



**Global FISH Alliance**  
***Fisheries Improved for Sustainable Harvest***

**Semi-Annual Report #9**  
**April 30, 2013**

**Report Covering**  
**October 1, 2012 – March 31, 2013 Activities**

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# I. Summary of Activities

The Global FISH Alliance (G-FISH) promotes sustainable fisheries and aquaculture practices through the application of a system-wide approach that balances economic, environmental, governance, and social components essential to enhancing livelihoods and biodiversity. Supported by the U.S. Government and partners, G-FISH brings together government, private sector, and civil society to work collaboratively on specific fisheries around the world.

This document describes activities undertaken by the Global FISH Alliance during the period from October 1, 2012 to March 31, 2013. As summarized here and detailed in subsequent sections of this report, the major activities during this reporting period included:

## Component 1: Alliance Development

### Management

- Team Transition to FHI 360: In December, G-FISH hired Jeanette Robinson to lead the team in Cambodia. Jeanette has an educational background in Applied Science majoring in Natural Resource Management. Her experience includes environmental management, commercial fisheries monitoring, environmental monitoring, environmental impact assessment, and community liaison.
- Cost Share and Leverage: To date, G-FISH has captured and received commitments for cost share and doubled the required leveraged funds. Please see the SF 425 report for more information.

### Partnerships and Collaboration

- Honduras: The Global FISH Alliance has worked with current Alliance members and other partners in the three countries where the program is active including the Center for Marine Ecology (CME), The Nature Conservancy (TNC), World Wildlife Fund (WWF), private sector partners in country and in the U.S, community groups, and many others over the last six months.
- Mozambique: G-FISH continues a demonstration SCALE (System-wide Collaboration for Action on Livelihoods and the Environment) effort in northern Mozambique's Pemba Bay focused on reforming the Bay's fisheries. G-FISH has engaged Wildlife Conservation Society (WCS) to continue work on fisheries reforms and co-management.
- Cambodia: G-FISH continues to do a SCALE demonstration on the Tonle Sap fishery of Cambodia in the Kampong Thom Province. In Cambodia, G-FISH has held more than 60 meetings with nearly 2400 participants and has completed a flooded forest replanting campaign, community patrolling initiative, and capacity building trainings for local communities.

### Associate Awards

FHI 360 continues to work with partners and explore opportunities for Associate Awards. G-FISH also continues to search for opportunities to use the SCALE methodology and strategic communications to improve biodiversity program outcomes. Given this is the final year of the project, G-FISH is also cognizant of the need to transition our current work to other programs or organizations.

## **Component 2: Knowledge Management and Sharing**

### **Communication**

#### *Conferences and Meetings*

G-FISH attended the International Boston Seafood Show with two representatives of industry from Honduras. G-FISH met with several key organizations including WWF and Darden Restaurants, Inc.

G-FISH is hosting monthly spiny lobster calls for stakeholders interested in the fishery and its future.

#### *Media Coverage*

Coverage of demonstration programs in Cambodia, Honduras, and Mozambique has continued. Additionally, local coverage of G-FISH's work in Honduras was covered in multiple media outlets.

### **Information and Data**

#### *Fisheries Course*

G-FISH worked with eight partners to develop and host a course to promote fisheries management to USAID staff.

#### *Materials Produced*

G-FISH produced the quarterly G-FISH Tales and commissioned a Seafood Engagement Guide for USAID staff.

## **Component 3: Spiny Lobster Initiative**

### **Honduras**

The Initiative continues with strong momentum in Honduras. Going into its final year, SLI is poised to be at the forefront of ensuring the scuba diving ban is final in 2013 and assisting in the establishment of the largest marine protected area with rights-based use in Central America is designed, funded, and starting implementation by the end of 2013.

## II. October 1, 2012 – March 31, 2013 Activities and Results

### Alliance Development

#### Management

Jeanette Robinson joined the G-FISH team in Cambodia as the Program Manager reporting to Washington, DC.

#### Cost Share and Leverage

G-FISH has doubled the requirement for leveraged funds and has identified and documented cost share for activities or other efforts that have complimented, supported, or enhanced G-FISH goals and objectives. These include partnerships with WCS, Darden Restaurants Inc., and CME, joint sponsorship of key technical meetings, new business development, leveraging of funds to support improved fisheries management, and media coverage.

#### Partnerships and Collaboration

G-FISH has worked to improve knowledge management and foster a global learning agenda on fisheries conservation by sharing information with partners and the wider community and by promoting knowledge exchanges based on its country programs. In the last six months, G-FISH has strengthened relationships with more than 10 partners globally including universities like the **University of Rhode Island, University of Washington, and University of California - Davis**. This expansive network of partners allows G-FISH to promote learning and enhanced knowledge of best practices in fisheries management and building and dispersing excellence and technical leadership in the three target countries and around the globe. Partnerships include:

##### *Honduras*

- Partnership with **Darden Restaurants, Inc.** has greatly increased in the last year and they will have been to Honduras to work on Spiny Lobster Initiative (SLI) issues three times in the last year through May. G-FISH and Darden have consulted through calls or meetings several times a month since October 2012. G-FISH is working with Darden on their Clinton Global Initiative commitments and to expand work in Honduras. G-FISH received \$5,000 from Darden for their continued work and partnership.
- SLI is working with **CME** and **TNC** on a network of marine protected areas (MPAs) in the Honduran Caribbean, which is funded by the Summit Foundation.
- SLI continues to collaborate with Alliance member **WWF** in their work on the transition plan from scuba dive fishing and on their work with the trap industry to implement a Fishery Improvement Project (FIP) working toward certification with the trap industry.

##### *Mozambique*

- In Mozambique, G-FISH renewed its subagreement with **WCS** to improve fisheries management in Pemba Bay. WCS most recently conducted a rapid survey of coral reef health and fish diversity and biomass to define areas most in need of protection. In the next phase of our involvement, WCS will focus on the development of a closed area for the community of Jimpia.

- G-FISH has also promoted the involvement of **WWF** in the program and facilitated consultations between WWF and the government fisheries authorities around the study of linefish.

### *Cambodia*

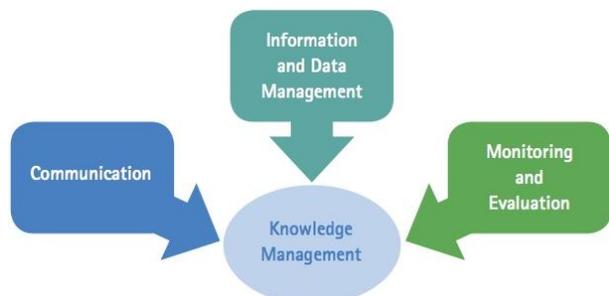
- G-FISH completed a sub-agreement with Fisheries Action Coalition Team (**FACT**) to implement conservation and management strategies in Phat Sanday.
- G-FISH continues its relationship with the Cambodian Fisheries Administration (**FiA**) acting as a facilitator in maintaining relations and implementing solutions.
- G-FISH continues to collaborate with **WorldFish Center** in Cambodia on their Stargo Project as both organizations implement activities in the Phat Sanday community of the Tonle Sap Lake.

## **Associate Awards**

FHI 360 continues to work with partners and investigate opportunities for Associate Awards. G-FISH also continues to search for opportunities to use the SCALE methodology and strategic communications to improve biodiversity program outcomes. Given this is the final year of the project, G-FISH is cognizant of the need to transition our current work to other programs or organizations.

## **Knowledge Management and Sharing**

The diffusion and dissemination of sustainable fisheries and aquaculture information and knowledge has emerged as a key issue for governments, communities, private enterprises, and civil society. To ensure that the existing knowledge including best practices, tools, and models of sustainable fisheries management are readily available and accessible to the broadest array of stakeholders and practitioners, G-FISH has worked to improve knowledge management and foster information sharing by informing partners and the wider community about conservation and fisheries. G-FISH does this in all of its country programs and at a global level by maintaining regular flow of information to partners and the wider fisheries community on new developments and better management practices. G-FISH also seeks to validate a social approach to fisheries management to USAID Missions to help them understand the value proposition of using locally owned and led solutions.



Overall, three things feed into knowledge management: 1) communication; 2) information and data; and 3) monitoring and evaluation. Information and data management is about making sure the right information is in the right place at the right time to support decision-making. Monitoring and evaluation is the source of much of this information and one of the ways by which adaptive management is practiced.

## **Demonstration Projects**

## **Mozambique - Pemba Bay Initiative**

As the G-FISH Pemba Bay Initiative looks toward a thoughtful transition to local ownership at the end of FY2013, the focus in the first six months of 2013 has been to increase the level of trust and cooperation among the system stakeholders so that they are better positioned to continue to benefit from the range of activities that G-FISH is supporting in the region.

Like all G-FISH programs, the Pemba Bay Initiative has three major, inter-related objectives:

- 1) To increase social capital and demand for sustainable management
- 2) To promote ecosystem-based approaches to fishery management
- 3) To establish and promote social and economic incentives

In support of these three major objectives, G-FISH staff have ramped up the level of commitment and willingness to lead of all initiative partners. During the period covered by this report (first half of FY2013), the focus of the Initiative has been to strengthen the role of the Conservation Committee as the forum for coordinating and facilitating the implementation of a common fishery agenda, strengthen the knowledge base of program stakeholders regarding the status of the fishery and the role of CCPs in fishery management, and motivate stakeholders to engage in collaborative actions. The following are specific actions undertaken by G-FISH.

### *Partnership and Conservation Activities*

#### G-FISH Conservation Committee

During the October 1, 2012 to March 31, 2013 reporting period, the Conservation Committee, known locally as “Iniciativa Local para o Desenvolvimento da Pesca Sustentavel na Baia de Pemba”, or simply the “Iniciativa Local”, continues to meet twice a month. It is particularly noteworthy that the committee has the active and consistent participation of a core group of community, government, and CCP representatives, along with a diversity of other stakeholders. The tone and content of the meetings has changed noticeably over the course of the last few months. Whereas many participants seemed to have been coming to the meetings to air grievances or complaints, or to make demands of the project, more recent meetings have served to reach some degree of consensus on the need for capacity building support and the benefits of collaborative, as opposed to antagonistic, relationships. Of particular importance has been the increasingly active role of the Mozambican government fisheries staff, which have indicated their appreciation for the work of the Iniciativa Local and recognized their mandate to help CCPs become more effective stewards of the fishery resource as envisioned in the national legislation.

