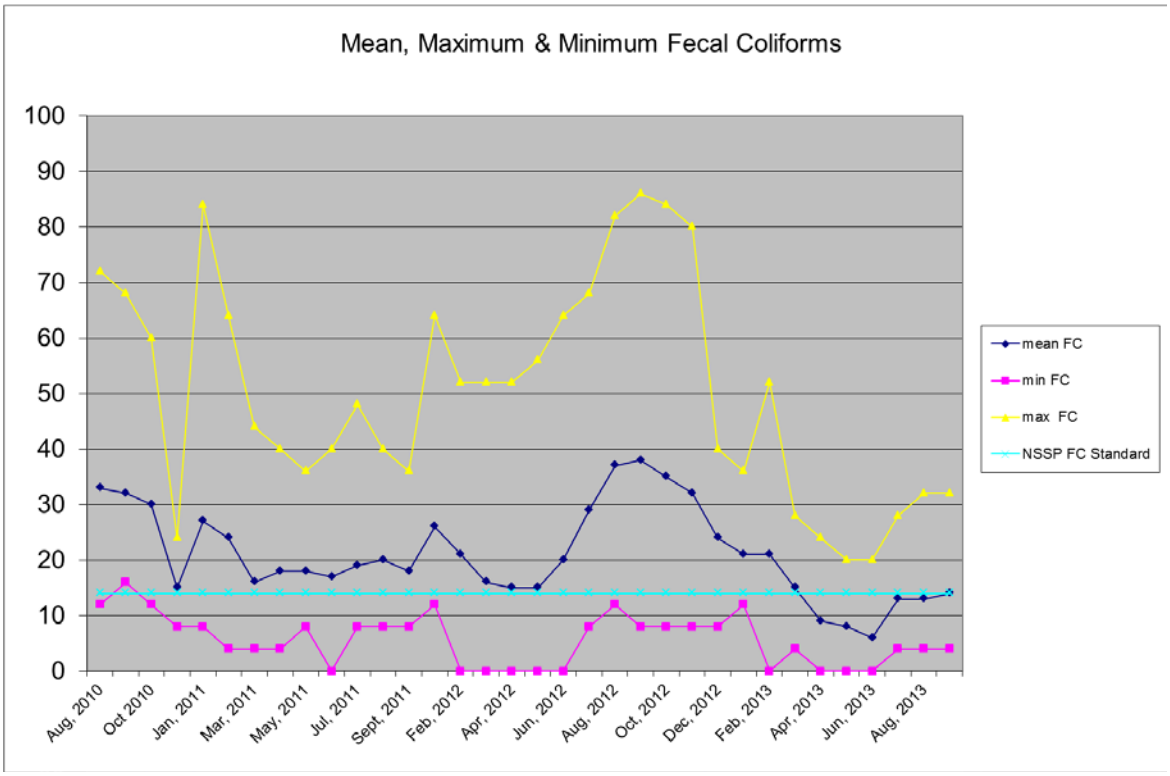


Figure 18. Average Fecal Coliforms at oyster harvesting sites August 2010 – September 2013.

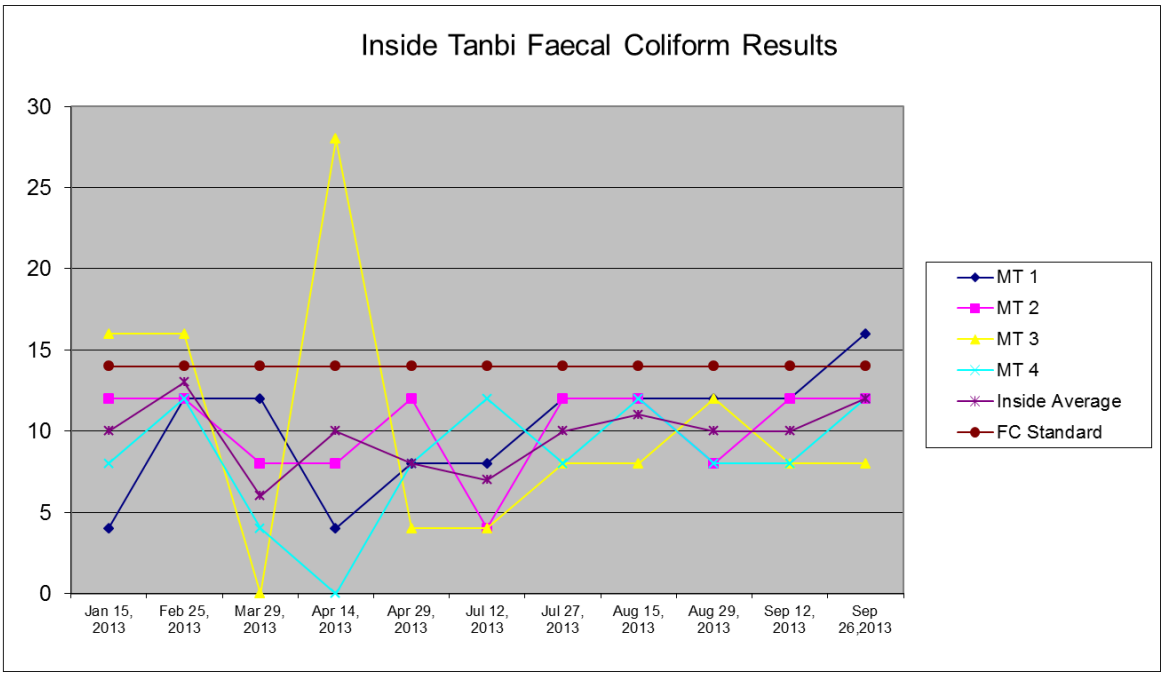


Figure 19. Fecal Coliforms at the 4 oyster harvesting sites deep inside the Tanbi January – Sept. 2013.

c. Water, Sanitation and Hygiene (WASH)

The Water and Sanitation component of the USAID/BaNafaa Project was incorporated to support needed water and sanitation activities linked to the artisanal fishery and Community Fishery Centers (CFCs) and oyster landing sites. The objectives of these WASH activities are to improve water supply and sanitation at approximately seven public fisheries landing/processing facilities, including oyster harvesting/processing sites. This will provide direct benefit to the thousands of fishermen, oyster harvesters, women fish venders, small scale fish processers and other laborers that utilize these facilities daily. An added benefit is that clean water supply and sanitary facilities at these sites will also result in improved sanitary handling of seafood supply and result in safer and healthier seafood product that enters both the local food chain as well as processing centers for export. In addition, recent research on small-scale African fisheries suggests that addressing high priority fisher household vulnerabilities such as water, sanitation and health issues are likely to increase incentives for fishermen to engage in more sustainable fisheries management practices[3]. Lessons Learned from outbreaks of Cholera in neighboring countries in West Africa over the last several years have also highlighted the critical importance of addressing poor water, sanitation and hygiene conditions at hubs, such as fish landing and marketing sites, that can be the entry points for spreading the epidemic nationwide and across borders.

Six fish and oyster landing sites are prioritized for WASH interventions as a result of the needs assessment and stakeholder workshop conducted in Year 3 (FY12) (see Table 1).

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

Table 1. WASH Sites and Activities Status as of September 30, 2013

No.	Site	type of site	Comments
1	Brufut	Fisheries	Training, Community Management Plan and Infrastructure complete. H2O connection by NAWEC pending.
2	Kamalo	Oysters	Training complete. Community Management Plan in final draft, infrastructure 35% complete.
3	Sanyang	Fisheries	To be completed by end March 2014. Sanitary facilities only. The site has water.
4	Jeshwang	Fisheries & Oysters	Training, Community Management Plans and Infrastructure complete. H2O connection and electricity by NAWEC pending.
5	Abuko	Oysters	WASH facilities not possible due to lack of appropriate location at the site.
6	Kartong	Fisheries & Oysters	Training complete. Community Management Plan in final draft, infrastructure 35% complete.
7	Tanji	Fisheries	In place of Abuko, to be completed by end March 2014. Sanitary facilities only. The site has water.

In Year 4 the following activities were completed:

Environmental compliance activities. These included testing potable water sources as per USAID requirements for arsenic and other required water quality parameters. Only 1 of the 4 WASH sites to be provided a new water source will have a borehole. The 3 others will access municipal water, which was also tested. All water sources were found to be within acceptable standards. GAMWORKS and its sub-contractors complied with the Environmental Mitigation and Monitoring Plan (EMMP) during the construction process. The USAID/BaNafaa WASH Coordinator monitored environmental compliance weekly during construction and the project received a monitoring visit from the USAID/West Africa Environmental Officer.

Participatory Hygiene and Sanitation Transformation (PHAST) Training. A total of 160 participants, including 130 women were trained at Brufut and Old Jeshwang, Kamalo and Kartong (40 at each site). The training was conducted by TARUD.

