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in Senegal)**

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1. EXECUTIVE SUMMARY

The main objective of the USAID/COMFISH project is to provide support to the Ministry of Fisheries and Maritime Affairs (MPAM) through its technical departments, particularly the Department of Marine Fisheries (DPM), for the implementation of Senegal's sector policy letter on the sustainable management of fisheries resources.

The ultimate goal of the USAID/COMFISH project is hence to develop plans for the participatory management of targeted priority stocks by using the CLPA as an entry point at the institutional level, and above all, by changing this legal entity into a Sustainable Management Unit (UGD). This initiative is expected to integrate institutional, administrative, socio-economic and environmental aspects into the process of establishing a sustainable ecosystem-based collaborative management of fisheries resources in Senegal. It is worth noting that all of these activities are also intended to increase the resilience of coastal marine ecosystems and of populations to the effects of climate change.

In the process of setting up Sustainable Management Units, the USAID/COMFISH project uses the **Local Convention** as a legal instrument to negotiate management rules at the local community level and formalize relations between CLPAs with regard to stock levels for the development and implementation of management plans. In this context, the **establishment of new Local Conventions** began during this first quarter of 2013 in zones covered by the CLPAs of Yenne/Dialaw, Rufisque/Bargny and Cayar in order to complete the UGD on sardinella. Activities focused on the *information/increased awareness* of administrative authorities and stakeholders, and the formalization of partnerships through *collaborative agreements* at the level of each CLPA (Yenne/Dialaw and Rufisque/Bargny). Draft agreements were discussed and validated during a meeting of the ICC and finally *relay workers (USAID/COMFISH facilitators from the CLPAs) were selected* during 3 workshops held in Rufisque, Yenne and Cayar.

For the implementation of CLs approved in 2012, documents were reproduced and distributed to stakeholders and partners. The recruitment of additional field staff and the acquisition of additional equipment mark the start of implementation of these CLs.

The enhancement of scientific knowledge on priority species/stocks is still a work in progress and will contribute to the effective preparation of local conventions with a view to implementing management plans. Implementation of studies conducted in FY2012 continued during this quarter and evaluation of their findings is planned during the second quarter.

Several capacity-building activities were also conducted during this quarter, including training sessions as part of efforts to improve the processing unit of the Mantoulaye Guène Economic Interest Group (EIG) in Cayar, and activities to help build the capacities of stakeholders as well as local and national institutions for the establishment of Sustainable Management Units for priority stocks.

Activities conducted under the climate change component revolved around the start of the vulnerability assessment and capacity-strengthening of vulnerable coastal communities on adaptation to climate change impacts. Other actions conducted during this quarter also included the literature review of studies conducted in the area of climate change, and project participation in the international symposium on population, development and climate change held in Dakar.

Administrative steps and environmental procedures for the establishment of a modern artisanal fish processing unit of Cayar were also completed during this quarter.

2. INTRODUCTION

The Collaborative Management for a Sustainable Fisheries Future in Senegal Project (USAID/COMFISH) is a five-year initiative (February 14, 2011 – September 30, 2016) financed by the United States Agency for International Development (USAID). It is implemented through a cooperative agreement between USAID and the University of Rhode Island (URI). Key implementation partners of the project include: government agencies, the private sector, non-governmental organizations working along the coastline and in the fisheries sector, universities (UCAD, IUPA), research institutes (CRODT, IRD/IFAN) and several other NGOs.

The goal of the USAID/COMFISH Project is to support the Government of Senegal's efforts to achieve reform of its fisheries sector as spelled out in the Fisheries and Aquaculture Sector Policy Letter by strengthening many of the enabling conditions necessary for improved governance and promoting the use of effective management tools and approaches. These tools will relate mainly to aspects of sustainability (social/institutional and biological). Local governance bodies are provided for by law in the 1998 Fisheries Code and through the establishment of Local Fisheries Committees (CLPs) and Local Councils of Artisanal Fishermen (CLPAs). Though the biological sustainability of certain stocks has been researched, it has not yet been totally integrated into participatory management plans. Consequently, current collaborative management mechanisms at the local level do not completely take into account sustainability criteria specified in the sector policy letter and most fisheries are yet to be managed in a sustainable manner in Senegal.

The USAID/COMFISH Project also promotes biodiversity conservation objectives while taking into consideration cross-cutting issues such as improved governance, a gender-sensitive approach and adaptation to climate change.

The Project seeks to develop and duplicate new sustainable fishing methods to help Senegal ensure sustainable management of its artisanal fisheries sector. Because most fishery resources in Senegal are shared with neighboring countries that are within the CCLME zone, activities will be undertaken to harmonize the governance of artisanal fishing at the sub-regional level, albeit the vast majority of project activities are conducted in Senegal.

The long-term objective (20-30 years) of the USAID/COMFISH Project is to ensure that fish stocks in Senegal are no longer overexploited and are (1) a sustainable supply of high quality protein for the country, (2) hence contributing to the quality of life of artisanal fishing communities (3) and preserving the capacity of coastal and marine ecosystems to produce goods and services that are useful and needed by the Senegalese.

The USAID/COMFISH Project will contribute to achieving the following four key results:

IR 1: Capacities of institutions and stakeholders strengthened at all levels of governance to implement an ecosystem-based collaborative management system with a view to preventing overfishing and increasing resilience to climate change.

IR 2: Strategies, policies and best practices identified, tested and applied to address both climate and non-climate stressors and their interactions in marine fisheries and biodiversity.

IR 3: Vulnerability assessed and capacity of vulnerable coastal communities strengthened to adapt to impacts of climate variability and change.

IR 4: Increased social and economic benefits to artisanal fishing communities and their resilience to climate change provide incentives to a continued sustainable fisheries agenda.

This document describes activities and achievements conducted by the USAID/COMFISH Project during the first quarter of fiscal year 2013 following the reporting format for USAID projects under Feed the Future program.