#### Wildlife Conservation Society (WCS) Ecological Survey

Since early in 2012, the WCS has been a valuable partner in the G-FISH Mozambique Initiative, sharing recognized scientific fisheries and marine ecosystem knowledge and significant community fisheries management experience with program staff and partners. WCS followed up its first field visit in February 2012 with a second trip in June and a third this past October. With each successive trip, WCS, with G-FISH facilitation has put in place key building blocks needed by communities to implement an effective fishery management program. Starting with an assessment of attitudes and knowledge about management tools and practices, WCS helped define appropriate management options and the capacity building and training needs of these communities. In October 2012, G-FISH supported a team of WCS scientists to visit Pemba Bay

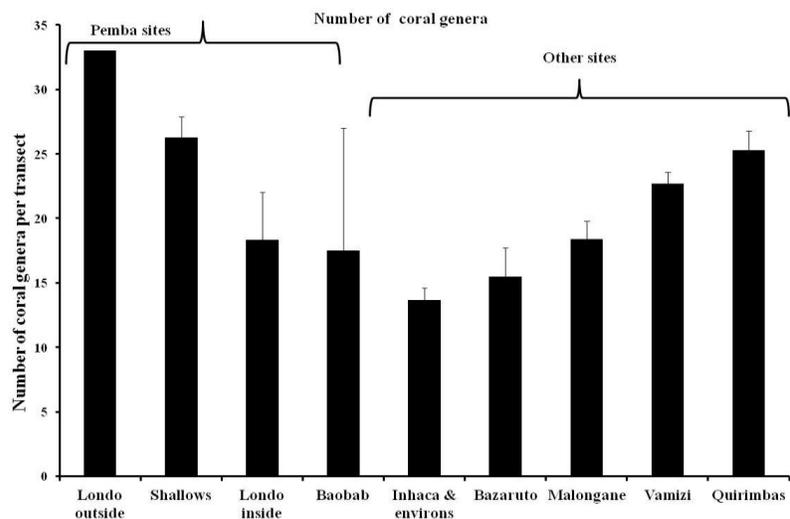
with the purpose of identifying key sites and socially acceptable ways forward to strengthen their management systems looking at the environment and resource users around it. The ecological surveys suggest that the Pemba area is probably at the southern end of a high biodiversity area and that the Pemba peninsula could be established as a zoned multiple use protected area.

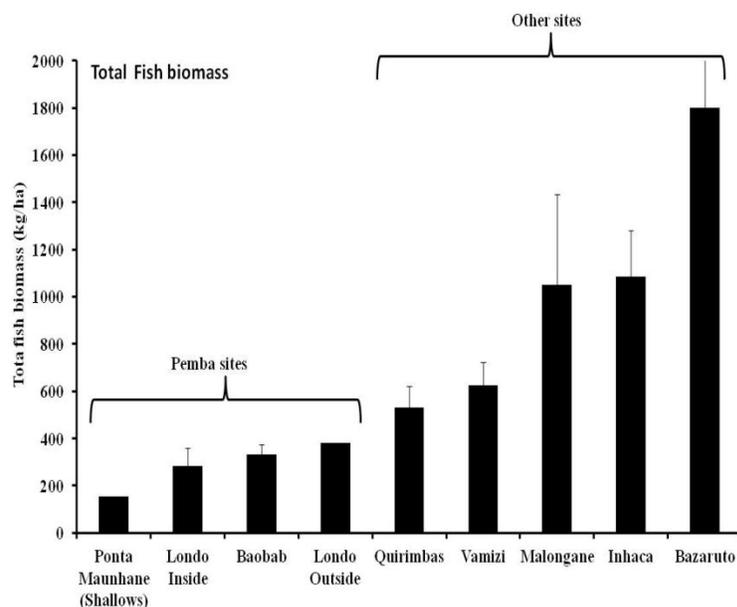
The WCS team noted that the need for fisheries management is broadly appreciated but there are considerable social organization and governance issues that need to be addressed to develop a progressive management program. Primarily the urban CCPs (Community Council of Fisheries) are only composed of leaders with no participation among actual fishers and therefore there is no forum for stakeholders to express opinions and influence decisions and enforcement actions. The rural CCPs are more integrated but powerless to control urban-based fishers that visit their fishing grounds at night and use small-meshed seine nets when they cannot be detected.

This problem is undermining their ability to feed themselves and, in some villages, is not easily compensated for by other food sources. There is a need to develop greater participation and smaller forums in the urban area that include the many stakeholders and that can hold fishers and the fisheries department accountable for fishing and management activities. In addition, the capacity of local CCPs to co-manage their resources will be needed and will require a mix of area- and gear-based management.

WCS Technical Assistance on Implementation of Community Management Plans

During its most recent trip last October, WCS conducted ecological surveys of key sites in Pemba Bay. WCS was able to compare the results of these surveys with similar research conducted in 2007. The WCS team noted exceptionally high coral diversity for the Londo reef, which is easily accessible by both the Jimpia and Ruela CCPs. High coral diversity, coupled with low fish biomass is an indication of overfishing and the need for establishment of effective management regimes (see graphs). Because of these scoping exercises, WCS is now in a position to support the most receptive communities to begin pilot efforts to put fishing restrictions in place to better manage their fisheries. **The complete Ecological Survey can be accessed in Annex 1.**





### Building the Knowledge Base

In addition to the on-going technical assistance provided by the WCS in the area of ecological surveys and development of fishery co-management, G-FISH has facilitated the collaboration of the South Africa office of the WWF with the Mozambican Institute for Fisheries Studies (IIP). As part of the South Africa Sustainable Seafood Initiative (SASSI), WWF is planning to conduct a study on commercial linefish species.

### Community Strengthening

G-FISH has working with all partner CCPs and communities to help them understand the benefits of working through their established associations. This has been a slow and iterative process, but results are starting to show. In the last few months, CCPs have called for a General Meeting of its members, scheduled leadership elections, and sought support from government fisheries units for licensing and enforcement activities. With the active encouragement and support of G-FISH, government agencies are also coordinating capacity building activities with these community-based organizations for broader impact.

### *Collaboration and Communications*

#### Strengthen Partnerships and Commitments with Local Government Entities

Meetings of the Conservation Committee have been the most visible forum where community leaders, CCP leaders and government fisheries representatives have sat together to address common concerns. Over the last meetings, there has been a noticeable change in the dynamics of the meetings. Whereas in the past it was primarily the G-FISH staff that was pushing agendas forward, and reminding participants of the purpose of the meetings, it has been heartening to see partners beginning to carry the torch. This is a very positive development as G-FISH starts to wind down the program and transition leadership and initiative to the local stakeholders.

## International Day of the Fisherman

On November 21, 2012, the International Day of the Fisherman was celebrated in Wimbe Beach with the participation of the G-FISH team, the Government of the Province of Cabo Delgado, representatives of the Community Council of Fisheries (CCPs) of Pemba Bay, local NGOs, the academic community, fishermen and women, and the media.

The CCPs observed the occasion by thanking the government for their support of artisanal fisheries while also noting the considerable obstacles to the effective development of the fishery sector, including: the lack of material and financial resources that would allow fishers to practice sustainable fishing, problems with access to credit, and the lack of storage, processing and distribution facilities for fresh fish. Cabo Delgado Government officials acknowledged the important role that fishers play in society and the state.

Following the event, Isabel Ferreira, the G-FISH Coordinator, participated in a radio program to highlight the role of fisheries in the communities and the need to increase public awareness on the value of the marine resources. G-FISH-supported research has shown that community members recognize the decrease in fish catches are due to the manner in which people are exploiting the resource rather than natural causes and that the G-FISH mission is to work with the community to improve understanding of the issues and find mutually agreeable solutions.

## Community Council of Fisheries Experience-sharing Event

On November 29, 2012, G-FISH was invited to participate in a meeting between CCP Ruela, CCPs from the Province of Inhambane, and respective members of government representative from the Institute for the Development of Small Scale Fisheries (IDPPE) that took place at the headquarters of CCP Ruela. The IDPPE representative highlighted the role of the communities in the management of marine resources. Participants took turns to discuss key issues.

The head of CCP Ruela explained that fishing bans had been instituted in 2007 and 2008 but that due to decreases in catches in the second year, the CCP had lost interest in continuing with the ban. CCP members pay dues that are used by the CCP to buy uniforms, conduct public interest campaigns, and to finance improvements to the CCP headquarters. The CCP also receives voluntary donations from boat owners.

Participating CCP members noted the importance of establishing a close working relationship between community leaders and CCP leaders to define awareness raising activities, membership registration, and work planning. They encouraged the use of radio to transmit relevant information to community members. They also stressed the need for community and CCP leader to work together to monitor adherence to established community practices related to fisheries, and to hold local leaders accountable for the actions of their members.

The IDPPE representative from Inhassoro explained how a closed area was working there. The fishers themselves began a three-month ban on fishing between June and September where only line and hook fishing can be used. The community can make a collective determination of the start date and the duration of the ban, as well as the specific fishing techniques to ban.

A member of the CCP of Chibuqui indicated that in their district they levy a tax of 100 meticaís per boat that is earmarked for support of the CCP. The municipality also assesses a 10% tax to support a social welfare fund. Given that there are many social development activities

associated with the fishery, the CCP has been able to access this social fund for building the CCP meeting spaces.

All the participants in this meeting exchange contact information and stressed the desire to keep open communication so that they could continue to learn from one another.

### Engaging Partners

The G-FISH Conservation Committee continues to expand its reach by bringing interested individuals and organizations to participate in their meetings. During the last six-month period, G-FISH has reached out to environmental, women's, academic and scientific groups to open up a space for collaboration around common objectives and has participated in meetings organized by the oil and gas industry as part of their community outreach effort.