Training of Trainers (TOT) in Community Outreach and Hygiene Promotion. TARUD trained 80 participants, including 61 women (20 at each of the 4 sites - Brufut, Old Jeshwang, Kamalo and Kartong). The training aimed to develop and strengthen the capacities of these four communities to address water, sanitation, hygiene, behavioral and attitude change. The TOT approach on hygiene and sanitation promotion focused on the linkages between water, sanitation, hygiene and health in the following areas:-

- Personal hygiene and its related water uses
- Safe and unsafe water
- Waterborne and excreta related diseases.
- Environmental cleanliness
- Food handling and storage
- Specific behaviors such as hand washing practices, water collection, storage and use
- Latrine use and maintenance

Participants comprised mainly the Community Fisheries Centre (CFC) Management Committee, user groups, local government authorities and community elders. Trainees will now reach out to others in their communities with various outreach sessions and activities. Collectively the 80 trainers at these 4 sites are expected to reach at least 4000 others. Data on these efforts was not yet collected and consolidated as of September 30th.

Fish Handling and Hygiene Training. A total of 80 participants, including 65 women, were trained at the 4 sites (20 per site). The primary aim of the fish hygiene and quality control training was to raise awareness, improve knowledge and skills of fishermen, women shellfish harvesters and processors, fish processors (fish smokers, fish dryers, fish mongers) and staff of the Fisheries Department on the following modules among others:

- Good Manufacturing Practices in small scale fisheries
- Good Hygiene Practices in artisanal fisheries
- Fish handling and processing
- Environmental hygiene and sanitation

WASH Management Committees established. Six WASH Management Committees have been established at four sites. One at the Brufut fish landing site, one at the Old Jeshwang oyster site and one at the Old Jeshwang fish landing site, one each at the Kartong fish and oyster sites and one at Kamalo oyster site.

WASH Management Plans. The USAID/BaNafaa WASH Coordinator is leading the process of developing six WASH Management Plans with each of the six WASH Management Committees in the four communities that have already benefitted from the PHAST training. TARUD is providing input into these plans through its training activities. GAMWORKS, the Department of Fisheries and the Public Health Department are also engaged with communities to develop their respective WASH management plans. Weekly meetings are held and the communities are making their own rules and coming up with management measures on the operation and maintenance of the WASH facilities and on other sanitation and hygiene measures. The WASH Management planning process cultivates community ownership of WASH management through a participatory approach incorporating consultations with community members directly to make all key decisions. This approach is crucial in ensuring that operating practices and maintenance of the water and sanitary facilities and environmental soundness of the sites are sustained. As with the fisheries management plans, the WASH management planning process has made clear that management plans should be flexible to adjustment as implementation begins and experience

is gained. Behavior change and user fee strategies in particular will need to be reviewed and revisited regularly by the WASH Management Committees.

Figure 20. Kartong WASH Management Committee members.

Community participation in cleaning of landing sites. The fishing and oyster communities in Old Jeshwang embarked on a two day cleaning exercise of their respective landing sites in June 2013. The communities were supported by their local area Ward Councillor who provided them with trucks for collection and removal of thrash to the recommended dumping site in Bakoteh. The community members thanked the USAID/Ba-Nafaa Project for developing their capacities on environmental health and sanitation. According to community members, the initiative to come together and clean their fish and oyster landing sites was as a consequence of the PHAST training and the Training of Trainers for Community Outreach on Hygiene Promotion. Also, the WASH management planning meetings with the communities have contributed immensely in the decision making to clean their own environment.

Figure 21. Areas at the Old Jeshwang site previously covered in trash.

Figure 22. Pig pens at Old Jeshwang oyster site that have now been removed.

Figure 23. Old Jeshwang fishing site WASH facilities and signage.

WASH infrastructure. The construction of WASH facilities in Old Jeshwang (Figure 23) and Brufut commenced in the middle of March 2013 and are complete except for water connections. The communities report that they are very satisfied with the quality of work. The next 2 sites (Kamalo and Kartong) will be complete in December 2013. The number of people gaining access to improved sanitary facilities has not yet been reported in FY13 as expected since the handover of facilities has not yet taken place. However, positive results of the training and WASH Management Committee organization are already evident. For example, in 2012 there were no facilities at all at Brufut fish landing site. In 2013 after establishment of the WASH Management Committee and PHAST training, 2 makeshift local latrines were put up while construction of the improved facilities was underway. The community did not want to wait to for improved facilities to stop open defecation. Figures 24 and 25 below show the relatively recent makeshift latrines now in use and one of the new completed sanitary facilities at the Brufut fisheries landing site.

Figure 24. Temporary latrines set up at Brufut fisheries site, where there had been none, following WASH training to stop open defecation while waiting for the new WASH facilities.

Figure 25. New WASH facilities at Brufut fisheries landing site.

Consulting at length with stakeholders and dealing flexibly with issues of management responsibility for WASH activities and facilities has been an important aspect of WASH implementation. Significant changes to original plans have been made as a result and will favor positive results and sustainability of

the WASH interventions. These changes include, allowing oyster and fisheries communities at the same landing site to have separate facilities and to manage their WASH activities separately. Gender was also a consideration in this decision as the women oyster harvesters have their own management structures and group solidarity that have been successful for them as they are among the most socially and economically marginalized segments of the population in The Gambia.

Providing a WASH component in the context of fisheries co-management, where fishery user groups have exclusive use rights over the fishery, favors the sustainability of other components like WASH. In this context, the users have more interest in and are more likely to be benefitting economically from sanitation and hygiene improvements at landing and harvesting sites.

2.2 Intermediate Result 2

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

Year 4 Highlights

- Department of Fisheries Capacity Strengthened
    - 2012 Stock assessment (using 2010/2011 data) presented by DoFish staff at the First Annual Review Meeting for the *Fishery Co-Management Plan for The Gambia Sole Complex* and reviewed by stakeholders for management decision-making.
    - 2013 Stock assessment update (using 2012 data) completed (report pending)
    - Degree training in Fisheries for 2 DoFish staff in Nigeria completed
    - Fish Biology Course for 10 DoFish field staff (including 5 women) completed

- NASCOM capacity strengthened (see IR1)

- TRY Oyster Women's Association capacity strengthened. (see IR1)
- 347 people (77% women) received USG supported training in NRM and biodiversity conservation in Year 4 (see IR 1 and TraiNet Summary below).

a. DoFish Capacity Strengthened

1. Stock Assessment.

As reported in Year 3, the first stock assessment done by MSC was very preliminary, based on little data. With USAID/BaNafaa assistance, DoFish improved the data and a 2012 Stock Assessment Report based on 2010/2011 data was produced. As reported under IR1 above, the findings were presented by DoFish staff at the first Annual Review Meeting of the *Fishery Co-Management Plan for The Gambia Sole Compl*ex in October 2012 and the stock assessment has now been updated with new 2012 data for the second Sole Plan Annual Review Meeting scheduled for November 2013. The co-management plan provides the institutional framework for stakeholders to decide how to act on the findings. The 1 nautical mile (nm) seasonal closure was incorporated into the management plan as a precautionary measure, but will now be considered a significant management action. An amendment to increase the

minimum mesh size and include Catfish will now also be considered at the November meeting based on the results of research conducted in Year 4.

In spite of this recent progress and the very positive momentum on the part of NASCOM for implementation of the Co-Management plan, the greatest challenge now faced by stakeholders in the co-management process is that DoFish has not taken action to effectively capitalize on technical assistance and capacity building provided by the USAID/BaNafaa project and others to institutionalize the sole stock assessment function within the Department. This is in spite of growing competency demonstrated by technical staff in the statistics unit and in spite of four senior DoFish staff attending the URI Fisheries Leadership course in Rhode Island since 2010, among multiple other opportunities provided by the project to support DoFish to realize its co-management role. Currently, only Atlantic Seafood is providing critical data needed for stock assessment and NASCOM is preparing to collect length frequency data, realizing that DoFish does not have the capacity to do it. In addition, DoFish has still not produced and shared a report on vessel registration completed in 2011 (with USAID/BaNafaa financial assistance). In its final months, the project will continue to address issues of DoFish capacity with DoFish and with the New Minister of Fisheries and Water Resources appointed in November 2012.

2. Degree Training for DoFish Staff

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

3. Fish Biology Training.

Training of Trainers in Fish Biology was conducted in The Gambia and at the University of Rhode Island in 2011. In March/April 2013, DoFish organized its staff for the long planned in-country fish biology training facilitated by these trainers (Mr. Gibril Gabis of DoFish, seconded to the USAID/BaNafaa Project and Mr. Lamin Sanyang of Atlantic Seafood Company). Chris Parkins of URI provided support for the first of the series of 5 day-long classes and Geoffrey Kibler, Peace Corps Volunteer posted with WWF also assisted throughout, but the aim was for local resource persons to lead the instruction. The new Guide for the Identification of Commonly Caught Fish in the Bottom Set

Gillnet Fishery in the Gambia, produced with USAID/BaNafaa support was used in the training and distributed to participants for their use in the field.

The course objective was to improve the knowledge and understanding of the Gambia Department of Fisheries staff on fish biology. The topics covered included:

Class 1: Identification of Common Fish of the Gambia

Class 2: Anatomy of Fish

Class 3: Field sampling and data collection

Class 4: Fish Age Sex and Maturity/Length and Weight

Class 5: Working Visit to Atlantic Seafood Company

The training method for the fish biology course included lectures, handouts, reinforced group discussions, and hands on laboratory and field exercises. A post test was administered to evaluate how much the trainees learned.

Figure 26. Fish Biology Course participants with their Fish ID Guides.