3. ACTIVITIES AND ACHIEVEMENTS

3.1 Human Resource Capacity Development – Institutional Capacity

Training activities were conducted at the start of this quarter to strengthen the capacities of stakeholders as well as local and national institutions to set up Sustainable Management Units on priority stocks.

At the stakeholder level: The capacities of CLPA actors were strengthened as well as those of grassroots organizations active in the fisheries industry in Senegal. During this quarter, WWF organized a training workshop for CLPAs on fisheries legislation and on the operation of CLPAs in 7 localities targeted by the project. Furthermore, a training of trainers' workshop for CLPAs and relays on the bio-ecology of octopus and ethmalosa, on fund-raising, on application of the fishing license, and on the collection and processing of fisheries statistics were organized in November in Foundiougne. It was attended by about forty participants from 10 CLPAs. Two training workshops for relays and ICC members were also organized by WWF to enhance their knowledge on collaborative management. A series of courses were offered to strengthen the capacities of actors working in the area of climate change and women engaged in processing activities. The latter two actions will be further described later in this report.



Figure 1: *Training session of CLPA members from Sindia at Ngaparou*

During this same period, two exchange visits were organized by FENAGIE PECHE to Cayar and then to Mbour. Stakeholders in the artisanal fishing communities of Joal, Sindia, Mbour, Rufisque, Bargny, Yenne Dialaw and Cayar participated in these exchange visits.

The objective of these visits was to enable stakeholders within the Department of Mbour to learn from the experience and good management practices of their colleagues in Cayar regarding the functioning of their CLPA and decision-making processes. Good practices focused primarily on prohibiting the use of monofilament fishing nets and the use of longlines. These visits allowed stakeholders in Rufisque/Bargny, Yenne/Dialaw and Cayar to discuss management actions on sardinella and octopus as well as in the Ngaparou community area.

A total of thirty three (33) stakeholders participated in the first visit including seventeen (17) from the CLPAs of Mbour, Joal and Sindia whereas a total of 43 stakeholders including 16 from Rufisque-Bargny-Cayar participated in the visit conducted in the Department of Mbour.

At the institutional level: It is worth noting that two graduate scholarships were offered for staff involved in fisheries research and management at the Ministry of Fisheries and the Oceanographic Research Center in Dakar Thiaroye. Mr. Ousmane Ndiaye (former Director of Fisheries and current member of the Minister's cabinet) is a Visiting Scholar in the Department of Marine Affairs and Ms. Maréme DIOP (PhD student at CRODT) is preparing to enter a Ph.D program in the Graduate School of Oceanography. These two scholarships in the field of fisheries governance and the scientific assessment of fisheries resources will contribute to the development and continuity of fisheries research and development of collaborative fisheries management plans in Senegal.

3.2 Natural Resources – Fisheries Biodiversity and Ecosystem Management

During this first quarter, there was a continuing focus on improving the scientific base of information that assists in the development of Local Conventions and management plans, on best management practices, and biodiversity conservation.

- Establishment of a scientific base for the creation of sustainable management units for priority stocks

Enhancing scientific knowledge on priority species/stocks is still a work in progress that will contribute to the effective preparation of local conventions for the implementation of management plans. The various studies as well as results are presented below:

Assessment of landings of Senegalese boats fishing in the sub-region: In order to obtain better national statistical estimates of the fishing capacity, an assessment of landings of Senegalese boats fishing in the sub-region over a period of six months was conducted this quarter using the CRODT's data collection system. The exploitation of resources of neighboring countries by the artisanal fleet has indeed reached a considerably high level. An assessment, which will be objectively taken into account during decision-making, is therefore necessary for sound policymaking. Data collected this quarter covers fishing effort and catch in the six centers where most of the fleet operate. Special attention was paid to the spatial and temporal evolution of fishing effort and catch, the specific profile of catch as well as the key species from foreign Exclusive Economic Zones (EEZs).

During these six months, total fishing effort in foreign EEZs was 20,254 trips. Main gear used included the line or freezer trawler, bottom-set drift nets, encircling drift nets and the ring net. Boats with bottom-set drift nets operate mainly in Guinea Bissau. Lines and trawlers are used in all EEZs with however a heavier concentration in Guinea-Bissau. Encircling drift nets are mainly located in The Gambia whereas ring nets are more widely used in the Mauritanian EEZ.

Catch landed in the six centers from foreign EEZs are evaluated at 108,272 tons and represent almost half (45%) of the total production of these centers. A large portion of this catch (53,229 tons) is from Mauritania and is landed exclusively in Saint Louis. However, Guinea-Bissau supplies all centers, with the exception of that in Saint Louis, and half of these catches are landed in Joal, which is also home to most of the production from The Gambia. Catches landed in Ziguinchor and Elinkine are mainly from Guinea Bissau and to a lesser extent from Guinea Conakry.

The total catch of pelagic species from foreign waters, Mauritania and The Gambia in particular that is landed in the six centers is estimated at 76,602 tons representing 39% of the total production. For demersal species, catch in foreign waters is estimated at 31,433 tons essentially from Guinea Bissau. To a certain degree, there are species that are almost entirely fished in foreign waters. This is the case for the mullet, mackerel, bluefish, skate, shark, flounder, catfish, croaker, and shrimp. However, in

terms of volume, the five key species caught outside of the Senegalese EEZ are, in order of importance: round sardinella (29%), flat sardinella (22%), catfish (9%), flounder (8%) and mullet (4%).

Biological data for management planning for thiof, octopus, cobo and shrimp: During this period IUPA collected biological data on round and flat sardinella, ethmalosa, thiof, shrimp and the octopus. Two monthly sampling campaigns were carried out at landing sites in Cayar, Mbour, Joal, Bétenti and Foundiougne. A total of 1,357 sardinella (*Sardinella aurita* and *S. maderensis*), 330 thiof (*Epinephelus aenus*), 755 ethmalosa (*Ethmalosa fimbriata*), 489 octopuses (*Octopus vulgaris*) and 1,462 shrimps (*Farfantepenaeus notialis*) were sampled during visits conducted in October and November. All samples were measured and/or weighed. Sardinella and ethmalosa were dissected (474 in total) to determine their sex and stage of sexual maturity and their gonads weighed. All biological data collected was recorded using Excel. The purpose of this sampling is to determine if the fish stocks are over-exploited.