G-FISH finalized a pilot environmental program for children in grades two through five and will be presenting it to the Education Director for approval and implementation.

### Iniciativa Local newsletter

G-FISH continues to produce and disseminate a monthly newsletter to keep stakeholders informed and motivated to support program objectives. During this last reporting period, the newsletter, which is distributed electronically to all interested parties, has kept partners informed on recent and upcoming events, and addressed issues such as safe handling of fresh fish, the important role of community organizations and a consumer guide for catching and purchasing fish. This last issue of the newsletter received positive feedback from readers for raising awareness of the role of consumers in the fishery situation. See Annex #2.

### *Next steps*

Over this last reporting period, G-FISH has dramatically improved the level of trust and understanding among its key partners. The remainder of the program will be dedicated to improving the capacity of the CCPs to act as an effective advocate for the management of the fisheries interests of their respective communities, to increase the level of support given by the Mozambican fishery offices to the CCPs, to implement a pilot management initiative and to develop a set of shared commitments that will allow the Iniciativa Local to continue to serve as a coordinating mechanism for fishery stakeholders at the conclusion of G-FISH funding in September 2013.

### **Cambodia - Tonle Sap Project**

The success of the G-FISH Cambodia program and the SCALE process upon which it was designed, is predicated on having a system of stakeholders that defines the agenda of the Initiative, has a common understanding of the opportunities and constraints, and is willing to act collaboratively to undertake priority actions to achieve desired results.

The Initiative has three major, inter-related objectives:

- 1) To increase social capital and demand for sustainable management
- 2) To promote ecosystem-based approaches to fishery management
- 3) To establish and promote social and economic incentives

During the period of October 1, 2012 – March 31, 2013, G-FISH facilitated four meetings with stakeholders facilitating an additional five meetings with a total of 208 participants, 70 or (27%) of which were women. These meetings took place in Phnom Penh and floating villages on the Tonle Sap Lake. Meetings included Task Force meetings, Technical Working Group (TWG) meetings, workshops, an exposure visit, and a speaker series event. These meetings involved a wide range of stakeholders and fishing communities, who also benefited from trainings. During the first half of FY13, the focus of the Initiative has been to disseminate relevant information to a broad range of stakeholder groups, and enhance information sharing and collaboration among fisheries stakeholders from the government to the local fisher.

The suspension of fishing lots continues to pose a challenge for the Fisheries Administration (FiA) and all stakeholders in the fisheries sector. Previously, when fishing lots existed the individual fishing lot owner managed their fishing lot and its conservation areas. It was in their interest to manage fish stocks, fish spawning areas, and catch sizes. Since the fisheries reform, these responsibilities have been transferred to communities, and community fisheries and conservation areas have been established. With the large fishing lots broken up so swiftly into smaller community fisheries it has been a struggle for communities to patrol and manage these areas, as there is a lack of resources and low capacity of enforcement. Illegal fishing (both methods used to capture fish and fishing in conservation areas) has increased significantly. Communities struggle to patrol for illegal activities including destruction of conservation areas, as they do not have the resources available to them to undertake these activities. There is a lack of understanding of where fishing boundaries are located and what family fishing is allowable. G-FISH in collaboration with FiA, the Coalition of Cambodia Fishers (CCF), and the G-FISH Task Forces, have been working on a number of methods to disseminate information related to the conservation of flooded forest areas and legal fishing methods including a radio program, Speakers Series, and monthly newsletter.

Assistance is still greatly needed to ensure that fisheries resources are properly managed, communities understand their role in fisheries management, and local people are empowered to participate in resource management and conservation. The project's role as a neutral facilitator for discussions is even more critical as the communities and government continue to try to resolve these issues.

G-FISH continues to play a role in improving communications among stakeholders at the local, regional, and national levels, an activity that no other donor or group has focused on during the current crisis in the sector. The government of Cambodia, through the FiA, has requested that G-FISH continue to act in a neutral communicator and facilitator role among different groups in the fisheries sector. Key achievements in the previous six months include:

- Partnership building and collaboration between government and stakeholder groups: G-FISH has been working with the Task Forces and reconvened all three Task Forces in February. The partnership with the Fisheries Action Coalition Team (FACT) recently came to completion and FACT conducted an exposure visit to Siem Reap Province with villagers from Phat Sanday. Cambodia Development Research Institute (CDRI) and WorldFish Center organized a workshop in Phnom Penh in December 2012 to discuss and share their success on the Strengthening Aquatic Resources Governance (STARGO) project that G-FISH attended. G-FISH originally partnered with WorldFish Center to start work and have supported independent efforts in Phat Sanday to promote better fisheries management and conflict resolution.

- Communications and Collaboration: A great deal of activity has taken place to enhance communications over the last six months including the implementation of the “Sustainable Fisheries Radio Discussion” program, the commencement of a Speakers Series, a monthly G-FISH newsletter, and expansion of our media tracking and routine communications. WorldFish Center, CCF, and FACT have been working together and have recently started to plan a national workshop for May 2013. The TWG continues to meet on a bi-monthly basis. G-FISH will continue to partner with these original contributors to G-FISH.

### *Task Force Meetings*

During the initial Whole System in the Room (WSR) event in September 2011, six Task Forces were established: Communications Task Force, Conservation Area Task Force, Fishing Lot Task Force, Flooded Forest Task Force, Livelihoods Task Force, and Patrolling Task Force. These Task Forces were later reduced to the now existing three Task Forces: Communications Task Force, Resource Conservation Task Force, and Livelihoods Task Force. A reconvening of all of the Task Forces took place on February 26, 2013 to bring these fisheries stakeholder groups together to share their work activities and discuss the current situation on the Tonle Sap Lake. Individual members provided an update on their work activities and their achievements to date. Action points established at the meeting included:

1. Identifying illegal fishing occurrences and collecting information pertaining to these issues. Invitation to relevant stakeholders to meet and discuss these issues in order to find solutions.
2. Working with media agencies to advocate for sustainable fisheries and conservation.

A Communications Task Force meeting was conducted on March 28, 2013 where members shared activities occurring in their organizations and communities. The large amount of illegal fishing continues to be an issue on the lake. It was reported during the meeting that illegal fishers have been providing bribes to local authorities so they could continue to fish illegally. From this meeting the following action points were established:

1. Task Force members associated with media will focus more media attention to fisheries issues on the lake to raise awareness of issues.
2. The Communication Task Force will attend the joint FiA/CCF/FACT National Workshop scheduled for the beginning of May.

Since this meeting, members of the Communication Task Force have met with government departments to get assistance identifying illegal fishing hot spots so they can better report on illegal fishing activities.

### *G-FISH/FACT Exposure Visit*

In accordance with the partnership agreement with FACT, an exposure visit was conducted by FACT from December 13-14, 2012 in Siem Reap Province to allow Phat Sanday villagers to visit and learn about the activities being conducted in Kampong Plok and Chong Khreas, Siem Reap Province. The intent of the project was to support and strengthen the function and management of the existing community fisheries and community-based organizations (CBO) so they can function efficiently and protect and conserve flooded forests and fisheries in Path Sanday Commune, and also to strengthen protection of conservation areas by educating local fishermen and local authorities on the importance of conservation of flooded forests and fisheries through co-management approaches.

The objectives of the exposure visit were:

- To further strengthen the capacity of both Community Fisheries, Committee Members, and Commune Council members
- To explore and learn about practical fisheries protection and conservation through aligning fisheries conservation into the Commune Investment Plan
- To exchange lessons learned on protection and conservation of fisheries and livelihoods improvement

The villagers at Kampong Plok and Chong Khreas are adapting to climate change by planting vegetables in plastic bottles. In addition, they have several alternative livelihood opportunities available to them including eco-tour operations they have set up to bring tourists to visit the flooded forest area, and creating handicrafts from water hyacinths to supplement their incomes.

The outcomes of this exposure visit included:

- Participants showed an interest in planting vegetables in plastic bottles to help them to adapt to climate change
- Local authority members indicated a commitment to work closer with local civil society organizations (CSO), CBOs, and community fisheries in their commune territory. They committed to offer all members of CSOs to participate in the Commune Investment Plan and join the Commune Councils to establish the needs of the citizens, particularly in the areas of fisheries protection and conservation.

*Conclusion of the “Improvement of fishers’ livelihood through fisheries Conservation Project” with FACT*

The project goal was to develop resilient livelihoods of local fishers through fishery resources conservation for contribution to biodiversity conservation in Path Sanday Commune and the Tonle Sap Region.

The objectives were:

- To support and strengthen the function and management of the existing community fisheries and CBOs to be well functioning in protecting and conserving of flooded forest and fisheries in Path Sanday Commune
- To strengthen the conservation areas and promote understanding of local fishermen and local authorities on the importance of conservation of flooded forest and fisheries through co-management approaches.

The results of this project included the following:

- The conversion of three degraded areas into conservation areas with clear boundary poles at Phat Sanday and Preas Konglong Community Fisheries, and in a community protected area, a total of 25 hectares
- 7000 tree seedlings planted over six hectares at the Preas Konglong Community Fishery and 4000 seedlings over three hectares in the community protected area
- Four sign posts installed in public areas at Preas Konglong Community Fishery, six sign posts installed in public areas at Phat Sanday Community Fishery, and 6 sign posts at the community protected area

- Eight concrete demarcation poles put along the conservation boundary at Preas Konglong Community, four at Phat Sanday Community, and four at the community protected area

The project was implemented and carried out as planned and within budget and time frames set out. There was good cooperation and coordination among community members, local authorities, relevant stakeholders, and other NGOs. The project objectives addressed the actual needs and problems of the communities and contributed positively by increasing the awareness of local fishers and local authorities to the importance of flooded forests and sustainable fisheries. FACT indicated in their reflection report that illegal fishing and illegal encroachment in flooded forest areas had decreased at the conclusion of the project.