Observations/Lessons Learned:

- The Field Sampling and Data Collection class was important because of the gap in DoFish capacity in this area:

    - There was a heavy emphasis on accurate data collection and common mistakes.
    - There is currently no set way in which each landing site collects its data.
    - Trainees expressed the need for the Department to provide them with the necessary resources, support and monitoring so that they can accurately collect the data.
- Most felt the overall course should have been a lot longer so they could better retain the information presented.
- Instructors felt that a pre-test/assessment to determine trainee's level is essential if this type of training is repeated.
- All wanted to learn more about fish biology and how to better perform their jobs. They currently have no way to obtain such trainings.

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

The Interagency Committee to further review the report on the Comparative Cost Study met in May 2, 2013 at DoFish. The key points were as follows:

The Chairperson, Ms. Baturu Camara Ceesay of the Ministry of Trade, Employment and Regional Integration welcomed the Committee members present and lamented that some key member agencies/institutions were not present namely: Office of the Vice President, Ministry of Finance and Economic Affairs and GIEPA and said that these institutions can be important players in the work of the Committee. The Chairperson recalled the reason for creating the Interagency Committee and said that the Committee was mandated to take further action(s) based on the recommendations of the study report, the most important of which is to prepare a Cabinet Paper to inform The Gambia Government on the contents of the report.

The Comparative Cost Study report made reference to a value chain assessment of the sole fishery commissioned by the USAID/Ba-Nafaa project, and the assessment revealed that an unknown quantity of sole fish is trans-shipped into Senegal and much of this transshipment is not being fully captured by the Department of Fisheries statistics. Sole fish caught in Gambian waters are loaded onto trucks coming from Senegal and transshipped to Senegal. The transshipped products are purportedly caught in southern Senegal (Cassamance) and transshipped to Senegal for eventual processing and export. Although the value chain assessment was limited to the sole fishery, the assessment also revealed that other high value fish species are included in the cross border trade such as cephalopods, shrimps and high value finfish species. This illegal trade can have significant impacts on trying to accurately assess landings of sole and other high value fish species caught in Gambian waters. Therefore, additional assessment of the cross border trade was needed and this warranted the commissioning of the comparative cost study to assess the impact of the cross-border of Gambian fish to Senegal to fully understand market context and opportunities for improving marketing that benefits more fully Gambian fishermen, processors and exporters.

The Committee meeting focused on review of the conclusions and recommendations of the study report which relate to the following: the price of fish; the incentive package offered in the two countries; the prevailing financing system; the position of the supporting industries; the institutional framework and

the human resources available for the promotion of the fish processing industries; and the comparative cost per unit of the processed sole. The study report recommended that the competitiveness, profitability and sustainability of the Gambian fish processing industry depend on the following issues: 1) financing, 2) utilities cost reduction, 3) infrastructure improvements, 4) associated industries, and 5) the supply of raw materials (fish).

The Committee agreed that the Ministry of Fisheries and Water Resources (MoFWR) and DoFish should be the lead agencies and the Ministry should assume the Chairmanship of the Committee. The conclusion was that the MoFWR is better placed to coordinate the affairs of the Committee including the drafting of the Cabinet Paper and submitting it to Cabinet. The Committee recommended that the Security Service agencies and Customs Department be involved in the work of the Committee especially as regards ensuring compliance with the fisheries legislation and monitoring, surveillance and enforcement. The Committee requested that the USAID/Ba-Nafaa project should continue to support the work of the Committee. The Deputy Permanent Secretary of the MoFWR, Ms. Fatou Sosseh Jallow, informed the Committee that her Ministry will internalize the study report (study and discuss the report at the level of the Ministry) and will come up with a strategy on the way forward. As of September, no additional action has been reported from the Ministry.

The membership of the Interagency Committee include the following: MoFWR, DoFish, Ministry of Trade, Employment sand Regional Integration, GIEPA, Ministry of Finance and Economic Affairs, Office of The Vice President, TAGFC and NASCOM. 2 fisheries non-governmental organizations Gambia Artisanal Fisheries Development Agency (GAMFIDA) and National Association of Artisanal Fisheries Operators (NAAFO) were co-opted as members.

Progress on Fisheries Infrastructure Development in The Gambia

The newly constructed US$8.5M Banjul Fisheries Jetty was Tuesday (July 9th) handed over to the management of the Gambia Ports Authority (GPA) through a signed management contract by the Minister of Fisheries and Water Resources (Daily Observer, July 10, 2013)

The Fisheries Jetty was among the sub-projects sponsored by the African Development Bank (ADB) and the Arab Bank for Economic Development in Africa (BADEA) and coordinated by the Gambia Artisanal Fisheries Development Project under the Ministry of Fisheries. The acting deputy managing director of Gambia Ports Authority (GPA) said “The objective to have the jetty will include the need to earn foreign exchange by providing the adequate service to foreign and local fishing trawlers on the industrial level as well as catering for artisanal fisheries for the local fisher folk."

The jetty has a total length of 125 meters. There are 2 piers; pier 1 has a 85 meter length access bridge and a 60 meter length pier head; Pier 2 – the concrete deck part of the jetty which is connected to pier 1 – has a 40 meter length access bridge and a pier head of also 60 meter length for industrial fishing vessels. There are two floating pontoons attached to access bridge of pier 1 each of 20 meter length for artisanal canoes to enable fish to be offloaded from commercial artisanal fishing boats.

5. Goverance Scorecards Improving

Governance Scorecards for both the Sole fishery and the Oyster and Cockle fishery have been used since the beginning of the project to track progress in key categories. The baseline score recorded in 2009 improved significantly for both fisheries in 2010. Results for both the Sole and the Cockle and Oyster fisheries continued to improve in 2011 (scored in January/February 2012 as the two co-management plans were officially approved). The last and final scoring was done in September 2013 (see results in Table 2 below). It is clear that with the approval of the two co-management plans, First Order Outcomes focusing on commitment and capacity have shown significant improvement. Second Order Outcomes, focusing on changes in institutional, individual and investment behavior are progressing more gradually after an initial leap in Year 1. Of note in the 2012/13 scoring is that, with implementation of the plans, stakeholders have a more in-depth understanding of the dimensions of fisheries governance, have raised their expectations and are less willing to give high scores.

Outcome Order	**Sole**				**Cockles and Oysters**			
	2009	2010	2011	2012/13	2009	2010	2011	2012/13
First Order Outcomes	14	29	36-37	36-38	11	28	33	34-36
Second Order Outcomes	14	31	32-37	32-35	10-12	27-29	35	38-40

Table 2: Governance Scorecard Results

b. Local Partner Capacity Strengthened

As reported under IR1 above, USAID/BaNafaa has strengthened the capacity of TRY and NASCOM in particular in various ways with positive results.

As reported under IR1 for the WASH component, PHAST training of WASH Management Committees and community leaders as well as the TOT for Community Outreach and Hygiene Promotion and Training in Fish Hygiene and Handling are also building capacity at the community level.

c. Bilateral Stakeholder Capacity Strengthened

Second Annual Bilateral Co-Management Meeting. Based on the recommendation of the First Annual meeting held in May 2012, the second annual meeting originally planned for Year 4 is now scheduled for November 2013 in The Gambia. Repeating this activity was also one of the recommendations of the Mid-Term Evaluation of USAID/BaNafaa. One of the objectives for the second meeting is to secure support for the institutionalization of this forum annually.

d. Sharing the Co-Management experience outside The Gambia

One of the justifications for working in The Gambia to develop a participatory, ecosystem-based co-management planning process is the potential for the model, it successes and its challenges, to be shared nationally, regionally in West Africa, and in the developing world in general. Below is a sample of some of the exchanges that took place in Year 4. These events were not funded by USAID/BaNafaa, but all involve the sharing of results made possible by Project assistance.

- BBC World Service Radio aired a second radio piece on TRY produced by Helen Scales on January
- The UNDP Equator Initiative published and posted on their website a Case Study on TRY.
- At the invitation of the USAID Aquafish Collaborative Research Support Project, Brian Crawford gave a presentation at Aquaculture 2013 in Nashville, TN in February 2013. The presentation was entitled, "Action Research in The Gambia: Can Shellfish Aquaculture And Sea Ranching Enhance Food Security, Incomes And Empower Women Harvesters In The Gambia."
- The water quality testing and shellfish sanitation planning process being undertaken in The Gambia was shared by Dr. Rice at the USFDA 65th Annual Mid-Atlantic Interstate Seafood Seminar in Rehoboth Beach, DE, "Changing Environments for the Future" on April 16th. His presentation was entitled, "The Beginnings of Shellfish Aquaculture and Water Quality Certifications in Gambia, West Africa."
- MSC and Kaufland Seafood invited NASCOM to the European Seafood Exposition from April 22 - 24, 2013 in Brussels. Kaufland handed over a 100,000 Euro check donated to NASCOM at a media event at the MSC stand. Also, The Gambia Sole Fishery has been selected by MSC as one of three examples worldwide to be the subject of a film it is producing under its Developing World Program. The Maldives Tuna fishery and the Mexican lobster fishery are the other two.
- The Director of TRY attended the 2013 INSEAD Social Entrepreneurship Conference in Madrid, Spain from April 26-27. It brings together leading social entrepreneurship practitioners, academics, business leaders and policy makers from all parts of the world. The theme for this year was "Technology, Innovation, and Social Change". She presented on TRY, led the discussions that followed and exchanged ideas with her counterparts.
- The Director of TRY spoke on July 26th on a panel at the Woodrow Wilson Center in Washington, DC entitled "Oysters, Octopus and Resilience." The talk is available on the Wilson Center website archives.
- The Director of TRY spoke on a panel on Coastal Communities chaired by the Rockefeller Foundation at the Social Capital Markets Conference, SOCAP 2013, in California in September.