IRD/IFAN conducted two monthly sampling missions at two landing sites in the *Petite Côte* (Mbour and Joal) in October and November 2012. The purpose was to: (i) estimate landing size distribution; and (2) sub-sample part of the individuals for biological testing at the laboratory for the four species targeted by the project: grouper or « thiof », round sardinella or « yaboy », flat sardinella and ethmalosa or « cobo ». For each site, 150 fish were measured (total length) per species each month at landing sites and 30 fish per species and per site selected at random for sub-sampling among the 150 measured. All sub-sampled fish were kept under ice during missions and brought back to the laboratory for measurements and biological testing. All of this data is then processed in order to examine growth, determine sizes, reproduction periods, etc., thus providing information on the status of the stock, which is critical for fisheries management.

Socio-economic data collection of shrimp fisheries in Sine Saloum: Data collection on shrimp fisheries in Sine Saloum continued during this quarter. Analysis of the latest results reveals that changes in catch occurred in two phases: from January to August, catches dropped from 75,462.5 to 4,462 kg, i.e. a 94% drop; between September and October there was a sharp rise reaching almost 105,704 kg in September which then dropped by 30% in October. This second period is the peak fishing season during which a maximum of fishermen are recorded.

In general, monthly fishing effort follows a similar trend to the catch (a downward trend between January and August, then an upward trend in September prior to dropping in October). The zonal distribution of fishing effort shows some differences between zones situated along the coastline and inland fishing sites. The peak period for the coastline is observed in March and in September/October for other sites.

The average monthly values regarding the number of individuals per kilogram vary between 149 and 213. There are less than 200 individuals per kilogram between January and April whereas this figure exceeds 200 per kg between April and July.

In conclusion, it is noted that the spatial and temporal distribution of average catch per mold is certainly linked to environmental variations in the Saloum estuary which determine the migration and length of stay of young shrimps in the estuary. Again, this information is critical for effective fisheries management and to understand the effect of climate change and variability on stocks.



Figure 2: *Preserving shrimp on ice*



Figure 3: *Dried peeled shrimp*

- Illegal, Unreported and Unregulated (IUU) fishing

During this quarter, efforts focused on developing a methodology to process and analyze data gathered last year on IUU fishing. Work is hence being conducted to obtain the final estimates on IUU catches, analyze data collected from different institutions and collect additional data for the reconstruction of catch in collaboration with the Sea Around Us project and the University of British Columbia.

- Support to Marine Protected Areas

Key actions undertaken this quarter include: a study on biological and socio-economic indicators in the MPA of Joal-Fadiouth; presentation of this study at the Joal Fadiouth MPA office; finalization of the study report on “management gaps and constraints of MPAs of Cayar, Joal and Bamboung;” commencement of the Cayar MPA benchmarking process using a participatory approach that takes into account navigation and security norms; and finally support for training of the management team of the eco-tourism development center in Joal-Fadiouth.



Figure 4: *Presentation of the study on MPA biological and socio-economic indicators*

3.3 Cross-cutting Themes

3.3.1 Climate change adaptation

Activities under the climate change component were continued during this quarter and focused on vulnerability assessment and capacity-building of vulnerable coastal communities on adaptation to climate change. These activities included: capacity-building for stakeholders on climate change; continuation of the vulnerability assessment; literature review of studies conducted in the field of climate change; and participation of the project in an international symposium on population, development and climate change held in Dakar.

Capacity-strengthening of stakeholders on climate change: The data collection mission ended with the organization of a training session for the coastal populations of the CLPAs of Rufisque/Bargny, Sindia and Joal. The training session focused on climate change and its impact on fisheries resources. A total of 413 people participated in this session, including 134 from Rufisque/Bargny, 136 from Sindia and 133 from Joal. The training is part of the inclusive and participatory process of vulnerability assessment and adaptation planning.

Vulnerability assessment of coastal communities: Several meetings were organized following the exploratory visit to discuss the vulnerability assessment. Discussions during these meetings revolved around the type of data to be collected, the identification of target groups to be surveyed, the development of data collection tools in relation to information sought and, teaching materials for the training of coastal populations on climate change. Regarding the type of data to be collected, it was agreed to collect both qualitative and quantitative data.

Groups targeted for survey: The following target groups were identified: fishermen heads of household, women engaged in processing activities, heads of Fisheries Services working within the CLPAs and local authorities.

Data collection tools: Interview and focus group guides were developed for collecting qualitative data. These tools were administered to each target group. Concerning quantitative data, a questionnaire was formulated for fishermen heads of household and another to women engaged in processing activities. The questionnaire contains questions on demographics, the exploitation and enhancement of resources, dependence on resources, income from fisheries activities, difficulties encountered in carrying out fishing activities, and the impact of climate change on fisheries, coastal erosion and adaptation strategies.

The number of fishermen heads of household surveyed in each CLPA was determined based on proportionality to the total number of households. Hence, 86 fishermen heads of household were surveyed in Rufisque/Bargny, 96 in Sindia and 118 in Joal, bringing the total number of heads of household surveyed to 300. Among women processing fish, 30 women were surveyed in Rufisque/Bargny, 40 in Sindia and 33 in Joal, which makes a total of 103 women surveyed.

Participation in an international symposium on population and climate change. The USAID/COMFISH Project participated in the international symposium of Dakar on population and climate change from 12 to 14 December at UCAD. Two presentations were made by USAID/COMFISH staff on the effects of temperature on the reproduction of shrimp and on how climate change affects the productivity of stocks.

Climate change literature review in Senegal and the sub-region. A literature review of climate change studies conducted in Senegal was initiated by a consultant. The consultant is also coordinating with the Institute of Environmental Science (ISE) and the Ecological Monitoring Center (CSE) on climate change project work. This will provide them with summary data on studies conducted in Senegal and the sub-region on the vulnerability of stocks, coastal populations and infrastructure. Knowledge of this data will facilitate mainstreaming of climate change in participatory development plans and, in the short term, the identification and urgent climate change actions pending the finalization and adoption by actors of participatory action plans in project intervention zones.