The challenges FACT identified that are still faced by the communities involved with this project include illegal fishing and illegal encroachment into flooded forest areas and land occupation in conservation areas for housing. Their recommendations were for longer project duration, more demarcation posts, patrolling support, and alternative livelihood opportunities including savings groups.

#### *Cambodia Development Resource Institute (CDRI) Workshop*

CDRI and WorldFish organized a workshop on December 19, 2012 in Phnom Penh. It was attended by 50 fisheries stakeholders, nine of which were women, to share their successful experiences from the STARGO project. The purpose of the workshop was to discuss and exchange experiences, and identify solutions for the future and establish the main activities local communities were able to achieve in order to support fisheries reform and improve livelihoods. The STARGO project aims to promote collaborative resource management among key stakeholders, including community fisheries (CFi), FiA, local authorities, and civil society networks, to conserve biodiversity and enhance local livelihoods.

#### *Communications and Collaboration*

In the past year, G-FISH has held more than 60 meetings with over 2400 participants and has initiated a flooded forest replanting campaign, community patrolling initiative, and capacity building trainings for local communities. Local fishers have reported being pleased with the patrolling activities as it has assisted with protecting fisheries in their communities against illegal fishing. Finally, local communities and authorities alike support the project in protecting the forest, which assists with conserving fisheries, and improving livelihoods.

#### Radio Program

To share fisheries collaboration work on the Tonle Sap Lake and to raise awareness of fisheries issues to the public, G-FISH in collaboration with the Communications Task Force created a radio discussion program. The program “Sustainable Fisheries Radio Discussion,” provides regular, up-to-date information about the activities of fisheries stakeholders in the Tonle Sap Lake and addresses any urgent and important issues that arise from the FiA, Tonle Sap Authority (TSA), Ministry of Labor, local authorities, and fishers. It is intended that the program will benefit all people associated with fisheries or those who would like to learn more about fisheries. Fisheries experts from government, NGOs, academic institutes, and communities participate on the program and share their work and experiences. Listeners are given the opportunity to call into the radio station and ask the expert panel questions relevant to the topic. The program has received very positive feedback from listeners and government authorities

who have been supportive throughout. The radio station has received 21 calls in total -- an average of 4 calls per 1-hour broadcast.

### Speaker Series

In cooperation with FiA, community fisheries, local authorities, the community committee, Ministry of Environment, FACT, and local villagers, G-FISH facilitated the first of four Speaker Series events at Path Sanday, Kampong Thom Province, on March 19, 2013.

The purpose of the first Speaker Series event was to share information about flooded forest conservation and fishery law. G-FISH invited experts from FiA to speak to participants about flooded forest conservation, current fishery laws, and to give advice to participants. It was anticipated that by disseminating this information participants would be discouraged from destroying flooded forest areas during dry season rice farming, and would reduce the occurrence of illegal fishing activities in the Path Sanday commune area.

A representative from the Department of Fishery Conservation at FiA gave a presentation about the benefits of flooded forests and what happens when we cut down flooded forest areas, and a local FiA officer gave a presentation about fishery laws and the kind of fishing gear allowed for family fishing use.

Currently, there are problems understanding the fisheries law, the legal use of fishing gear, and the destruction of conservation areas at Steng Sen where dry season rice farming is undertaken. For these reasons, both fishers and local rice farmers living adjacent to the flooded forest, which G-FISH and FACT replanted, were invited to the event. This event was attended by 35 participants, 11 of these being women.

Future Speaker Series topics include:

- Fisheries law and fishing gear;
- Livelihoods programs and floating village environmental issues; and
- Flooded forest replanting.

### Monthly Newsletter

A monthly newsletter in English and Khmer is published and shared with Task Force members, those on the G-FISH email contacts list, local communities and organizations and on Facebook. The monthly newsletter contains up to date information obtained from fisheries stakeholders, which G-FISH solicits. The articles written are selected by assessing feedback we receive during our routine communications, events held within the fisheries sector, and the current fisheries situation. See Annex #3.

### Media Tracking

Tracking of media outlets is conducted daily. This is from television, radio, print media, and online sources. Records are taken of all relevant articles and recorded in the PMP. This media tracking provides us with valuable information that assists us with planning our future activities.

### Routine Communications

Task Force members are contacted on a monthly basis so the program can keep up to date on their progress, and are made aware of the current situation within their organization/department.

Members from the WSR event as well as contacts made after the WSR event are contacted on a quarterly basis. The information collected during these routine communications provides our team with valuable up to date information that also assists us with planning our future activities.

### Facebook

The G-FISH Cambodia team routinely contributes to the G-FISH Facebook page and recently began posting our newsletter. The popularity of the website has been steadily increasing and feedback suggests that it is providing valuable information to a broad audience that would not generally be exposed to by our project. G-FISH is up 10% for people who like our page. The average total weekly reach of our page is 447 members.

### Collaboration: Worldfish, CCF, FACT

Earlier in the program, G-FISH facilitated a series of meetings between FiA and CCF who had previously only communicated with each other through an accusative manner. Over time, this relationship has evolved and currently WorldFish Center, CCF, and FACT are putting together a National Workshop for fisheries stakeholder groups which they intend to run at the beginning of May. G-FISH's role as a neutral convening partner can continue to open up potential future avenues for facilitating partnerships and future collaboration efforts to support fisheries on the Tonle Sap Lake.

### Technical Working Group Meeting (TWG)

The TWG meetings are chaired jointly by the FiA and the EU, and provide an opportunity for stakeholders to discuss strategic plans, including the annual work plan for fisheries in Cambodia. This is a forum for high-level government, donor agencies, and NGOs to join on a bi-monthly basis and discuss pressing issues. The focus of the group recently has been on the FiA Annual Action Plan, the Development Partners budget, and the Mekong dam issues. A TWG retreat was recently held in Siem Reap on March 25-26, 2013 with 19 TWGs (Chairs and DP Facilitators). This event was organized by CDC.

### *Next Steps*

- FiA National workshop: FiA, WorldFish Center, CCF, and FACT are planning a joint national workshop in May of this year.
- TSA relationship: After a great deal of effort, a meeting has been set for G-FISH to meet with senior TSA staff. We will use this opportunity to obtain their support for the radio program and Speaker Series. It is also hoped that this may evolve into an opportunity to coordinate work between FiA and TSA.
- Database: The G-FISH team has started to compile information for a database of fisheries stakeholders.
- HARVEST: Regular meetings are being undertaken with the G-FISH Program Manager, Jeanette Robinson, and the USAID Agriculture Officer, William Bradley. It is hoped this relationship will ensure the longevity of the G-FISH activities established.
- Information Center: G-FISH hopes to establish a center where fisheries stakeholders can access fisheries related information. FiA have informally indicated that they may have space at their offices for such a center. Online options are also being investigated.
- Patrolling support: There has been strong support from stakeholders for funding opportunities for patrolling on the Tonle Sap Lake. G-FISH is evaluating options.

## Other

- **Meeting restrictions:** Due to the upcoming Cambodian National Elections, it is anticipated that the government will advise that no meetings be convened during the months of June and July. The G-FISH team has adjusted its workplan to accommodate this disruption.

## Communication

Communication is a key input and complementary activity of knowledge management (KM). Communications allows the dissemination of knowledge to improve coordination and increased effectiveness and impact of projects. The integration of KM with communication activities allows a substantial reduction in costs and generates products that are consistent, more valuable, and relevant for the different audiences, enhancing effectiveness.<sup>1</sup> This section will focus on communication to influence change at a global level and reference to distinct communications efforts in country programs are highlighted in their sections.

### *Annual G-FISH Meeting*

G-FISH hosted the 2012 Annual Alliance Meeting on December 17, 2012, with 21 participants from the U.S. and Honduras. Members and partners of the Alliance were invited to participate in a one-day meeting to provide updates on their current work and to explore possible areas of collaboration for the Alliance's fourth and final year. Meeting participants included representatives from the following twelve collaborating organizations; Chemonics, Environmental Defense Fund (EDF), FHI 360, International Seafood Sustainability Foundation (ISSF), NOAA Fisheries, OSPESCA, Sustainable Fisheries Partnership (SFP), the Good Foodie, TNC – Honduras, University of Rhode Island (URI), USAID, Wildlife Conservation Society (WCS), and World Wildlife Fund (WWF). For a full report of the meeting, including participant list with contact information, see Annex #4.

### *Media Coverage*

Honduras has received extensive media coverage nationally and internationally. Multiple newspaper articles at the national and regional levels, several TV interviews with local stakeholders were part of the coverage in the last few months.

### *G-FISH Tales*

G-FISH Tales is a quarterly newsletter updating Alliance partners and allies about the activities of G-FISH and our partners. The last edition of G-FISH Tales was Winter 2013. This edition reported on the G-FISH work in Pemba Bay, the Tonle Sap fishery in Cambodia, and highlighted the continued work by SLI in Honduras.

### *G-FISH Website*

The Global FISH Alliance updated its website during this period and continues to update it to feature its new work. G-FISH's Facebook page can be found at: <https://www.facebook.com/pages/Global-FISH-Alliance/198270160253219?sk=wall>.

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<sup>1</sup> Adaptation Fund, [http://www.adaptation-fund.org/sites/default/files/AFB.EFC\\_.5.3\\_Knowledge\\_Management.pdf](http://www.adaptation-fund.org/sites/default/files/AFB.EFC_.5.3_Knowledge_Management.pdf)

## **Information and Data**

### *Fisheries Course*

In February 2013, G-FISH and key implementing partner University of Rhode Island held a fisheries training course for USAID staff. The purpose of this course was to introduce USAID staff to fisheries issues and their importance to development objectives such as food security, economic growth, poverty reduction, governance, and biodiversity conservation. The course will focus on presenting proven approaches for improving and reforming fisheries management.

The training agenda includes a focus on fisheries and development trends, linking fisheries to USAID programs, and lessons learned in fisheries management. The course had six participants and many resource partners who presented to inform an online course currently in development. Overall, the course participants would attend this course again if the topic were “tightened up.” Please see more information in the report in Annex #5. Now, URI is developing an innovative, interactive, online training module based on the feedback from the one-day course.