In November 2013, the Director of TRY will present at the 2013 International Population, Health and Environment Conference in Ethiopia and a TRY Board Member will present a paper at a workshop on Human Development through Women's Livelihood Security sponsored by the UNDP's International Centre for Human Development in India.

2.3 Intermediate Results 3 and 4

IR 3. Nursery areas and spawning areas for critical life stages of commercially important species and for associated marine turtles and mammals are protected

IR 4. Change unsustainable and destructive marine resource use practices that threaten improved biodiversity conservation in the West Africa Marine Ecoregion.

Year 4 Highlights as of Quarter 3

- Implementation of Fishery Co-Management Plan *for The Gambia Sole Complex* (see IR1).
    - 121,245 ha under improved management (the entire Atlantic Coast of The Gambia out to 9 nautical miles)
    - Seasonal closure for all species and gear types out to 1 nautical mile from May to October
    - Fish size limits and gear restrictions.
    - Draft Amendment to increase mesh size limits from the current 40mm to 42-46mm and to integrate Catfish.

- Implementation of Oyster and Cockle Fishery Co-Management Plan for the Tanbi Special Management Area (see IR1).
    - 6,304 ha under improved management (the entire Tanbi Wetlands National Park)
    - Seasonal Closure for Oysters from July to February
    - Gear restrictions for mangrove protection
    - Mangrove reforestation
    - Shellfish size limits
    - Shellfish Sanitation Planning, including bi-weekly water quality testing and bi-annual shoreline sanitation surveys.

- Improved biophysical conditions in areas under improved management not yet demonstrated.

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

The status of number of hectares under improved management remains the same as reported in the Year 3 Annual Report and as illustrated in Figures 30 and 31 below. As reported under IR 1 above, implementation of the Sole Fishery and Cockle and Oyster Fishery Co-Management Plans approved in January 2012 is underway. Fines are being collected for violations. The co-management process of annual review of the two plans is being led by NASCOM and TRY respectively. Updated information is being reviewed and used to adjust management measures. Improved biophysical conditions in the areas under improved management have not yet been demonstrated. Impact at this level is not expected at this point in time. Implementation of management measures is still very recent and still based solely on fisher community consensus to begin implementation while gazetting of the plans is pending. At the same time, sole stock assessments indicate that there may be overfishing in the sole fishery and that improved management is more critical than ever.

Expansion of the sole plan to include Catfish, broadening its scope towards a multi-species plan will be considered for approval in November 2013 as will an amendment to increase the minimum mesh size for the sole fishery. In addition, the cross-border Allahein River estuary oyster and cockle fishery co-management plan now under development will eventually expand the number of hectares of biodiversity significance under improved management in the oyster and cockle fishery.

Figure 27. 121,245 hectares under improved management for the artisanal sole fishery out to 9nm.

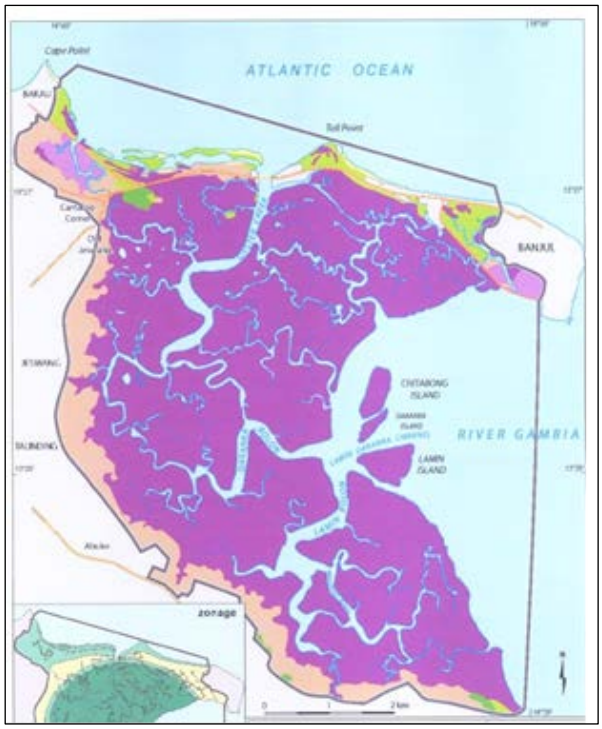


Figure 28. 6,304 hectares under improved management for the oyster and cockle fishery in the Tanbi

3. Project Management

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

The WWF National Program Coordinator in The Gambia serves as a senior advisor to the project. Alagie Manjang, on secondment from the Department of Parks and Wildlife, has been interim Program Coordinator since November 1, 2011.

The Project has benefitted from direct collaboration with Peace Corps volunteers based in Kartong, in Banjul at TRY and at the USAID/BaNafaa WWF office.

3.1 International Travel

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

First Quarter Actual

- Kim Kaine: Administrative/Financial Training for local seed grant partners (October)
- Kathy Castro & Barbara Sommers: DoFish Capacity Building Planning/Stock Assessment/Support Fish Biology Course/NASCOM Capacity Building and participation in first annual Sole Co-Management Plan Review meeting. (October)
- Karen Kent: External Evaluation, initial briefing, orientation and start up. WASH Implementation Support. (November)

Second Quarter Actual

- Mike Rice: Gambian National Shellfish Sanitation Plan MOU and TA, Kartong Cockle and Oyster Co-Management Plan Development support, (January, 2013).
- Chris Parkins: Gillnet study field work, (February 2013).
- Ousman Drammeh: Ghana for the USAID/WA Climate Change Training and Partner's Meeting, (February 2013).

Third Quarter Actual

- None due to delay of the Bi-lateral Co-Management Workshop.

Fourth Quarter Actual

- Karen Kent: Workplanning (September/October 2013)

3.2 Environmental Monitoring and Compliance

Based on the revised initial environmental evaluation (IEE) approved in 2011 for the project and in accordance with the EMMR in Appendix D, monitoring and mitigation plans are in place to ensure no significant environmental impacts are occurring for those actions identified in the IEE with a negative determination subject to conditions. The key activity conducted this year that has conditions is the work related to WASH improvements at landing sites.

In this respect, an Environmental Mitigation and Monitoring Plan (EMMP) has been developed specifically for the construction phase of the WASH infrastructures and is included in URI's sub-agreement with GAMWORKS.

The USAID/WA Environmental Officer visited WASH activities in The Gambia in March, 2013.

3.4 Branding

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

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

Item	Type of USAID marking	Marking Code	Locations affected/ Explanation for any 'U'
Press materials to announce Project progress and success stories	USAID logo (co-branded as appropriate)	M	Primarily a Gambian audience
Project brief / fact sheet	USAID logo (co-branded as appropriate)	M	Primarily a Gambian audience
PowerPoint presentations at meetings, workshops and trainings	USAID logo (co-branded as appropriate)	M	Primarily a Gambian audience
Brochures/posters on environmental issues	USAID logo (cobranded where/as appropriate)	M	Primarily a Gambian audience

Landing or marketing site facility improvements	USAID logo / stickers (cobranded where/as appropriate)	M	Primarily a Gambian audience
Project Office/room within WWF/Gambia office in Banjul	Project sign in English and local dialect name as well *(USAID/BaNafaa*) but no USAID identity used	M	Primarily a Gambian audience
CRC Project Office/room within TRY/Gambia office in Banjul	Project sign in English and local dialect name as well *(USAID/BaNafaa*) but no USAID identity used	M	Primarily a Gambian audience
Fisheries management plans		PE	Primarily a Gambian audience
Project vehicles, office furnishings and computer equipment purchased for project administration by WWF	No USAID identity used	U	Standard exclusions under USAID marking guidelines/policies

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

3.5 TraiNet Data on Trainings Conducted during the Reporting Period

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

Training program	Location	Start date	End date	Participants			Estimated Cost
				Male	Fem	Total	US $
Study Tour to Sine Saloum	Senegal	12/16/2009	12/18/2009	1	31	32	3,507
Co-management Training on Sole Fishery	The Gambia	1/25/2010	01/26/2010	37	3	40	2,188
Co-management Training on the Oyster Fishery	The Gambia	02/01/2010	02/02/2010	2	51	53	2,373