3.3.2 Gender equality

This quarter coincided with the start of work on the construction of a fish processing unit by the Mantoulaye Guène EIG of Cayar. Capacity-building activities will also be continued to help beneficiaries ensure efficient and effective management of the unit with the aim of achieving the initial results and objectives (greater resilience and empowerment of women through increased income levels and emergence of female leadership in fishing areas).

During this first quarter, APTE stepped up its capacity-building activities by organizing a series of training sessions. These sessions helped women improve their understanding of the project as regards the enhancement of fisheries resources against the backdrop of sustainability and economic advancement for women. They also acquired the tools and instruments needed for better management of their processing unit.

Preparing for the processing unit: Administrative paperwork was required to set up the unit. Compliance with administrative procedures was a priority in order to meet the required national standards on fish processing. During this quarter, the administrative paperwork was completed and authorizations obtained from the City Hall, the Department of the Environment and DITP. Also, the process to recruit the contractor who will be in charge of construction was initiated under the supervision of an architect and fisheries scientist. Three local contractors were selected. Similar procedures were initiated for the acquisition of construction materials.

Training in functional literacy: During this quarter, literacy classes were conducted and a report presented to the coordination team at the end of each training session. These reports indicate that women are making significant progress in reading and writing. At the end of the second quarter, the level of participants will be assessed to determine training needs for the next stages. An awards ceremony will be organized for those who regularly participated in this training program.

Training on standards: The training on standardization was organized on October 9 and 10, 2012 in Cayar and was attended by 27 stakeholders (women) including two fisheries agents. It was conducted in collaboration with DITP, a strategic partner of the project. This method of bringing the DITP closer to women is relevant because on the one hand the women will get to know the institution better as well as its role in the fisheries sector, and on the other hand it consolidates ties with technicians from this institution. The results at the end of this training session included raising awareness on the benefits of meeting standards particularly in terms of opening to international trade and participating in trade fairs (DITP is one of the main institutions that organizes trade fairs for fisheries products).

Training on packaging fisheries products: Training on packaging techniques was part of an effort to promote best practices in the processing and conservation of fish products. This activity is a logical follow-on to the training sessions on hygiene, quality and standardization practices. Packaging relates

to the storage and wrapping of finished products. It enhances the product by improving the way it is presented and creates added value. It is coupled with labeling, which indicates the origin of the product, the weight, the production and expiry dates, etc. This training session was held on November 15 and 16, 2012. It was conducted by a technician from ITA and was attended by 27 people (women). At the end of the session, participants expressed the wish that the experience be repeated with more practical exercises and their desire to acquire packaging materials for their products.



Figure 5: *A women being trained on packaging*



Figure 6: *Package and labeled product*

Training sessions on microfinance (revolving funds) and infrastructure management: Training sessions on microfinance and infrastructure management were combined. Training was conducted from November 20 to 21, 2012 in Cayar and was attended by about thirty women engaged in processing activities.

With regard to microfinance, the primary objective is to help the women's group advance their livelihoods with easy access to credit. They are typically excluded from the mainstream banking system because of stringent conditions (identification documents, guarantees, minimum deposit). At the end of the training session on infrastructure management, an infrastructure management system was put in place and will be applied to the unit for the sustainable management of the infrastructure (the modern processing unit).

IT training: Information technology is an important tool that can enhance the delivery of services for women in the processing industry. It contributes to the education of women, alongside literacy programs. Good computer skills will allow the women to obtain real time information on markets, design marketing strategies, and store production data in a reliable manner. In this session, 10 women acquired basic skills in Microsoft Office Word.



Figure 7: *Women participating at IT training*

Drawing up of a participatory code of conduct: A workshop was organized to discuss the preparation of a code of conduct. It was facilitated by the Head of the Departmental Service of Fisheries in Thiès, the ITA fish technologist and the literacy supervisor. The code of conduct and its application are key elements in the branding process. Its application implies consensus on best practices in the processing industry. This label requires several guarantees regarding product quality, standardization and compliance with principles of hygiene. All of these elements should be codified and made available to the women. This will strengthen and formalize production rules established by the women and facilitate their application for a product label.

The workshop was attended by 20 women. A series of rules were adopted following the presentation of group work. These rules will be transcribed in a document in the form of a code and presented at a validation workshop. To ensure its ownership by the women, it is planned to translate it into Wolof (local language) and to include it in functional literacy programs.



Figure 8: *Participants in Code of Conduct workshop*

Exchange visits at the fair and at ITA: Visits were conducted on December 3 and 4, 2012 in Dakar. Three women leaders participated in these visits. They were accompanied by the Head of the Thiès Fisheries Services in Cayar. The objectives of these visits were to: provide the women with information on administrative procedures to be completed for participation in trade fairs, particularly those organized in Dakar; provide the women with information on production-related prerequisites for participation in fairs; strengthen ties among professionals of the fish processing sub-sector in Senegal; explore high-tech equipment for artisanal fish processing; explore innovations in fish processing (new products); and, discuss the modalities for their introduction in the modern artisanal processing unit as soon as it becomes functional.

The first day was spent visiting the FIDAK Trade Fair complex in Dakar. Discussions centered on the terms and conditions for participation at the fair, financial partners, etc. The successful diversification of production activities in the islands of Saloum was also discussed. A visit was paid to the Food Technology Institute (ITA) on the second day. After a brief presentation of the institute, the women visited its different departments. They also visited the ITA Fish Department where they were shown new fish products.

At the end of the visit, various ideas were voiced regarding in particular the diversification of fish products and the exploration of new income-generating activities (fruit and vegetable processing) that could be encouraged to mitigate the scarcity of fish and its consequences on the income of women. Partners at ITA were very open to these ideas and are prepared to support them.