### *Fisheries Video*

G-FISH is developing a short informational video about fisheries to alert USAID staff and others to the importance of fisheries. G-FISH developed the script for the video and is working with the Design Center at FHI 360 on the video. It will use a comparable format to the Know Your Source video in order to reach a wide audience. This will be a three to four minute video that brings in the keys concepts of fisheries management and SCALE and shows how they can be applied to fisheries successfully.

### *Seafood Engagement Guide*

G-FISH did a call for proposals to develop a seafood industry engagement guide to provide guidance to USAID staff on how to engage the private sector in the seafood industry in meaningful dialogue and build public-private partnerships that promote sustainable fisheries and aquaculture. The guide will serve to share best practices with seafood industry stakeholders who wish to further develop their collaborative approaches and to explore how stakeholder engagement processes currently underway and planned for the future can drive responsible practices in the workplace, marketplace, community, and environment.

### *Fisheries and Food Security*

FHI 360 continues to use and promote the food security fact sheets on eight countries.

### *Mapping of G-FISH Partner Fishery Management Activities*

G-FISH continues to pursue the goal of improving awareness of where partners work around the world. To help disseminate this information a map of Alliance Partner Activities was developed that can be viewed either as a Google map or in table format on the G-FISH website.

## **Monitoring and Evaluation**

The G-FISH Program continues to gather PMP data and relevant information from all three country programs. Following are some of the highlights of the monitoring and evaluation effort

for the first six months of FY2013. All data will be presented and analyzed in the next official PMP Report to be submitted at the conclusion of the program.

### **G-FISH Leader**

G-FISH has contracted authoritative fishery experts to provide leadership and guidance on the design and implementation of an empirically supported study to assess the impacts and lessons learned from the entire G-FISH program. Though significant changes in biophysical indicators may not be able to be readily observed in the limited life of the individual initiatives, G-FISH is committed to examining the critical importance that relationship-building and focused stakeholder engagement and communication have in the long-term commitment to the sustainable fisheries agenda. Working in tandem, the fisheries advisor and social network specialist are designing an evaluation methodology and refining the survey instruments that are expected to result in peer-reviewed publications while contributing valuable insight for USAID's Learning Agenda.

### **Mozambique**

The most promising result in Mozambique is the number of collaborative actions that continue to generate momentum for the program and increase the likelihood that additional areas will come under improved management. The number of meetings and other joint stakeholder events in the last six-month period is nearly double the number for all of the previous year. In addition, the representation of females in these meetings has increased from 16% to 35% owing to program efforts to expand representation and involvement of communities.

### **Cambodia**

Media coverage of fisheries issues in Cambodia has increased significantly in the last six months covered by this report. The focus of the Initiative has been to disseminate relevant information to a broad range of stakeholder groups, and enhance information sharing and collaboration among fisheries stakeholders from the government to the local fishers. There is a lack of understanding of where fishing boundaries are located and what family fishing is allowable. G-FISH in collaboration with FiA, the Coalition of Cambodia Fishers (CCF), and the G-FISH Task Forces, have been working on a number of methods to disseminate information related to the conservation of flooded forest areas and legal fishing methods including a radio program, Speakers Series, and monthly newsletter.

### **Honduras**

Since its inception, the Spiny Lobster Initiative has served as a test case for the application of social network analysis techniques. In an effort to better understand stakeholder dynamics and improve communication and collaboration within the fishery system, G-FISH staff have collected network data over the course of the program. With the expertise of researchers at the University of California Davis, G-FISH has been developing an end of program data collection effort that will allow us to determine key changes over time and is expected to validate the use of the SCALE methodology that underpins that entire G-FISH Initiative. Findings from this data collection effort will inform the observations from Mozambique and Cambodia and be fed directly into the overall G-FISH end of program assessment.

Summary data tables for each country are presented as Annex #6.

## **Spiny Lobster Initiative Honduras**

The continued success of the G-FISH SLI program is due to a system of stakeholders that has consistently remained engaged over the life of the project. Their continued effort has led to substantial changes in all aspects of the fishery from governance to social and environmental issues.

The Initiative has three major, inter-related objectives:

- 1) To increase social capital and demand for sustainable management
- 2) To promote ecosystem-based approaches to fishery management
- 3) To establish and promote social and economic incentives

During the period of October 1, 2012 to March 31, 2013, the SLI facilitated four different meetings with stakeholders and partners looking for collaborative synergies and actions.

### **Communication and Collaboration**

#### *Monthly Spiny Lobster Call*

Starting in January 2013, G-FISH has been hosting monthly calls among partners to discuss updates on the spiny lobster fishery in Honduras and Nicaragua. More than 30 unique participants have participated on different calls, including representatives from Darden Restaurants, USAID in Washington and Missions, State Department, National Geographic, and other NGO partners.

For all of the Spiny Lobster Call Notes see Annex #7.

#### *Nomination for 2012 Katerva Awards*

The Global FISH Alliance's Spiny Lobster Initiative was a nominee for the 2012 Katerva Awards. The Katerva Awards shine a global spotlight on the world's most promising sustainability ideas and serve as a means to convene the world's best sustainability innovators. According to Reuters, "If the Nobel Society had an award for sustainability, it would resemble the Katerva Awards, a new international prize for the most promising ideas and efforts to advance the planet toward sustainability."

### **Partnership and Conservation Activities**

#### *Declaration of a marine territory for the exclusive use of artisanal fishing for Honduran Miskito indigenous population*

As a follow up for establishing an ecosystem-based approach to management of fisheries and empower marginalized groups, SLI is still working with TNC, CME, and stakeholders from La Moskitia to establish an indigenous rights-based artisanal fishing zone combined with designated no-take zones, in the Miskito Cays. The proposed total area of the reserve is 15,400 km<sup>2</sup>, approximately 1.5 million hectares, and within this area, it is proposed that 20% be declared as no take zones. This effort works specifically on building the ability of fisher groups to manage their own fisheries, filling the current vacuum in marine governance by providing tools to collect, analyze, and interpret and act on fisheries information at a local level. Ultimately the program seeks to develop a network of fish refuges and build their effective management

through fisher-led no-take reserves that will encompass 20% of the suitable fishing areas in Honduran Caribbean waters by 2016.

After some meetings with the stakeholders and several revisions, the technical team together with the Governmental commission developed in late March the latest version of the legal decree to establish and declare the 54 Miskitos Honduran cays as marine reserve and responsible fishing areas with indigenous rights- based approach. The proposed legal decree will undergo one last review with the stakeholders and authorities before being submitted to Dr. Maylo Wood-Congressman of La Moskitia into the National Congress for debate and approval. This effort, part of the transition and occupational reconversion, allows for the preservation of biodiversity while respecting indigenous rights-use and permitting artisanal fishing in a proposed protected marine area of 15,450 km<sup>2</sup>, which will be the biggest marine protected area in the Mesoamerican region. SLI has worked with local Miskito authorities, including the Governor and Congressman, to endorse this initiative along with the Miskito Diving Associations.

#### *Private Sector Partnership and Engagement*

##### Darden Restaurants, Inc.

The FHI 360 partnership with Darden Restaurants, Inc. has increased in the last year and they will have been to Honduras to work on SLI issues three times in the last year as of May 2013. G-FISH and Darden have consulted through calls or meetings several times a month since October 2012. G-FISH is working with Darden on their Clinton Global Initiative commitments and on expanding work in Honduras as well. G-FISH and Darden are working on expanding and highlighting the scuba dive issues in Honduras, including partnering with the World Bank's Global Partnership on Oceans. G-FISH received \$5,000 from Darden for their continued work and partnership.

##### Exchange of the Industry members of Honduras in the Boston Seafood Show

The Global FISH Alliance attended the International Boston Seafood Show in March 2013. Two lobster industry representatives from Honduras were sponsored to attend and learn about sustainability and certification. While attending, industry saw examples of successful industry-led efforts and government led efforts to improve lobster fisheries in the Caribbean and South America. The delegation sponsored by G-FISH committed to continuing dialogue focused on improving lobster fishery sustainability and social conditions in Honduras.

#### *Community, private sector, and government collaboration*

##### Dive Closure and National Transition Plan

In late September 2012, the Ministry of Agriculture and Livestock (SAG) and the Directorate General of Fisheries (DIGEPESCA) shared the National Plan for Transition and Closure of Diving in Honduras with the donor community. To promote and strengthen a more transparent process, SLI encouraged the government to widely circulate the plan and has made its database of over 310 members available to the government to facilitate dissemination of this important information.

The national Honduran Transition Plan describes the characteristics of the transition, including the different phases of the closing, financing strategies, and technical aspects. The plan focuses on key areas; creation of alternative livelihoods for divers, protection of the fisheries grounds,

financing opportunities, and the reconversion of the lobster diving industry. The plan also provides strategies for the reconversion of the diving industry by reducing fleet size and harmonizing fishing techniques; however, no details are provided for the funding of this component. The reconversion of diving boats is also mentioned. The plan is now under the coordination of an intergovernmental commission, a coalition of eight governmental agencies (health, labor, human rights, marine merchant, fisheries, environment, and planning and ethics affairs), as well as a representative from the national congress and one from the President's office. The budget for the transition plan has been set at \$ 20 million.

In early January 2013, Nicaragua lobster fishery private and community stakeholders advocated to the Government for an amendment of their current fishery law regulations requesting an extension of time for the dive closure in Nicaragua considering that currently the Government has not provided enough resources for transition and funds are limited. After some lobbying, on March 20, 2013, the Nicaraguan Congress published a legal decree reforming some articles of the fishery law and made an amendment approving a three year extension of the diving starting in March 2013. This amendment also established that the national authority for fisheries administration (INPESCA) would be in charge of developing an action plan to phase out diving and responsible for submitting quarterly reports to the National Congress on progress towards the closure. In the case of Honduras, an action plan is being requested for the transition, but no extension for diving has been officially approved.