Aquaculture training	The Gambia	01/12/2010	02/05/2010	60	0	60	2,696
Training on Entrepreneurship (study tour to Baddibu)	Gambia	03/18/2010	03/19/2010	2	11	13	600
Stock assessment training	The Gambia	03/15/2010	03/22/2010	14	5	19	3,144
Training on Improved Processing & Packaging	Gambia	30/4/2010	12/4/2010	0	300	300	750
Coastal Adaptation to Climate Change	US	4/6/2010	25/6/2010	2	0	2	26,000
Cayar Study Tour	Senegal	13/6/2010	18/6/2010	11	4	15	4,500
Oyster Aquaculture Training	Gambia	17/6/2010 -	28/6/2010	1	36	37	750
Water Quality Assessment Training Workshop	Gambia	23/6/2010	23/6/2010	18	5	23	100
Fisheries Leadership	US	16/8/2010	3/9/2010	3	1	4	32,000
Biostatistics course	Gambia	09/20/2010	09/27/2010	10	2	12	5,832
GRAND TOTAL YEAR 1				161	449	610	$84,440
Micro-credit and enterprise development	Gambia	25/10/2010	2/11/2010.	0	250	250	1,290
Climate Change workshop	Senegal	3/22/2011	3/25/2011	52	8	60	50,900
Study tour to Tanzania on res. mgt and livelihood development	Tanzania	2/7/2011	2/12/2011	0	1	1	2,145
Water quality and shellfish sanitation	USA	5/21/2011	6/5/2011	3	0	3	15,910
Fish stock assessment	USA	5/21/2011	6/12/2011	3	2	5	34,387

MPA-PRO Certification Training	Kenya	6/13/2011	6/17/2011	1	0	1	3,000
BS Degree Training – Fisheries technology	Nigeria	5/15/2011	8/16/2013	1	0	1	10,000
BS Degree Training – Fisheries technology	Nigeria	8/29/2011	9/30/2012	1	0	1	10,000
TRY members to FENAGIE	Senegal	09/11/2011	9/15/2011	0	4	4	2,759
GRAND TOTAL YEAR 2				61	265	326	130,391
CUMULATIVE GRAND TOTAL TO DATE END YEAR 2				222	714	936	$214,831
PHE workshop	Senegal	12/4/2011	12/07/2011	0	1	1	1,174
Training of the Facilitators for WASH Needs Assessment	The Gambia	12/27/2011	12/29/2011	8	2	10	1,128
TRY literacy training	The Gambia	11/2011	On-going	0	30	30	TBD
Shellfish Sanitation Shoreline Survey Training	The Gambia	1/5/12	1/11/12	8	0	8	TBD
Shellfish Sanitation Shoreline Survey Training	The Gambia	1/16/12	1/16/12	25	5	30	945
USAID Environmental Compliance Training	Ghana	3/19//12	3/23/12	1	0	1	2,075
Stock Assessment	The Gambia	1/20/2012	09/30/2012	2	0	2	4,098
TRY Microfinance training	The Gambia	2/6/12	2/24/12	0	67	67	1,229
TRY hygiene/food handling training	The Gambia	1/31/12	2/1/12	0	90	90	343

Bi-lateral Climate Change Vulnerability Assessment Workshop	The Gambia	4/10/2012	4/11/2012	35	9	44	27,651
WASH Needs Assessment Stakeholder Workshop	The Gambia	4/18/2012	4/18/2012	25	13	38	961
Shellfish Sanitary Shoreline Survey Report Stakeholder Workshop	The Gambia	4/19/2012	4/19/2012	17	4	21	775
Bi-lateral Fisheries Co-Management Workshop	The Gambia	5/30/2012	5/31/2012	60	25	85	23,110
Population, Health Environment URI/Summer Institute	USA, Rhode Island	6/4/2012	6/22/2012	2	0	2	12,430
Fisheries Leadership	USA, Rhode Island	7/2/2012	7/20/2012	2	1	3	19,516
GRAND TOTAL YEAR 3				186	247	433	
CUMULATIVE GRAND TOTAL TO DATE END YEAR 3				408	961	1369	
Administrative/Finance Training	The Gambia	11/12/2012	11/14/2012	6	3	9	947
PHAST Training (Brufut)	The Gambia	11/27/2012	11/29/2012	16	24	40	1,426
PHAST Training (Old Jeshwang)	The Gambia	12/17/2012	12/19/2012	9	31	40	1,393
PHAST Training (Kartong)	The Gambia	01/7/2013	01/09/2013	5	35	40	$1393
PHAST training (Kamalo)	The Gambia	01/21/13	01/23/2013	0	40	40	$1393
Administrative/Finance Training follow-up	The Gambia	03/18/2013	03/18/2013	5	3	8	$280

WASH TOT – Community Outreach and Hygiene Promotion - Brufut	The Gambia	04/17/13	04/19/13	10	10	20	$877
WASH TOT – Community Outreach and Hygiene Promotion - Kartong	The Gambia	04/23/13	04/23/13	4	16	20	$877
WASH TOT – Community Outreach and Hygiene Promotion - Old Jeshwang	The Gambia	04/30/13	05/02/13	5	15	20	$877
WASH TOT – Community Outreach and Hygiene Promotion - Kamallo	The Gambia	05/15/13	05/17/13	0	20	20	$877
Fish Biology Course	The Gambia	03/01/13	04/16/13	6	5	10	$786
WASH Sites Fish handling and hygiene - Brufut	The Gambia	8/17/2013	8/19/2013	10	10	20	TBD
WASH Sites Fish handling and hygiene Jeshwang	The Gambia	7/29/2013	7/31/2013	3	17	20	TBD
WASH Sites Fish handling and hygiene - Kamalo	The Gambia	8/1/2013	8/3/2013	0	20	20	TBD
WASH Sites Fish handling and hygiene - Kartong	The Gambia	8/14/2013	8/16/2013	2	18	20	TBD
GRAND TOTAL YEAR 4				81	266	347	
CUMULATIVE GRAND TOTAL TO DATE END YEAR 4				489	1227	1716	

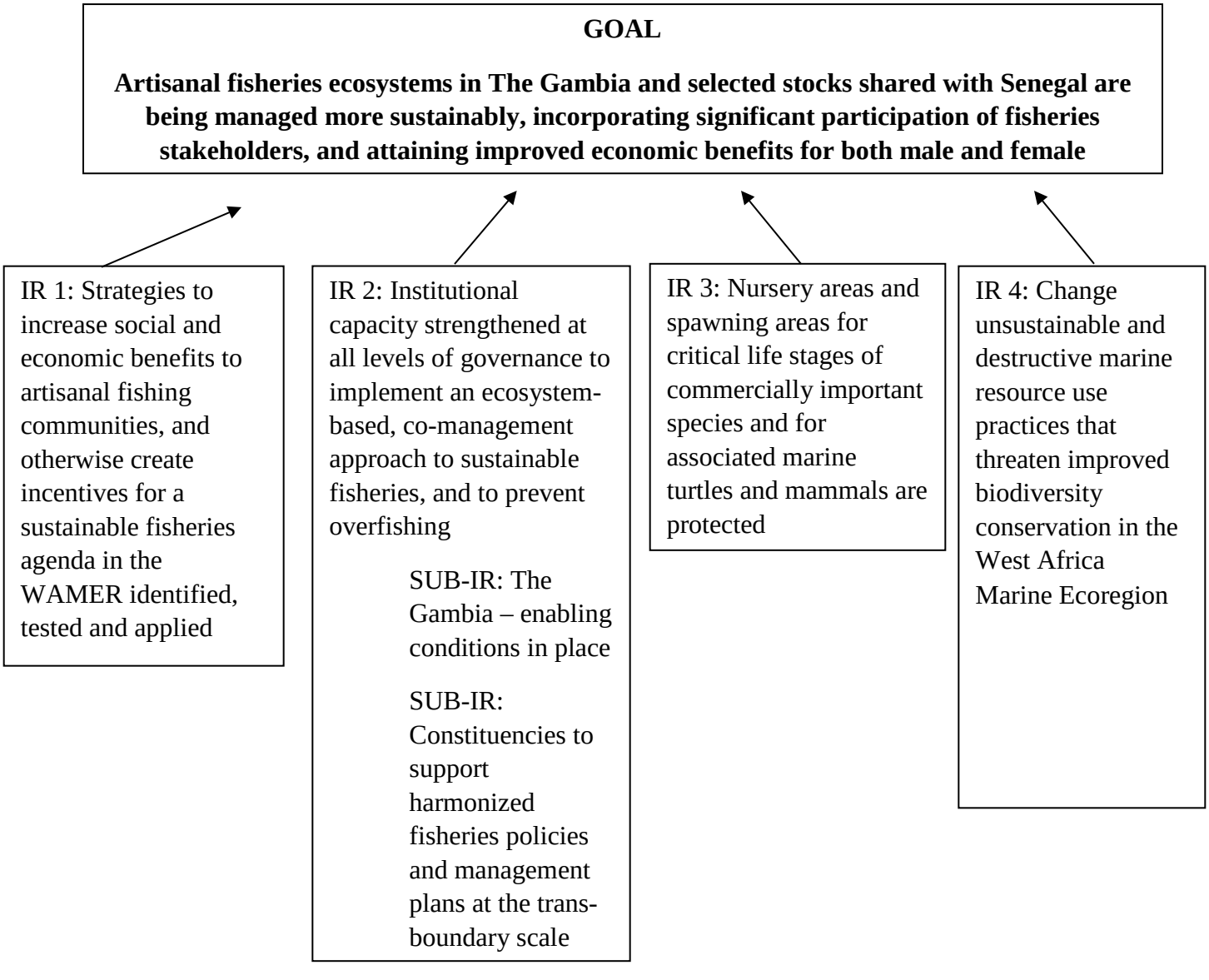
3.6 Estimated Financial Status

The following table shows a pipeline analysis of expenditures in relation to obligations through **September 30, 2013**.