Figure 9: *Exposition of fish products*

Information and awareness day about the local brand, Keccax from Cayar: The process toward product branding has already begun with the training session on hygiene, quality, and the standardization of practices. A code of conduct will then be drafted. All of these activities are prerequisites for branding. During functional literacy classes, the women familiarized themselves with the notion of branding without unraveling its content. Therefore, rather than a training session on branding, it was deemed preferable to initially organize an information and awareness event on the local brand. Based on the results of the workshop, a purely technical training session with qualified consultants will be organized.

3.3.3 Governance/Decentralization

Initiation of new Local Conventions: The process to form new Local Conventions has been initiated in the zones covered by the CLPAs of Yenne/Dialaw, Rufisque/Bargny and Cayar. Activities conducted during this quarter focused on information/increased awareness of administrative authorities and stakeholders, the formalization of partnerships through collaborative agreements at the level of each CLPA (Yenne/Dialaw and Rufisque/Bargny), discussions on and validation of draft agreements at a meeting of the ICC, and finally the selection of relays with the organization of 3 workshops held in Rufisque, Yenne and Cayar.



Figure 10: *Validation meeting and selection of relays in Rufisque*

Implementation of approved Local Conventions (Mbour, Sindia, Joal): The implementation process of approved local conventions began this quarter. The following actions were undertaken.

- CL documents were reproduced and distributed to stakeholders and partners.
- Additional field staff were recruited (4 facilitators and 6 relay workers). These relays and facilitators were trained by project staff on the rules and procedures governing the USAID/COMFISH project.
- New equipment was purchased for relay workers to be able to perform their work, for the 3 CLPAs concerned and for the Joal City Hall.
- Courtesy visits were paid to the *préfectures*, fisheries inspectorates and services of Sindia, Joal and Mbour. The objectives of these visits were to:
 - Express gratitude to local authorities for their participation in the CL development and approval process;
 - Inform them of the commencement of implementation of these CLs AND the staff recruited for this purpose and, especially request they accommodate these recruits in their respective services;
 - Discuss possible consultative frameworks for the development of the management plan of the sardinella;
 - Local authorities greatly appreciated the approach of the USAID/COMFISH Project. They proposed three consultative frameworks: local (CLPA), departmental (inter-CLPA), and national (CNCPPM). They also agreed to install facilitators and relay workers at fisheries surveillance posts.

3.3.4 Outreach/Communication

- **Community radios:** In order to help disseminate information on Local Conventions prepared in the CLPAs of Joal, Mbour and Sindia and hence contribute to the future establishment of management plans, the Project identified at the start of this quarter three community radios in these areas in consultation with the CLPAs and the relevant fisheries services. The terms of reference are currently being finalized prior to the signing of contracts with these community radios.
- **Video:** Interviews were conducted during this quarter with CLPA stakeholders in Yenne, Rufisque/Bargny and Cayar for the production of a video showcasing the preparation process of Local Conventions in these three localities.
- **Media tour on best fishing practices:** As part of efforts to eliminate unsustainable fishing techniques for a better conservation of marine biodiversity, the USAID/COMFISH Project organized a media tour to Ngaparou, Dionewar and Falia. This media tour resulted in the production of a magazine on exemplary fishing techniques and fish processing in these communities. Copies of the magazine on the Ngaparou and Dionewar Falia best fishing practices were distributed in October 2012 to key stakeholders in CLPAs and to about forty partners of the USAID/COMFISH Project. The aim is to contribute in raising the awareness of stakeholders on sustainable fishing techniques. In light of this successful media tour, another is planned with media professionals during the 2013 fiscal year on other major issues of the project.

- **Video and a press release on the biological recovery period of the octopus:** To support efforts deployed by stakeholders of the CLPAs of Mbour, Joal and Sindia for the closed fishing measure for the biological recovery of octopus stocks, the USAID/COMFISH Project produced a three-minute video emphasizing the benefits of the partnership between stakeholders, the Ministry of Marine Affairs and Fisheries, the USAID/COMFISH Project and the COGEPAS project in the implementation of the measure. The video was also aimed at encouraging stakeholders to further support the measure in order to maintain or possibly increase their income levels. The video was posted on YouTube and shared with key stakeholders and project partners.
- Link to YouTube video: https://www.youtube.com/watch?v=WYYHH-aD_a4&feature=g-hist
- Furthermore, other tools such as photographs and a bi-weekly news note were prepared on the immersion of octopus pots. The photographs are available on the project database and the bi-weekly was published in the USAID/Senegal bi-weekly bulletin.
- **Other:** Contacts were made with REJOPRAO (Network of journalists for responsible fisheries in West Africa) to increase the visibility of the project via the media. The network has promised to cover project events to the extent possible. This and another similar network, GREP (Research, Environment and Media Group) will be invited to cover future activities of the project.

3.3.5 Science, technology and innovation

Training on renewable energy: A workshop on renewable energy/climate change was moderated by a consultant specializing in renewable energy. It was attended by 25 women engaged in processing activities. They discussed renewable energy that can be proposed for use at the modern processing unit. This workshop is a follow-on to that organized in January 2012 on climate change. During the first training session in January 2012, emphasis was placed on understanding the climate change phenomenon through changes observed in production activities (fisheries, agriculture, etc.). The purpose of this present workshop was to remind the women of the climate change phenomenon and its impact on development and to reflect on mitigation and adaptation activities. Two energy sources were hence identified as relevant: bio-gas and wind energy.

3.4 Project Management

3.4.1 Challenges and opportunities

Acquisition of Equipment and Recruitment of Additional Staff

Additional staff was recruited for the implementation of the Local Conventions of Mbour, Joal and Sindia and to provide support for the development of the Local Conventions of Yenne/Dialao, Rufisque/Bargny and Cayar: an expert on local governance and four facilitators. The latter are currently being oriented on the various procedures of the USAID/COMFISH project in terms of branding, planning and monitoring of activities.