The Government of Honduras' recognition of the catalytic role of the SLI, is encouraging SLI to continue working in communication, providing key training and serve as a neutral facilitator to develop a space for dialogue and exchanges such as symposiums, workshops, other technical knowledge sharing experiences as required for a smooth transition.

The continued success of the G-FISH SLI program is due to a system of stakeholders that has consistently remained engaged over the life of the project. Their continued effort has led to substantial changes in all aspects of the fishery from governance to social and environmental issues.

#### US and Honduran Government Meeting

Key stakeholders in the spiny lobster fishery including Darden, NOAA, USAID, MAREA and others participated in an important meeting in Tegucigalpa in September with representatives from the government of Honduras in the Ministry of the Environment and Ministry of Agriculture. At this meeting, the government of Honduras declared that the scuba diving ban for lobster will be enforced in 2013, an accomplishment decades in the making. Key accomplishments:

- Honduran Vice Minister of Agriculture committed that Honduras will not ask for an extension of the deadline for discontinuance of this gear type.
- Darden Restaurants announced that, if Honduras continued to allow fishing with SCUBA gear, they would have to buy fisheries products from other countries, reinforcing that their future investments in Honduras will be linked to closure of the scuba-dive fishing industry in Honduras.
- Visit succeeded in strengthening the relationship among US players, particularly among USAID contractors in the Spiny Lobster Initiative and MAREA, and with the NGO Center for Marine Ecology, that is working with the Honduran government to develop an Exclusive Zone for artisanal fishers, where use of SCUBA will be prohibited.
- Identification of the State Department's program for labor rights as another possible source of funding for alternatives to SCUBA fishing.

SLI will continue to work with partners to ensure the government of Honduras remains committed to ending diving in 2013.

### **Next Steps**

- DC Meetings regarding the Dive Fishery – In April, G-FISH will host a meeting with key stakeholders in FHI 360 offices to discuss coordinating an approach toward the extension of the scuba dive fishery in Honduras. Participants will share their approach and desire for approaching government, communities, and buyers in the U.S. to address the dive issue.
- Fourth Lobster Symposium – On May 15-16, 2013 in La Ceiba, the fourth annual lobster symposium will be held. The aim of this event is to continue working to implement plans to improve fisheries management and transition the dive fishery with different stakeholders and sectors participating. This symposium plans to bring together more than 200 representatives from the environment, government, private and civil sectors on the theme of the lobster fishery. Topics that will be covered in the symposium include: advances in the action plan for the transition and closure of the lobster diving in Honduras, advances in certification of the trap lobster fishery, updates on alternative livelihoods projects for the Miskito community, the initiative for responsible fishing areas in the cays of La Mosquitia, industry actions for the improvement and sustainability of the fishery, and diversification of fisheries and the implementation of best marine practices for the conservation of marine biodiversity.
- Meeting with U.S. Ambassador - In order to have better understanding of constraints associated with the transition from scuba-caught lobster market, the SLI representative in Honduras will have a meeting with U.S. Ambassador to Honduras, Lisa Kubinke, to discuss the possibility of coordination of efforts with the GOH to enforce the closing of the dive lobster fishery in Honduras as required by the SICA agreement.
- Partner meeting with SAG - In the middle of April, there will be a partner meeting host by the Government of Honduras to discuss the timeline and next steps for transition activities and the closure of the scuba lobster fishery in Honduras for July 1 2013. The closure of the lobster dive fishery provides a unique opportunity to catalyze real change in fisheries management in Honduras that can positively impact many more aspects than just fisheries: e.g. maritime security, improved local livelihoods, empowering indigenous groups etc.

*Report to Global Fish Alliance*

## **Environmental and Resource Survey of Pemba Marine Environment**

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## Summary

The environment and resource users around Pemba Bay were surveyed with the purpose of identifying key sites and socially acceptable ways forward in strengthening their management systems. The ecological surveys suggest that the Pemba area is probably at the southern end of the high biodiversity area reported in the Western Indian Ocean (WIO) that extends from northern Madagascar across to southern Tanzania and south to the Quirimbas in Mozambique. This conclusion is based on the high coral diversity reported for the reefs on the seaward side of Londo Peninsula, which had among the highest coral diversities reported in the WIO region. It is suggested that this peninsula be established as a zoned multiple use protected area with the more seaward side receiving the highest levels of protection. The other surveyed sites showed various signs of degradation in the forms of either low coral cover, high erect algal cover, high sea urchins abundance or low fish biomass. The biomass of fish was among the lowest reported in the Mozambique region and this low biomass extends into the Quirimbas Marine National park and suggests a large fish demand footprint from Pemba town extending to the national park. This indicates the importance of establishing effective fisheries management in and around Pemba.

The need and agreement for fisheries management is broadly appreciated but there are considerable social organization and governance issues that need to be addressed to develop a progressive management program. Primarily the urban CCP are only composed of leaders with no participation among actual fishers and therefore there is no forum for stakeholders to express opinions and influence decisions and enforcement actions. The rural CCP are more integrated but powerless to control urban-based fishers that visit their fishing grounds at night and use small-meshed seine nets when they cannot be detected. This problem is undermining their ability to feed themselves and, in some villages, is not easily compensated for by other food sources. There is widespread belief that these activities are promoted through corrupt associations between migrant fishers and fisheries department officials. Consequently, there is a need to develop greater participation and smaller forums in the urban area that include the many stakeholders and that can hold fishers and the fisheries department accountable for fishing and management activities. In addition, the capacity of local CCP to co-manage their resources will be needed and will require a mix of area- and gear-based management. The various options are discussed in more detail in the following report.

## Introduction

The Pemba region is highly reliant on natural marine resources and yet has begun to experience local limitations in the production of these resources and increasing prices, such that it is becoming highly reliant on inputs from the larger region and internationally. This will ultimately put considerable stress on the Quirimbas Archipelago coral reefs to the north and associated fisheries in the region and the ability to implement effective management in this larger region. The coral reef region north of Pemba is of considerable regional importance for having exceptional biodiversity and the potential to survive climate change disturbances (McClanahan et al. 2011a,b), if protected from unsustainable resource use and the threats arising from gas extraction. High demand but also weak management institutions are creating these local problems in Pemba and elsewhere. Nevertheless, previous evaluations of Pemba resource users and managers supported by the USAID-funded Global FISH Alliance (G-FISH) survey found that there was generally broad level support for various fisheries management restrictions that could be expected to reverse the declining fisheries production if properly implemented (McClanahan et al. 2012, in press).

The previous management preferences and institutional design survey also identified a number of institutional weaknesses, such as the lack of clear resource use restrictions bylaws, the lack of graduated sanctions applied to the enforcement process, and weak co-management arrangements between the government and fishing communities. These findings were developed into a communication slide show emphasizing the importance of institutional organization, which was presented to the fisheries community leaders (CCP) (May 2012). This was followed by the development of a management planning documentation and a presentation that introduced this process to CCP leaders (October 2012).

The third part of the Pemba fisheries development strategy was to conduct biological/ecological resource surveys through a mixture of standard ecological surveys and interviews with resource users. This survey was intended to broaden the understanding for management preferences and to understand the main limitations to resource users in terms of the state of the resource, access to the resource, and ways to overcome these limitations. This report summarizes the findings from those surveys and we compare our ecological findings with other previous ecological findings derived from similar WCS research conducted in Mozambique since 2007. The report has three sections; the first part is a summary of the main findings and recommendations, which is followed by the more technical details of the ecological surveys and the interviews with resource users leaders on issue of resource use and management.

## Summary and recommendations

### Summary of ecological surveys

The ecological surveys suggest a mix of attributes and problems. First, the biomass of fish is low at all sampled sites and probably even lower in the larger environs that we did not sample. The low biomass as far away as the Quirimbas National Park is also a concern and suggests that demand for fish from Pemba town is driving the low biomass of fish in this region. The ecology of coral reefs is greatly influenced by the biomass of fish – degrading through a series of ecological switchpoints as biomass declines and further reducing it may eventually pose a threat to the future of these unique reefs (McClanahan et al. 2011). This reflects heavy demand and low protection of the fisheries resource in Pemba and the larger environs. The corals, on the other hand, are in fair condition in some areas and there is evidence this area is part of the larger high coral diversity region reported for northern Mozambique, with the seaward Londo site as having exceptionally high diversity. The high susceptibility also supports the notion that climate disturbance are not the cause of the degradation of the reefs but rather high fishing impacts. The uniqueness of this seaward Londo site and the potential for other similar areas not visited will require further field surveys and investigations to determine the extent of this unique diversity. This site is accessed by both the Ruela and Jimpia CCPs and will require a joint agreement to increase fisheries restrictions.

The recommendation from the ecological surveys is that the Londo peninsula may prove to be a useful place to develop a spatial plan where multiple use areas are established. As described below there is support for this management in the areas of Jimpia and this could be combined with full closure areas around the edge to outer seaward peninsula areas (Fig. 1). The total area proposed for area based management is 5512 hectares (Table 1). Below is a summary of the resource use surveys followed by a more detailed report arising from the interviews.

### Summary of resource survey discussions

Discussions were largely held with CCP leaders (more details below), so the results should be seen to reflect their opinions and not necessarily the full resource user community. Leaders are supportive of management restrictions but are also very aware of the difficulties of enforcing them. They narrate a number of failed efforts at implementing restrictions and all note the underlying issues of corruption in the enforcement process. The discussions confirm the more random survey of resource users that preceded this field study where we found wide support for most restrictions apart from reducing numbers of fishers (McClanahan et al. in press). Consequently, governance issues that focus on a small group of fisheries rule breakers rather than a broad desire for management restrictions is the main impediments to achieving progressive management.