AMOUNT SUB-OBLIGATED		3,414,566
(total federal outlays as of last SF 425/voucher)		
Expenditures		
Period Covered In Last SF 425	Thru June 2013	2,900,872.55
Estimated	June to Sept. 2013	141,771.53
TOTAL EXPENDITURES (Amt on SF 425 + Recent Expenditure)		$3,042,644.08
BALANCE OF SUB-OBLIGATED FUNDS REMAINING		$371,921.92

Appendix A. Results Framework, Results to Date & LOP Targets

The Project Results Framework below is organized by Project Goal and IR. The Gambia - Senegal Sustainable Fisheries Project contributes directly to USAID West Africa Regional Office's Environment & Climate Change Response (ROECCR) Results Framework, specifically IRs 1, 3 and 4 as per the May 2011 draft in Appendix B below. Each IR in the Gambia - Senegal Sustainable Fisheries Project Results Framework has one or more indicators and Life of Project (LOP) Targets that are shown in the table on the following pages. In the Year 4 Workplan URI reduced and simplified the biodiversity indicators reported by the project to more closely align with ROECCR indicators. The remaining priority biodiversity indicators now include only ROECCR standard indicators and one custom URI indicator on governance scorecards.



No	Indicator	Cumulative Results as of FY12	FY13 Target	FY13 Actual	LOP Target	Comments
IR 1						
2	No people with increased economic benefits derived from sustainable natural resource management and conservation as a result of USG assistance (ROECCR 2.1.1)	910[4]	127	380	220	FY 13 = 300 TRY members providing improved product due to improved fish handling and hygiene training. Note that these women were trained in fish handling and hygiene under the TRY UNDP grant (considered cost share) rather than by USAID/BaNafaa. 80 people trained under WASH at 4 landing sites in fish handling and hygiene.
W1	Improved access to water and sanitation facilities	0	12,000	0	20,000	Target = infrastructures at 4 sites completed in FY13. Infrastructure will not be handed over officially until December 2013 (FY14).
W2	Number of persons receiving Participatory Hygiene and Sanitation Transformation (PHAST) Training.	0	240	160	240	FY 13 = 40 at each site, Brufut, Old Jeshwang, Kamalo, Kartong. 40 each at the last 2 sites (Sanyang and Tanji) will be completed in FY14.
W3	Number of persons receiving training and outreach messages on hygiene promotion	0	4000	0	6000	80 Trainers Trained in Q3 at 4 sites, but data on the number they reached through outreach was not collected by September.
W4	Community water and sanitation committees established and trained with program assistance	0	4	6	6	FY13 = 1 at Brufut, 2 (Fish and Oyster) at Old Jeshwang, 1 at Kamalo, 2 at Kartong (Fish and Oyster). Higher than target due to separate oyster and fishery committees at some sites. LOP will now be 8 total.

[4] The same individuals may be counted more than once if they received assistance (i.e., training) that improves their economic benefits on multiple occasions in one year or in successive years.

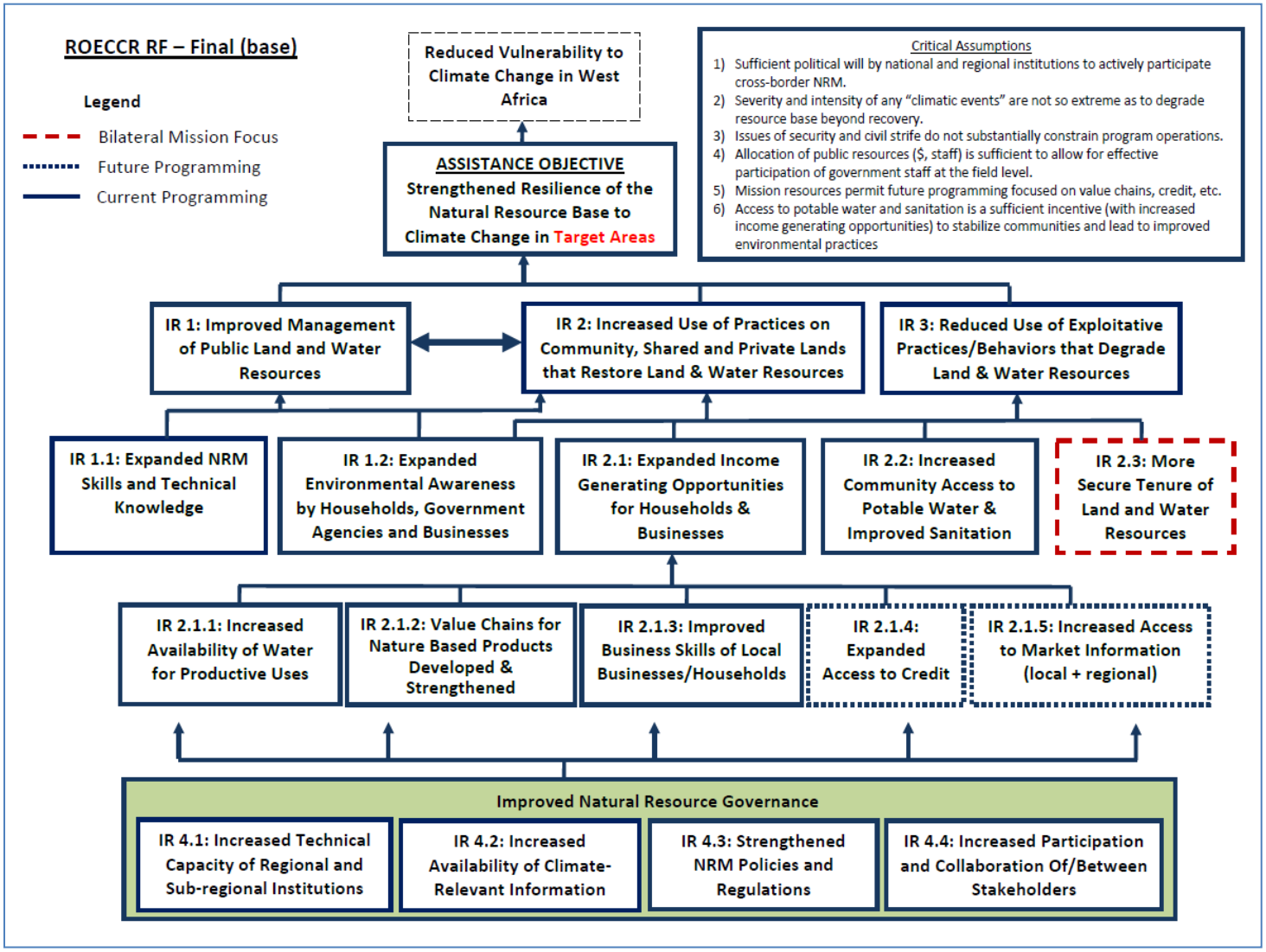
IR 2						
4	No of institutions with improved capacity to address NR, BD, climate change, water issues as a result of USG assistance (ROECCR 4.1.1)	16[5]	4	1	13	Cumulative. However, the same institutions continue to receive multiple additional capacity building assistance, but are not counted again. Previous = LACOMS in 7 communities (Gunjur, Brufut, Sanyang, Tanji, Batokunku/Tujereng, Bakau, Banjul), NASCOM, GAMFIDA, NAAFO, TRY, DoFish, NEA, DPWM, Water Lab. FY12 = TAGFC. FY13 = Most of the above institutions are to receive additional capacity building in FY 13, but TARUD is the only one not to have received it in previous years.
5	Number of people receiving USG supported training in natural resources management and/or biodiversity conservation. (F 4.8.1-27)	1,369	210	347	200	= TrainNet. LOP is adjusted to 1958 in the FY14 Workplan.
6	Improvements on governance scorecard	Increasing	Increas-ing	Increasing	Increase-ing	See IR 2.text.
11	Number of laws, policies, strategies, plans, agreements, or regulations addressing climate change (mitigation or adaptation) and/or biodiversity conservation officially proposed, adopted, or implemented as a result of USG assistance (ROECCR 4.3.1)	2	1	0	2	FY12 = Sole and Oyster Co-Management Plans FY 13 target was the Cabinet Paper on cross border trade issues. The paper is not yet drafted.

[5] Adjusted up from the 13 reported in the Year 3 annual report as NEA, DPWM and Water Lab are in the "previous" group as documented by their repeated participation in various training activities documented in TraiNet.