Furthermore, three relay workers of the project were selected in Rufisque, Yenne and Cayar to collect the data needed to set up Local Conventions. This selection was made following the organization of meetings with ICC members of the CLPAs of Rufisque/Bargny, Yenne/Dialao and Cayar during

which the draft protocols between the USAID/COMFISH Project and the CLPAs as well as the selection criteria were discussed and validated.

Strategies/Mechanisms/Partnerships

Collaborating and developing synergies with other projects working on sustainable fisheries management is a key priority of the USAID/COMFISH Project. For the second consecutive year, the project, in partnership with COGEPAS, is contributing to the biological recovery period of the octopus through the creation of artificial habitats for juveniles.

This year, 4,000 octopus pots were immersed at sea between Ndayane and Joal. The official launch ceremony was held on Saturday October 6, 2012 and was attended by the Director of DPM, heads of fisheries services in the zone, the Director of the USAID/COMFISH Project, a representative of COGEPAS and various authorities from the CLPAs of Mbour, Joal and Sindia.

Monthly meetings with strategic partners resumed this December with the participation of WWF, ISE, CSE, APTE, FENAGIE, IUPA and IFAN/IRD. Activities for the quarter and constraints faced were discussed.

Lessons Learned

The principle that local stakeholders (administrative authorities and fishing communities) need to be involved in the strategies developed by the project to be successful and sustainable is continually being confirmed. Further, all initiatives need to be preceded by a courtesy call to local authorities informing them of project initiatives and requesting them to advocate for the goals of the project in the community in order that all stakeholders effectively participate in all processes leading to the formulation of sustainable management units of targeted stocks.

3.4.2 Financial Report

Total expenditures for the first quarter are \$643,916 out of a total FY13 budget of \$2,422,354. Details are shown in Annex 2.

4. ACTIVITIES PLANNED FOR THE NEXT PERIOD

4.1 Human Resource Capacity Development – Institutional Capacity

Training at stakeholder and institutional level

- Organize trainings on fisheries regulations for CLPA stakeholders;
- Conduct a training to enhance CLPA actors in fisheries co-management;
- Strengthen the capacity of the fishery services to provide administrative support for the operations of CLPA (human and operational resources);
- Capacity assessment involved in fisheries outreach and education in order to establish a partnership between agencies responsible for research and fisheries management;
- Develop a pilot project to strengthen capacity of fishing communities and to promote sustainable fishing practices (fishing gear, safety at sea, etc.);

4.2 Natural Resources – Fisheries Biodiversity and Ecosystem Management

Fisheries monitoring and sampling

- Establish a monitoring mechanism for the integration of best fishing practices in the development of management plans;
- Develop through the CLPA, synergies with various partners working in the same areas (i.e. COGEPAS);
- Support the implementation of the action plan of the Alliance relative to sustainable fisheries management;
- Continue collecting biological data on sardine, shrimp, octopus, cobo, and Thiof Continue socioeconomic studies to support the implementation of the management plan for coastal shrimp in Sine Saloum (finalize data collection, data analysis, and report writing) Finalize the biological and socioeconomic study on sardinella fisheries in Senegal and the sub-region;
- Produce fisheries maps on the basis of local knowledge about fish stocks, the various CLPA supported by the project USAID/COMFISH, and their administrative governance Update information of fisheries maps (stocks and fishing zones) and for the coast (CSE)

IUU

- Support analysis of the IUU data (sardines and others) in order to estimate the volume of IUU catches;
- Conduct workshops for the review and validation of the data collected. Establish a technical working group for the analysis of fisheries catch and fishing capacity data.

MPA

- Conduct proceedings with authorities for the formal approval of the National Strategy of the Marine Protected Areas (MPA);
- Conduct an assessment to identify shortcomings of the current management system of MPAs in sites of the project;
- Placing buoys for the MPA of Cayar;

4.3 Cross-cutting Themes

Climate change adaptation

- Develop maps on the spatial and temporal dynamics of fisheries stocks on the basis of local knowledge through surveys with fishermen and research data;
- Meet to form a steering committee for the implementation of the stakeholders input framework;
- Peer-review results of the vulnerability assessment with stakeholders.

Gender equality – Cayar women processors

- Continue the construction of the processing unit;
- Continue literacy courses;
- Complete the code of good conduct;
- Study on processing conditions ;
- -Complete the posters relative to awareness and good practices;
- Development of an action plan on the integration of climate change;

Governance/decentralization / CLs and management planning

- Support Departmental Management Committees (CGD) and a national consultation framework to start developing the management plan for sardinella;
- Start the organization of the CLPA of Sindia, Mbour and Joal for the implementation of the local agreements (Conventions Locales):
- Support the official approval of membership within the CLPA of Sindia, Mbour and Joal (committees, commissions);
- Strengthen the capacity of these bodies to enable its membership to understand their roles and responsibilities:
- Strengthen the capacity of the relays and facilitators in order to implement effectively the local agreements;
- Sign memoranda of collaboration between USAID/COMFISH and key members;
- Establish a steering committee under the auspices of the CLPA;
- Provide a status of fisheries management and prepare documents (Data Collection on actors, their tools and status of the stocks)

Outreach/Communications

- Proclaim and spread the “Declaration of Women” involved in fishing;
- Support the implementation of local agreements (CL) through community radio;
- Produce 1 success story

5. ANNEXES

Annex 1: Indicator Table

Indicators	Life of project target	2013 target	First quarter result	Observations
Result 1: <i>The Capacity of institutions and stakeholders are strengthened at all levels of governance to increase their resilience to climate change and facilitate implementation of co-management as part of UGD:</i>				
1. 75% increase of the composite index score for CLPAs management effectiveness in USAID/COMFISH Project sites by 2016	75% increase in terms of index score (0.07)	20% increase in terms of composite index score (0.05)	NA	
2. Number of individuals who have received USG supported short-term food security and productivity training	4,790	2,090	M = 305 F = 293 Tot = 598	29% achievement rate of the annual target. 12 training workshops were organized including 6 workshops for fish processing women of Cayar, 3 workshops for the governing bodies of 7 CLPAs and 3 other workshops (on climate change) for fisheries stakeholders in the CLPAs of Rufisque, Sindia and Joal
3. Number of print media and audio-visual products designed for strengthening the capacity of co-management institutions and that of fisheries stakeholders	15	9	0	
4. Ratio of women who have received short term training on food security (in relation to the total number of people trained)	55%	50%	49%	
5. Number of research and training institutions, of governmental departments, consultation frameworks and NGOs whose capacity was strengthened as a result of USAID/COMFISH Project	20	17	2	DPM continues to benefit from USAID/COMFISH training workshops. Heads of fisheries divisions have participated in workshops organized by the project during the first quarter, Support provided to the Alliance for Sustainable Fisheries (signing of an MoU)