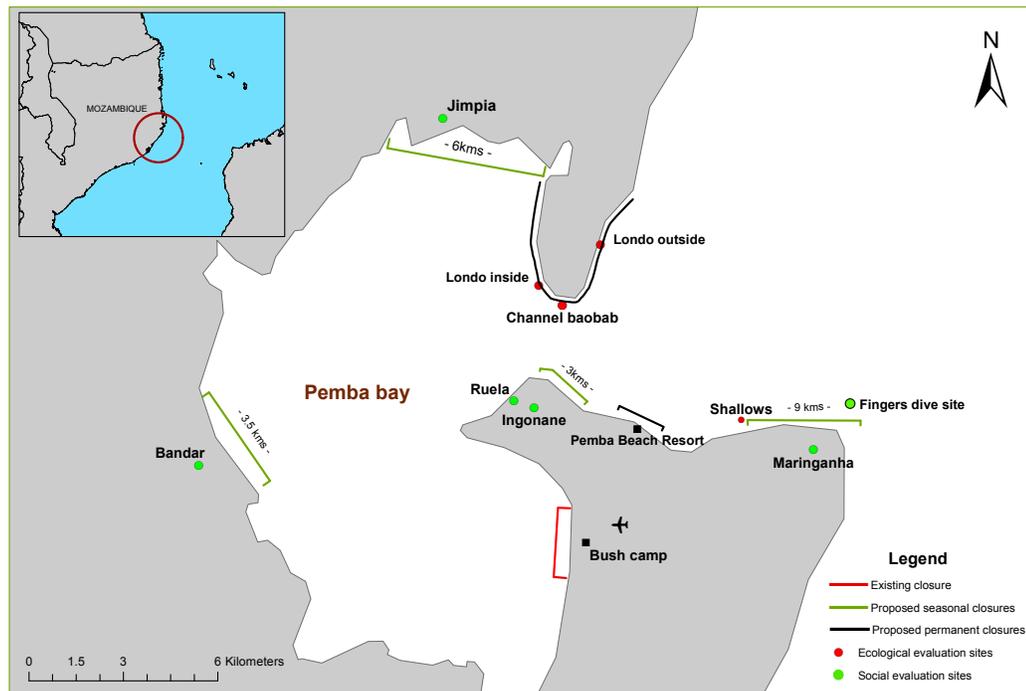


Fig. 1. Map of the study sites and existing and proposed management.

There were notable difference in the level of community organization and commitment to the CCP principles and organization in the visited rural communities (Bandar and Jimpia) and the urban communities (Ingonane, Ruela, and Maringanha). The rural communities appeared to show more interest, have larger membership of both fishers and leaders in their CCP, and potentially greater ability to influence resource users behaviors in their communities. The rural CCPs were only composed of leaders with very little to no membership among resource users. Consequently, the CCP concept of community meetings and organizations are only true for the rural CCPs. The urban CCPs rely on the ability of leaders to organize and communicate with fishers but this appears to be very mixed, with Ingonane having no history, Ruela communicating with a small subset of the fisher community, and Maringanha had a history and some confidence in organizing the fishers but feeling powerless to organize and control the many people in adjacent communities using the local resources.

These differences were also important in terms of the reliance of the people on fisheries resources. All the people we talked to in the Pemba region are highly reliant on fish, with it being the main source of protein in their diets. They differ, however, in the extent of

Table 1. Areas proposed for area based management through the ecological surveys and discussions with CCP leaders.

Jimpia	<i>Proposed permanent closure</i>	12.5 Km <sup>2</sup>	1200 Ha
Bandar	<i>Proposed permanent closure</i>	17.5 Km <sup>2</sup>	1750 Ha
Ruela	<i>Proposed permanent closure</i>	4 Km <sup>2</sup>	400 Ha
Bush camp	<i>Existing closure</i>	2.36 Km <sup>2</sup>	236 Ha
Pemba Beach Resort	<i>Proposed seasonal closure</i>	2.15 Km <sup>2</sup>	215 Ha
Maringanha	<i>Proposed permanent closure</i>	9 Km <sup>2</sup>	900 Ha
Channel Baobab	<i>Proposed seasonal closure</i>	8.71 Km <sup>2</sup>	871 Ha
Total area	<i>Pemba area management</i>	55.1 km <sup>2</sup>	5512 ha

this reliance, substitutability, and the scale of the markets for fish. Fish in the urban area are coming from the whole Cabo Delgado region and many people living in Pemba town are involved in this regional trade. It appears that all fish caught in the region are consumed in Pemba and environs, with very little or none being exported nationally or internationally. This suggests that the value in the region is competitive with international prices and largely driven by the urban areas but further investigations into the value chain will illuminate where the value for fish is greatest in this region. An exception was the pilot study of cod aquaculture that was being set up to export this high value fish to South Africa but had not yet reached scale. Fish are imported into Pemba from international destinations, such as pelagic fish from Angola. Urban people had more varied diets than rural people but still heavily reliant on fish imported from outside of the immediate area. Rural areas fishers had jobs in construction as the main alternative livelihood.

All urban areas reported exceptionally poor catches in their local fisheries and all explained this as a problem due to excessive use of beach seines or other small-meshed nets and spearguns. The beach seines that I saw in use in Ruela had end nets (kimea) of cloth with no mesh for the escape of small fish and >95% of the catch was composed of pelagic and seagrass nursery fish < 5 cm in length that were gathered and sold by the bucket. The one profitable fishery from the urban areas of Ruela appears to be the offshore ring-net fishery. The ring nets that I observed had small mesh sizes of <2cm and

therefore likely to eventually overharvest this offshore resource. Recorded fish prices are collected but not readily available or shared with resource users and CCP leaders and without this essential information feedback, it becomes difficult to manage the fishery based on catch and profit information.

The Quirimbas Marine National Park located 150 km north of Pemba was visited to assess the state of the fish resources in the park, as this might represent the full “footprint” effect of the Pemba demand. We found that a fish biomass of around 500 kg/ha, which is less than half of the expected unfished biomass for the region of 1200 kg/ha (McClanahan et al. 2011a). There were no differences in the biomass between the general park area and the one small sanctuary area and fishers were observed in the sanctuary. Consequently, it would appear that the park is being harvested at close to a maximum sustained yield (MSY) and that efforts to maintain an undisturbed or pristine system in this park are not functioning. Biomass measures in the Pemba region were considerably below a MSY estimates as would be expected from the reports of fishers and frustration with the low catches.

Rural areas had the greatest reliance on fish, essentially eating no other animal protein. Vegetable protein was utilized but in the case of Jimpia, they found it very difficult to grow beans and pulses because of animal pests (monkeys) and they were quite isolated from national markets. Bandar was closer to a market (Metumbe) and did not report these same problems. Farming and husbandry were livelihood alternatives in these towns but husbandry was seen as a means to get money for school fees and household costs and not for food. Rural areas also looked on aquaculture as favorable and early efforts with crab fattening in Jimpia were hopeful and algal culture was seen as potentially viable in Bandar.

Both rural areas expressed concern and frustration at the declining fisheries that followed the introduction of small-meshed beach seines from Ruela in fishing grounds beginning in 2008. Jimpia used beach seines as well but strictly enforced the three-finger mesh size rule and confiscated and burned any nets with smaller mesh sizes. Because beach seine fishers visited at night it was difficult to communicate with them and enforce any local rules. They believed this was seriously undermining their food security. They blamed beach seine fishers from Pemba that worked in collaboration with the fisheries department as the cause of their inability to control the fishing. Both rural areas suggested fisheries closures as a way to control access to fishing grounds and acknowledged either spillover (Bandar) or seasonal closure (Jimpia) as ways to reduce seine nets problems.

#### Problems to overcome and recommendations

##### Poor membership and communication

Creating forums where problems and ideas can regularly be expressed and trust built is often the first and arguably the most important part of solving common-pool resource problems. The existence of the CCPs provides a framework for these forums but as they exist in the urban areas, they do not have membership among resource users and possibly

have limited affect in creating consensus and associated compliance. Previous efforts to create more CCPs in the urban areas of Pemba failed due to both poor membership and also lack of interest in rule making in these CCPs. Consequently, the one remaining CCP is the head CCP in Ruela that has members from the previously failed CCPs but is restricted to community leaders. The relationships with the government are also weak, with little communication with rural CCPs and infrequent communication with urban CCPs. There are also many fishers who do not have licenses and this will restrict the membership to CCP and interactions with the government.

All CCP representatives listed more forums as a way forward to solve some of these problems, both within their CCPs but more importantly between CCPs and inclusive of other key stakeholders, including government departments ranging from police to the university. A first step in this process is to organize CCP leaders to develop a list of names and contacts of all marine resource users and stakeholders (marketers and tourism) in their respective areas as the first step in setting up local forums. Once initial local forums are established and meetings held and formal or informal membership increases, the proposal would be that each local forum would chose and send representatives to a larger regional forum where the problems and recommendations of the local forums could be expressed. It becomes critical to make these meetings focused on implementing actions as soon as possible to avoid cynicism about the meeting process.

These forums often benefit from objective data that are being presented, such as pooling of management preferences (Global Alliance Fish Report, McClanahan et al. in press), or fish catch, biomass, trends, and comparisons between sites. These sources of information have the potential to reduce the subjectivity inherent in these meetings and move their agenda faster towards specific solutions. There is a need to collate any available information and develop a program of study that can create the needed information feedbacks to resource users and managers. In the absence of these data, case studies from other regions in Africa are among the other alternatives.

Governance issues will be a key aspect to solve in these forms, so it is also important to develop a framework that discusses and agrees on the governance issues that will be critical to compliance and enforcement. Different governance models can be discussed and agreed on in both local and regional forums. The issues around power and authority for rule creation and implementation are critical to successful resolution. The issues of responsibility and corruption need to be discussed openly to ensure that governance has considered how this issue will most successfully be dealt with. Forums should have management plan outputs as a key part of the process and this usually requires coordinating CCPs with literate people able to draft these plans and to share these drafts with adjacent and regional organizations. The literate people in the University, IIP, IDPPE need to be part of this process both for their role in handling information but also to increase their visibility. They must develop methods of meeting and interaction that increase the transparency of their activities and involvement with communities.