CC 1	Number of climate vulnerability assessments conducted as a result of USG assistance	1	0	0	1	No additional activity without add-on
CC 2	Number of stakeholders using climate information in their decision making as a result of USG assistance	44	0	0	30	No additional activity without add-on
CC 3	Number of institutions with improved capacity to address climate change issues as a result of USG assistance	18	0	0	8	No additional activity without add-on
IR 3 &4						
12	No. of Hectares in areas of biological significance under improved natural resource management (ROECCR 1.1): • Hectares covered by the fisheries management plan defined as the range of fishing fleets targeting these species • Oyster fishery estuarine and mangrove areas designated and allocated as community managed zones, including no-take areas	Sole = 121,245 Oyster = 6,304	Sole = 121,245 Oyster = 6,304	Sole = 121,245 Oyster = 6,304	FMP Areas: Sole = 12nm seaward = 158,332 ha FMP Areas Oyster = Tanbi wetlands 6000 ha	Original estimate for Sole was based on 12nm seaward as per the artisanal fishing zone specified in the Fisheries Act of 2007. The final Sole co-management plan limited the special management area with user rights for NASCOM out to 9nm. So, total hectares for Sole are 121,245 and not expected to increase. The Allahein Estuary shellfish Co-Management Plan will only be draft and Catfish added to sole, but not adding Ha. So current values of 127,549 ha total are projected for LOP.

17	No. of HA in areas of biological significance showing improved biophysical conditions as a result of USG assistance. (ROECCR AO1) = Hectares under effective mgt (progress towards BRPs) for sole and oysters	No target but tracked	No target but tracked		No target but tracked	Reference points for sole to be established as part of the management plan. Baseline will be established based on results of preliminary stock assessment Baseline data for oysters collected in year 1 PRA

Appendix B. USAID ROECCR Results Framework



Appendix C. Activity Implementation Status

IR1 Sole Activities	FY13				Local Implement. Partners	End of Year 4 Status
	Q1	Q2	Q3	Q4		
Gazetting of the Sole Co-Management Plan					DoFish	Pending. Evidence of steps being taken at Ministry of Justice.
Gillnet Study testing impact of larger mesh size conducted					Master Fishermen, DoFish	Completed in Q3. Report pending.
Support addition of Catfish to the Sole Co-Management Plan					NASCOM, DoFish	LEK and scientific knowledge for Catfish presented and reviewed at the first annual Sole Co-Management Plan review meeting in October. LEK Report finalized. Data from Gillnet study analyzed. Draft Amendment prepared for approval at November 2013 Annual Sole Plan review meeting.
Implement Seed Grant #1 to NASCOM					NASCOM	See below.
- SOP Manual					‘	Completed.
- Business Plan					‘	Completed.
- LACOM By-Laws revised					‘	Reviewed at the Annual Sole Plan meeting in October 2012.

- Quarterly/annual Co-Management Plan meetings held and documented					‘	Annual Meeting hosted by NASCOM in October. Report produced by NASCOM. NASCOM Executive Committee meetings held in October, December and Q3.
Seed Grant #2 Capacity Strengthening to NASCOM					NASCOM	Granted Q4
- Fish handling and hygiene training, selected landing sites					NASCOM	Removed from priorities – not included in seed grant
- Bi-lateral co-management twinning exchange visit					NASCOM	Scheduled for November 2013
Seed Grant #1 Capacity Strengthening to TAGFC					TAGFC	Activity cancelled due to internal management issues to be resolved.
Implementation TAGFC Seed Grant, including activities focused on traceability					TAGFC	See previous.
Administrative/Financial Training for Seed Grant recipients					NASCOM, TAGFC	Completed in October. One on one conducted. One day follow-up training held in March.

IR1 Oyster Activities	FY13				Local Implement. Partners	Quarter 1 Progress
	Q1	Q2	Q3	Q4		

Gazetting of the Oyster and Cockle Co-Management Plan					DoFish	Pending. Evidence of steps being taken at Ministry of Justice.
TRY Seed Grant Capacity Strengthening					TRY	See below.
- Quarterly/annual Co-Management Plan meetings held and documented					‘	First Annual Co-Management Review Meeting hosted by TRY in January 2013.
- Shellfish handling and hygiene training, selected landing sites					‘	300 TRY women trained Oct. – Dec. under UNDP funding. USAID/BaNafaa technical assistance provided for leveraging funds.
- Peace Corps Volunteer posting with TRY					‘	New replacement PCV arrived in May, left for a village post in September.
- Annual market/biological survey at sales points					‘	Conducted by girls in the TRY skills training course March 1 – June 30. Report pending.
Administrative/Financial Training for Seed Grant recipients					TRY, NASCOM, TAGFC	Completed in October. One on one follow up and a one day follow-up in March conducted.
Kartong Oyster and Cockle Co-Management Plan Development (to draft)					TRY	On-going. Two day meeting held in March with communities from The Gambia and Casamance. This will be a trans-boundary Allahein River estuary co-management plan. Awareness raising in communities conducted Q3.

- Community meetings					TRY, DoFish	See above
- Larger stakeholder workshops					TRY, DoFish	One in March. 2nd meeting will be in FY14.
Cockle Redistribution research continued					TRY DoFish,	Die-off investigative experiment done but inconclusive due to inability to control for dissolved oxygen. Not continued.
Twice Monthly Water Quality testing continued					Water Resources Lab. DoFish,	Done. 4 new sites added in January deeper inside the Tanbi.
Inter-agency MOU for development of GNSSP – Tanbi signed, including commitments to fund water quality testing after Year 4.					Water Lab, DoFish, DPWM, DOH, NEA	Dr. Michael Rice technical assistance visit Q2 met with National Assembly members on budget allocations for sustainability of the initiative. MOU not yet signed.
Draft GNSSP – Tanbi developed, including preliminary mapping of water quality zones					Water Lab, DoFish, DPWM, DOH, NEA	Dr. Michael Rice technical assistance visit for Q2 made progress on this. Water quality zone baseline profiles beginning to be developed. Ongoing for FY14.

IR1 WASH Activities	FY13				Local Implement. Partners	Quarter 1 Progress
	Q1	Q2	Q3	Q4		
PHAST Training for 6 sites					TARUD	Training for 4 sites Completed.
Community awareness raising, training and outreach for 4 sites through TOT model					TARUD	TOT conducted in Q3 for 80 participants from 4 sites.
Management planning 1st 2 sites					TARUD	Plans completed but not yet signed.
Management planning 2nd 2 sites					TARUD	Initiated and on-going.
Management planning 3rd 2 sites					TARUD	Pending.
Environmental Compliance activities at 4 construction sites					GAMWORKS	Environmental report by GAMWORKS completed. EMMP for construction phase included in GAMWORKS contract. Construction at 2 sites complete following EMMP. 2 additional sites in progress.
Site designs for 4 additional sites (2 in Q1 and 2 in Q4)					GAMWORKS	Final designs for 1st 2 sites completed. Final designs for 2nd 2 sites completed Q3.
Contracting for construction of infrastructure at 2 additional sites					GAMWORKS	Contracting for 1st 2 sites done in Q2. For 2nd 2 sites done in Q3.
Construction at 4 sites					GAMWORKS	Construction at 1st 2 sites complete. 2nd 2 sites in progress.

Handover of 4 completed infrastructure (2 in Q2 and 2 in Q4)					GAMWORKS	Handover expected in December 2013.
IR2 Activities	FY13				Local Implement. Partners	Quarter 1 Progress
	Q1	Q2	Q3	Q4		
Support to DoFish Statistics unit and in-country stock assessment training.					DoFish	Provided technical assistance for DoFish staff to present the new Sole stock assessment results at the Annual Co-Management Review Meeting in October. Update with 2012 data done.
In-country fish biology training					DoFish, URI course alumni	Provided final color laminated copies of the Fish ID guide. Course conducted March – April in 5 sessions.
Support annual stock assessment (Najih)					DoFish	Additional stock assessment data from 2012 provided by Atlantic Seafood. Analysis done.
Cross Border Trade/Comparative Cost Study Cabinet Paper development (submitted to Permanent Secretary) 3 committee meetings + 1 validation workshop					DoFish, Committee	Meeting of the Committee in Q3. Draft cabinet paper and further meetings not completed.
Bilateral Co-Management (Gambia/Senegal) fishers and decision-makers annual workshop					NASCOM, DoFish, DPM, TRY	Planned for November 2013 in The Gambia.

Bilateral Co-Management Action Plan - Twinning (through NASCOM seed grant fisher level exchange visit (see IR1)					NASCOM, DoFish, DPM	Planned for November in The Gambia.
Support for Environmental Journalist's Group (BAJ) launch and training					BAJ	USAID/BaNafaa not satisfied that BAJ adequately represents a significant segment of the environmental journalists the project hopes to reach. This activity not implemented.
Governance Scorecards (Sole and Oyster)					NASCOM, TRY, DoFish	Scored in September 2013.

IR3 & 4 Activities	FY13				Local Implement. Partners	Quarter 1 Progress
	Q1	Q2	Q3	Q4		
Expanded Sole/Multispecies Catfish Fishery Co-Management Plan					NASCOM, DoFish	See this activity under IR1 above
Oyster and Cockle Co-Management Plan for the Tanbi					TRY, DoFish	See this activity under IR1 above
Draft Oyster and Cockle Co-Management Plan for Kartong					TRY, DoFish	See this activity under IR1 above.