Result 2: Strategies, policies and best practices identified, tested and applied to address both climate and non-climate stressors and their interactions in marine fisheries and biodiversity				
6. Number of action plans and/or projects developed to support fisheries management process	9	7	0	
7. Number of technical studies contributing to the management plans of UGDs	11	11	3	1) Study on the dynamics of sardinella populations in West Africa. 2) Land use dynamics, mapping of CLPAs and fishing zones 3) Development of a GIS system to evaluate and monitor the impacts of MPAs on the basis of biological, socio-economic and governance indicators
8. Number of synergies created in the development of sustainable management units	9	4	1	Contribution to octopus closed fishing season in support of COGEPAS (4000 octopus pots immersed into the sea between Ndayane and Joal in October 2012)
9. Number of policies/regulations/administrative procedures analyzed	33	13	6	Documents reviewed during the development of the Local Convention guide
10. Number of policies/regulations/administrative procedures drafted and presented for public/stakeholder consultation	17	6	0	
11. Number of policies/regulations/administrative procedures presented for legislation/decrees	12	6	0	
12. Number of policies/regulations/administrative procedures prepared as a result of USG assistance passed/approved	14	5	1	Local Convention for Joal adopted in October 2012
13. Number of policies/regulations/administrative procedures passed for which implementation has begun	15	4	0	Recruitment of 4 facilitators and a Governance Officer to help implement 3 local conventions
14. Number of new technologies for fisheries resources management developed	10	4	0	

15. Number of stakeholders who have put in place new regulations for the collaborative management of fisheries resources	40 000	15 000	0	
16. Number of producers and the likes who have applied new technologies or management practices as a result of USG support (indicator 4.5.2-5 of FTF)	40 000	20 940	0	
17. Number of hectares of biological significance and/or of natural resources under improved management as a result of USG assistance	827 555 ha	327 104 ha	0	
18. Number of hectares in biologically important areas under improved management as a result of USG assistance	364 500 ha	34 500 ha	0	
Result 3: Vulnerability of coastal communities assessed and their capacity to adapt to the impacts of climate change strengthened				
19. Number of people receiving training in global climate change as a result of USG assistance	2 400	950	M = 234 F = 169 Tot = 403	Achievement rate of 42%
20. Number of climate vulnerability assessments conducted as a result of USG assistance	4	3	0	Data gathering completed in the field (in the areas of Rufisque, Joal and Sindia). Processing and analysis of data has begun.
21. Number of laws, policies, agreements, or regulations addressing climate change proposed, adopted, or implemented as a result of USG assistance	11	3	0	
22. Number of people with increased capacity to adapt to the impacts of climate variability and change as a result of USG assistance	4 790	2 090	598	

Result 4: Sustainable fisheries management provide increased resilience to climate change and increased social and economic benefits to artisanal fishing communities				
23. Number of food security private and for profit enterprises, producer associations, water users association, women's associations, businessmen and businesswomen's associations and CBOs receiving assistance from USG	52	32	11	The Economic Interest Grouping of Mame toulaye Guéne and Awa Gueye Kébé in Cayar continue to receive training on enhanced processing, packaging and labeling of Keccax The 7 CLPAs targeted by the project continue to benefit from training in addition to two other CLPAs (Niodior and Missirah)
24. Number of rural households benefiting directly from USG interventions (FTE indicator 4.5.2-13)	10 331	5 449	0	
25. Fishery sector stakeholders in project sites perceive that their welfare is better off due to USG assistance	NA	NA	NA	

Annex 2: Financial Table

Budget Line Items	2013 Approved Annual Budget	Quarterly Spending of Current year				Total spent this current year	Total spent since the beginning of the project	Balance	% of annual budget spent
		12-Oct	12-Nov	12-Dec	Total Quarter1				
(a)	(b)	(c)	(d)	(e)	(f) = (c)+(d)+ (e)	(g)	(h)	(i)=(b)-(g)	(j)=(g)/(b) * 100
a Personnel	\$324,546	\$24,636	\$19,987	\$30,712	\$75,335	\$75,335	\$499,950	\$249,211	23%
b. Students		\$0	\$0	\$0	\$0	\$0	\$7,845	\$0	
c. Consultants	\$808,538	\$82,170	\$56,245	\$78,496	\$216,911	\$216,911	\$1,289,252	\$591,627	27%
d. Other Direct Costs	\$190,109	\$63,046	\$13,628	\$22,807	\$99,480	\$99,480	\$1,020,827	\$90,629	52%
e. Subcontracts	\$352,962	\$13,333	\$12,700	\$18,878	\$44,911	\$44,911	\$765,530	\$308,052	13%
f. Travel	\$317,117	\$52,103	\$21,235	\$9,040	\$82,377	\$82,377	\$250,755	\$234,741	26%
g. Equipment		\$0	\$0	\$0	\$0	\$0	\$103,463	\$0	
h. Tuition		\$0	\$0	\$0	\$0	\$0	\$0	\$0	
i. Total Direct Charges (sum of 6a-6h)	\$1,993,273	\$235,287	\$123,795	\$159,932	\$519,014	\$519,014	\$3,937,623	\$1,474,259	26%
j. Indirect Costs	\$429,081	\$56,602	\$31,624	\$36,675	\$124,900	\$124,900	\$815,495	\$304,180	29%
k. Totals (sum of 6i-6j)	\$2,422,354	\$291,889	\$155,418	\$196,607	\$643,915	\$643,915	\$4,753,118	\$1,778,439	27%