Appendix D. EMMR

Environmental Status Report Face-sheet

Title of the program: URI-USAID Gambia-Senegal Sustainable Fisheries Project (BaNafaa)

Implementing Partner: University of Rhode Island

Country or Region: USAID/West Africa

Award Number: LWA: EPP-A-00-04-00014-00, Associate Award: 624-A-00-09-00033-00

Program Area: Program Areas 3.1 (Health) and 4.8 (Environment)

Program Elements and Sub-Elements:

3.1 Health

3.1.8 Clean Water & Sanitation Services

4.8 Environment

4.8.1 Natural Resources & Biodiversity

4.8.2 Clean Productive Environment (Adaptation)

Life of Activity: FY2010 – FY2014

Fiscal Year of Submission: FY14 submission of ESR coving FY13 – Year 4

<table>
<tr><td>Funding Begin: 05/01/09</td><td colspan="2">LOA Amount: $3,414,566</td></tr>
<tr><td>Funding End: 04/30/14</td><td colspan="2">FY Amount: $750,000</td></tr>
<tr><td colspan="2">ESR Prepared by: (Name/Title/Contact) Karen Kent, BaNafaa Team Leader, Coastal Resources Center, University of Rhode Island. Karen@crc.uri.edu, (401) 874-6630</td><td>Date: 10/30/13</td></tr>
<tr><td>Date of Previous EMMR: 10/12/12</td><td colspan="2">Date of Most Recent IEE: 05/15/11</td></tr>
</table>

A. Status of the IEE

☒ No revisions or modifications of the IEE are needed.

☐ An amended IEE is submitted.

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

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

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

Approval of the Environmental Status Report (as appropriate)

AOTR/COTR _____Date:_____

MEO _____Date:_____

REA _____Date:_____

BEO _____Date:_____

Environmental Status Report Instructions and Format

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

A. Status of the IEE

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

i. Modified or New Activities

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

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

ii. Resolution of Deferrals

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

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

iii. Updates to the IEE

Based on the above, is an updated IEE needed?

☐ Yes (If yes, attach here.) No ☒

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

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

B. Status of Fulfilling IEE Conditions

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

i. For each component of the program, **list or reproduce the mitigation measures** and monitoring of the IEE conditions.
ii. Describe **status of mitigation and monitoring**. Examples of the types of questions an awardee should answer to describe "status" follow:
    a. What mitigation measures have been put in place? How is the successfulness of mitigation measures being determined?
    b. What is being monitored and how frequently?
    c. What action is being taken (as needed) based on the results of the monitoring?

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

Classes of actions as per 22 CFR 216.2(c) (2)	Actions implemented in Year 4	Remarks
(i) Education, technical assistance, or training programs	• Meetings with local communities and officials (Sole & Oyster) • Training in fish stock assessments • NASCOM Standard Operating Procedures Manual and Business Plan developed. • Shellfish and Fish handling and hygiene training • WASH Training (PHAST, TOT Community Outreach) • Fish Biology Training • Administrative/Finance training for local partners	The core content of most of these activities revolves around sound environmental management.
(iii)Analyses, studies, academic or research workshops and meetings	Sole Fishery • Mesh Size Gillnet Study • Sole Stock Assessment Oyster Fishery • Bi-weekly water quality testing reports • Sanitary Shoreline Survey of Tanbi Wetlands and other oyster harvesting areas. • Hotel market survey to better understand the needs of this market. • Biological sampling of oysters at sales points during the open season to contribute information on status of the stock.	The core content of most of these activities revolves around sound environmental management.

(xiv)Studies, projects or programs intended to develop the capability of recipient countries and organizations to engage in development planning.	• Comparative Cost Study on Sole Fish: Senegal and The Gambia, Interagency Committee meeting towards developing a cabinet paper • Allahein River Estuary transboundary oyster and cockle co-management planning process.	The core content of this activity revolves around sound environmental management

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

Planned activities	**Recommended mitigation actions**	**Status of mitigation measures/Actions taken**	**Outstanding issues on required conditions**	**Remarks**

Copy from the IEE	*Copy from the IEE*	*Mitigative measures that were put in place*	*If mitigative measures were not successful or not implemented, why?*	*Any follow-up actions/recommendations to meet these environmental requirements?*
Sole: Value chain assessment Development of a sole management plan including managing access and gear Analyses of cost competitiveness of the export processing sector Oyster: Enterprise development training – micro credit, loans and micro-enterprises Value chain assessment Establish special area community management plans (SAMPs) for oysters Fuel wood saving program Reforestation Improve small scale landing, processing and product marketing facilities and outlets	Observe conditions in section 4.2 of the IEE <u>Conditions for fisheries management plans including managing access and gear</u> Fisheries management activities must be conducted in full conformity with the following points: 1. Areas for pilot fisheries management will be under an approved management plan. 2. Fisheries management plans (FMPs) will: a. Be based on the best available site-specific information on marine species and marine ecosystem status (*e.g.* key animal/plant species, marine habitats and use and ecosystem importance) and local, indigenous knowledge; b. Establish explicit, data-based management objectives for marine and coastal biodiversity conservation; c. Establish site-specific sustainable production/utilization guidelines based on growth and productivity estimates derived from the best available information; d. Demarcate and define marine resource access and use rights;	<u>Management Plans:</u> Both the sole and oyster co-management plans were approved and signed by the relevant Govt. of The Gambia authorities in Jan. 2012 (Year 3). All of the conditions in points 1 – 5 have been addressed as documented in the approved plans and accompanying annexes. Draft Management Plans were shared with Robert Buzzard, Acting AOTR on June 7, 2011. Gazetting of the plans is still pending. Implementation of the approved Plans began in Year 3 and continued in Year 4, including continued support from USAID/BaNafaa to strengthen co-management institutions and the systems and procedures specified in the plans for environmentally sound, adaptive co-management. For example, the project supported a new stock assessment for sole, and a	Pilot cockle aquaculture activities in Kartong, a PRA in 2012 and a bi-lateral Senegal (Casamance)/Gambia meeting in 2013 are contributing to the development of a draft Allahein River estuary Shellfish co-management plan, eventually expanding the ha under management . Basket oyster culture action research was conducted in Year 3 and concluded in Year 4 using juvenile oysters that are knocked into the mud and die during the normal harvesting of adult oysters. Although successful in terms of growth, the capital investment for returns was determined to not be competitive with the current conditions of wild	As implementation of the approved Co-Management Plans continues, the project will continue to focus on institutionalizing adaptive co-management through support for strengthening the systems, procedures and institutions responsible for environmentally sound co-management. Follow up to determine if oyster basket and rack culture activities were continued successfully in any form by

Appendix E. Background

Regional Fisheries Context

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

The ecoregion is also known as the Canary Current Large Marine Ecosystem (CCLME). Fish that spawn in northern nurseries seasonally migrate southwards (as do the fishermen) and provide food for human fishing communities along the way. In addition, recent satellite tracking has confirmed that green turtles lay eggs along the remote beaches of Guinea Bissau and travel northwards through Senegalese and Gambian waters to graze in the rich sea grasses of Mauritania. In short, the unique combination of climate and upwelling supports species and habitats that represent critical resources locally, nationally, regionally, and globally. Areas of international, regional and local significance within the WAMER are shown in Figure 1. The stretch from the Saloum Delta in Senegal, The Gambia River and the entire coastline of the Gambia, as well as the Casamance river system is one contiguous area that has regional biodiversity significance.

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

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

of incidental bycatch and capture of endangered species and will increase adaptive capacity of communities and fisheries to climate change.

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

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

Rationale for Piloting Regional Demonstration Activities in The Gambia

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

The small size of the country and comprehensive fisheries legislation offer the unique opportunity to introduce the EBFM approach as a pilot and if successful the approach can be adapted in other countries where USAID is supporting sustainable fisheries development

programs (Ghana and Senegal). The Gambia is a good model for fisheries co-management in West Africa and other regions with open access fisheries.

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

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

The Legal Basis for Co-Management in The Gambia

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

Under Section 14, the Minister of Fisheries may, in the interest of conservation, management and sustainable utilization of fisheries resources, by Notice in the Gazette, declare any area of the fisheries waters and corresponding adjacent areas, including marine protected areas or reserves established under any other laws, to be Special Management Areas for purposes of community-based fisheries management, and the application of certain conservation and management measures and artisanal or subsistence fishing operations or any combination of the foregoing purposes or other specified purpose. The Notice published may specify the specified Special Management Area: the persons or groups of persons or types or classes of vessels that may be allowed to fish; the methods of fishing that may be used, the terms and conditions of fishing; and any other conservation and management measure that apply.

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

Appendix F. Acronyms

CRC	Coastal Resources Center of the University of Rhode Island
EMMP	Environmental Mitigation and Monitoring Plan
EMMR	Environmental Mitigation and Monitoring Report
GAMWORKS	Gambian Public Works Agency
GEF	Global Environment Facility
GNSSP	Gambian National Shellfish Sanitation Plan
LEK	Local Ecological Knowledge
LOP	Life of Project
MoFWR	Ministry of Fisheries and Water Resources
MSC	Marine Stewardship Council
NASCOM	National Sole Fishery Co-Management Committee
PHAST	Participatory Hygiene and Sanitation Transformation
ROECCR	Regional Office of Environment & Climate Change Resilience, USAID/West Africa
TAGFC	The Association of Gambian Fisheries Companies
TARUD	Trust Agency for Rural Development
TRY	TRY Oyster Women’s Association
TWNP	Tanbi Wetlands National Park
WASH	Water, Sanitation and Hygiene
WWF	World Wide Fund for Nature