Annex 3: EMMR

Category of Activity	Environmental threats	Mitigation Measures Taken	Who is responsible for monitoring?	Sources of verification	Monitoring Method	Frequency of Monitoring
1. Education, technical assistance, training, etc.	No environmental impacts anticipated as a result of these activities.	The women's processing group in Cayar was trained on environmental issues, hygiene and quality control, packaging of fisheries products, maintenance of infrastructure, and renewable energy	Deputy Project Manager	Education, technical assistance, training and other materials and reports	Review of materials	Quarterly
2. Reduce post harvest losses and improve product quality	<p>Improved facilities could result in disturbance to critical resources and sensitive ecosystems, changing access to water by animals, people and vegetation, or degrading water resources, sedimentation of surface waters soil erosion, or contamination of groundwater and surface water</p> <p>Increased harvests and threat to overfishing due to increased demand from improved quality</p> <p>Potential impacts of water supply & sanitation activities include damages to natural or sensitive ecosystems, depletion of freshwater resources, creation of stagnant water that could create breeding opportunities for water-borne disease vectors, contamination of water sources causing increased</p>	<p>A permit was received from the Environment Department (DEEC) as well as a License from the Fisheries Processing Industries Department (DITP) certifying acceptable standards of hygiene of the Cayar processing group.</p> <p>An audit was conducted on the condition of infrastructure</p> <p>Microbiological analysis was conducted on the inputs used in processing of sardinella and on the final product: <i>keccax</i></p> <p>A Code of Conduct for processing best practices is being developed.</p> <p>For improved artisanal fish processing USAID/COMFISH works on fish stocks that the project is supporting sustainable fish management plans to prevent</p>	Deputy Project Manager	<p>Construction plans/ designs and photos of all facilities constructed</p> <p>Mgt. plan, MSC cert. or other evidence of measures to prevent overfishing</p> <p>Construction plans/ designs and photos of all facilities constructed</p>	<p>Review of materials and site inspection</p> <p>Review of materials</p> <p>Review of materials and site inspection</p>	Quarterly

Category of Activity	Environmental threats	Mitigation Measures Taken	Who is responsible for monitoring?	Sources of verification	Monitoring Method	Frequency of Monitoring
	<p>human health risks</p> <p>Land use change, degradation of water quality, increased human health risks from contamination of water, soil, and food by human pathogens, degradation of estuarine and marine and surface shallow groundwater water quality adversely affecting both human and ecosystem health</p>	overfishing				
3. Enhance fisheries value chains	Increasing the value of fish and product eco-labeling can give incentive to increase fishing effort and contribute to overfishing.	No value chain activities this FY	Deputy Project Manager	Management plan, MSC certification or other evidence that measures are being taken to prevent overfishing	Review of materials	Quarterly
4. Improve fishing community resilience to climate change	<p>Alteration of nearshore sediment patterns resulting in displaced or accelerated erosion of beachfronts from inappropriate construction</p> <p>Natural habitat destruction or degradation, degradation of marginal lands land water; marine pollution from soil erosion or use of agricultural chemicals; reduced water availability from water storage or diversion for irrigation; bio-diversity loss from land fragmentation, conversion to agricultural use, or introduction of exotic</p>	No mitigation measures required	Project Manager	TBD via env. screening	TBD via env. screening	Quarterly

Category of Activity	Environmental threats	Mitigation Measures Taken	Who is responsible for monitoring?	Sources of verification	Monitoring Method	Frequency of Monitoring
	species To be determined through environmental screening processes					

Annex 4: List of Reports

N°	Date	Author	Title	Status
1	December 2012	Claude SENE	Study of governance system effectiveness of MPAs in Joal-Fadiouth, Cayar and Bamboung	Draft report
2	December 2012	DJ. Thiao, A. Mbaye	Evaluation of the impacts of MPAs based on biological, socio-economic and governance indicators: Case study Joal-Fadjouth MPA	Final Report
3	November 2012	M. Déme, Dj. Thiao, F. Sow, A. Sarré, H. Diadiou	Sardinella populations dynamics in North West Africa: Environmental, biological and socio-economic constraints	Final Report
1	December 2012	APTE	Progress report on improved techniques for the handling and preservation of marine products at Cayar October-November-December 2012	Final Report
2	December 2012	LABEP-AO	Contribution to the development of a data gathering system for sardinella, shad and grouper fisheries LABEP-AO REPORT (October – November 2012)	Final Report
3	December 2012	IUPA	Development of a data gathering system for sardinella, shad, grouper, shrimp and octopus fisheries Quarterly Report :October-November-December 2012	Final Report
4	December 2012	Niane, A.	Data gathering report on fishing effort, catch, weight and number of shrimp/kg for December 2012	Final Report
5	December 2012	Aboubacry Kane	Field mission report on project intervention sites	Final Report
6	November 2012	ISE/CAREX	Data gathering mission report	Final Report
7	November 2012	USAID/COMFISH	Kick-off of awareness raising of CLPA and local administrative authorities on the development and implementation process of local conventions	Final Report
8	November 2012	USAID/COMFISH	Validation meeting of MoUs and criteria for the selection of community relays within the CLPAs of Rufisque/Bargny and Yenne/Dialaw	Final Report
9	November 2012	Niane, A.	Data gathering missions report on fishing effort, catch,, weight and number of shrimp/kg for October 2012	Final Report
10	November	WWF	CLPAs training of trainers workshop report Foundiougne, 5-	Final

N°	Date	Author	Title	Status
	2012		8 November 2012	Report
11	October 2012	USAID/COMFISH	Second Annual report 2012	Final Report
12	October 2012	FENAGIE	Technical report of exchange visits in Mbour and Cayar from 18 and 19 September 2012 and 05 and 06 October 2012	Final Report
13	October 2012	Dj. Thiao, H. Diadhiou, M. Déme	Description of statistical data on catch effort and the hydroclimatic environment	Final Report