### Immigrant fishers

Tanzania fishers working in collaboration with Mozambican fishers use beach seines that have very small mesh sizes compared to the ones used in rural villages. Tanzanian fishers are not allowed fishing licenses but they team up with Mozambican fishers who obtain the license and then use the Tanzanian-type seine nets and fish at night when the chances for detection are least. It was commonly believed that fisheries and government officials were among these partnerships and therefore immune to any government controls. Consequently, devolution of management to the community has largely abdicated control of a government created problem to poor people with few resources. CCPs are largely unable to develop effective enforcement of the few free loaders that undermine efforts.

This free loader problem and the perceived corruption and incentivization of the government to be involved in illegal fishing has created a difficult set of problems. Problems can be overcome with the creation of more forums and more open communication on the desires of the members with fisheries livelihoods and clear means to adopt and enforce graduated sanctions. There was a common perception that this problem would not be solved by the government but would require local enforcement by community members that were less susceptible to bribes. A number of villages said that burning small-meshed nets publicly was the only viable solution. This may be the case and can be included in a management plan that determines the gear and mesh sizes that members will allow in their fishing grounds.

The fishing grounds in the bay are largely flat sandy bottoms that create very little refuge for fish from seine nets. Consequently, without an appropriate mesh size it is very easy to reduce fish numbers to the point where only migrating fish are caught. One possible solution to this problem that does not require governance and the associated problems is to create rough bottoms or artificial reefs in front of the key villages. These can be created from quarried stones that can be transported by barge and disturbed throughout the fishing grounds. These rocks and reefs can prevent dragging of nets that get caught in the stones. Artificial reefs, in combination, with area management may greatly reduce the cryptic and corrupt seine-netting problem. A study of the feasibility and costing of this study is needed.

### Livelihoods

Alternative livelihoods may be useful but not a key aspects needing immediate attention and might be focused more on agriculture of protein sources needed for food security rather than animal husbandry or the production of high values marine products. Crab-fattening and algal aquaculture are both in need of further exploration and as part of management plans and development project, particularly in the rural areas.

### Information on fisheries and feedback

Information on the state of the fishery is problematic given that there is no system of measuring the catch and effort of the fishery and people appear to prefer selling fish by their numbers and sizes. In one location there was a fisheries officer with IDPPE who collected fish prices but I was not able to access this information despite a number of requests. While fish prices are potentially useful they are a difficult metric to work with from a fisheries biology perspective because prices are influenced by supply and demand and inflation processes that do not always reflect catch, effort, and gear issue. Evaluating the potential to develop a simple system of assessing the biological resource and a system of information feedback may be critical in the later stages of the management plan and feedback process.

### Gear restrictions

Mesh sizes of beach seines and ring nets appear to be small, variable, and not well enforced and yet this aspect of the fishery will be critical to maintaining sustainable catch. The three-finger rule (~5cm mesh) for some nets has been difficult to enforce and yet three-fingers may not be sufficient to maximize the profits from the fishery. A careful study of mesh sizes in Kenyan reefs found that for the dominant species caught in Kenyan nearshore areas (rabbitfish, parrotfish, and snappers) that a mesh size closer to 9 cm is optimal (Hicks and McClanahan 2012). There is a need to assess the species caught or potentially caught by the current nets and to evaluate the mesh sizes that would optimize yields for these species. This requires measuring the lengths of fishes caught at 3 months intervals over the course of a year or two. This may be one of the first, cheapest, and most valuable measurements for establishing the best mesh sizes and is a high priority. This information would be a key aspect of work that could be used in the development of the management plans for the CCPs. It is very likely that a system of graduated increases in mesh sizes will be needed to return the fishery to sustainability and profitability and this can form a key aspect of the forums and management plans.

### Fisheries closures

Closures were seen as a viable way to manage these fisheries for both increasing the fisheries resource and for establishing local control of resources. CCP members all agreed that closures should be immediately in front of their villages in order that they can be watched. Presumably, they are seen as more visible and enforceable because of this visibility. With the exception of Bandar and Pemba Beach hotel sites, most were in favor of rotating, temporary, or seasonal closures with closure periods mentioned as 3 to 6 months. My experience is that these closure periods may be most useful for octopus but that most fish may require longer closure periods. Octopus were reported as not present in the fishing grounds, so would possibly not be able to benefit from these short-term closures.

There was agreement that the closures would need to be managed through co-management system but the primary responsibilities of detection and enforcement from

the community members. National government would assist in condoning and codifying the management system and law enforcement of more serious or persistent crimes. There was also a perception that this would need to require more than the fisheries department but other branches of enforcement such as the Maritime Authority and police. The most common request from the CCP leaders was for the material and organizational means to create these closures. A few sites asked for engines to allow fishing offshore once they were created.

### Governance

Governance remains the single largest obstacle to sustainable fishing. There are national fisheries regulations that might potentially prevent the widespread overfishing that currently threaten food security in the region but weaknesses in governance have undermined the ability to enforce regulations. There are examples and local histories of promoting gear restrictions and closures management that have failed after a few years. This creates challenges for the communities and for donors that would like to undertake sustainable management that persists beyond the project period. Consequently, aspects of governance need to be examined carefully and cynically in order to find a means where the chances of failure are reduced. Given that the people in this region are acutely aware of the failures it is important that they develop alternative and viable systems through their management plans.

There are some opportunities for Global Fish Alliance to coordinate their activities along the lines of governance with a FIDA (International Fund for Agriculture Development) program that has Artisanal Fisheries Promotion as part of their activities. This program intends to support meetings that will promote improved governance and fisheries management and will be undertaken from 2012 to 2017. More information is available at this website.

<http://operations.ifad.org/web/ifad/operations/country/home/tags/mozambique>

### Technical finding and report

Prior to deciding on the sites for ecological evaluation, discussions were held with fishers and people in the dive industry to determine sites of interest. The general perception was that around the main town of Pemba south to Wimbi that the only habitat is sand, sparse seagrass and degraded hard bottom of rubble or ancient reef. These sites have low biodiversity values and were therefore not visited or studied.

In the Pemba bay most of the bottom is reported to be sand and water visibility is low, which makes it difficult to study. There is a reef shoal in the middle of the bay that was not visited and some reported reefs around Bandar but poor visibility would not allow a visit or sampling. The Pemba Dive Bush Camp located in the southeast section of the bay was visited because it was widely reported to have stopped fishing adjacent the resort through a private permit given to the camp. The waters off of the camp were visited but the bottom was sand and the visibility was low and stinging varieties of jellyfish were



Pemba Bay view from the south end and Pemba Dive Bush Camp private fisheries closure

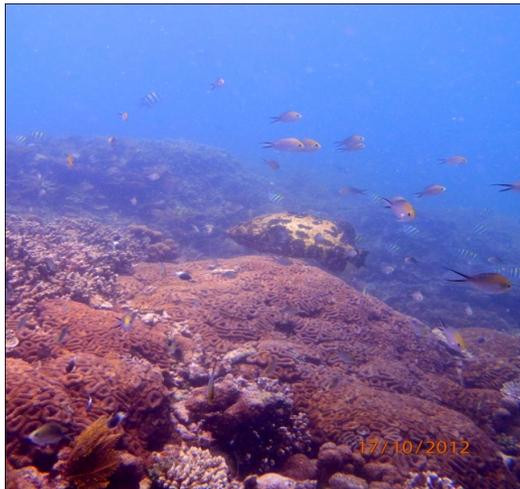
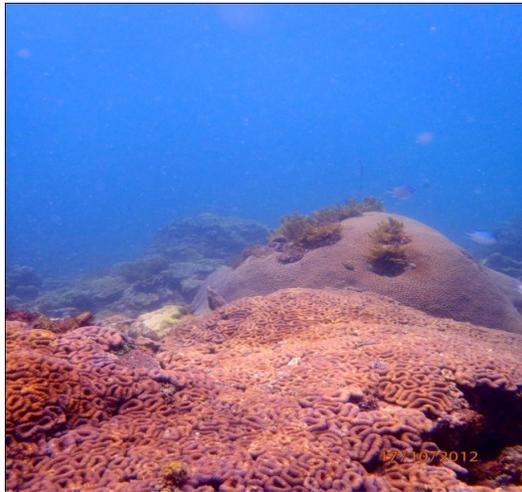
common. There were very few fish seen in this area, so any effect of closing from fishing was not obvious and this is likely be because of the sand bottom and the pelagic and mobile nature of the fish in the bay.

Based on the preliminary broad-scale assessment, ecological survey site were chosen in four coral reef areas, which included one site on the southern coastline of Maunhane, popular dive site named Shallows and three sites on the northern coast along the Londo Peninsula, one on the seaward facing point (Londo Outside), one in the channel (Baobab), and one on the inside (Londo Inside) (Fig. 1). There are reported to be other interesting reefs and dive sites further east (fingers) from Shallows but time did not permit diving or sampling in these sites, but further studies are required to more fully evaluate the fish and biodiversity status. Mapping fisher use of the resources relative to the proposed management areas is among the future needed activities.

#### Field methods

Field methods used included standard methods that have been used by WCS in the region since 1987 and described in detail in many of the publications (*e.g.*, McClanahan et al. 1999). A typical survey sites is presented and associated field methods are shown in the photo below.

**Fish surveys.** Fish numbers and wet weight estimates were quantified using 1 or 2 replicate 500m<sup>2</sup> belt transects per site (McClanahan, 1994; McClanahan & Kaunda-Arara, 1996). Wet weight and numbers estimates were then made by classifying each individual encountered in transects to the family, estimating its length, and placing it into 10 cm size-class intervals, up to >80 cm and with no individuals less than 3 cm in length recorded. Data were collected and placed in 23 families and 1 group of ‘others’, if the individual was not a member of those pre-selected 23 families. Wet weight per family was estimated from length–weight correlations established from measurements of the common species in each family taken at local fish landing sites in Kenya (McClanahan &



Photos: Coral reefs and ecological field surveys at Mauhane Shallows reef.

Kaunda-Arara, 1996). The numbers of fish species per transect was also estimated by counting the numbers of individuals as the species level in ten fish families (Appendix 1). Our metric of fish diversity was therefore number of species per 500 m<sup>2</sup> for these 10 families.

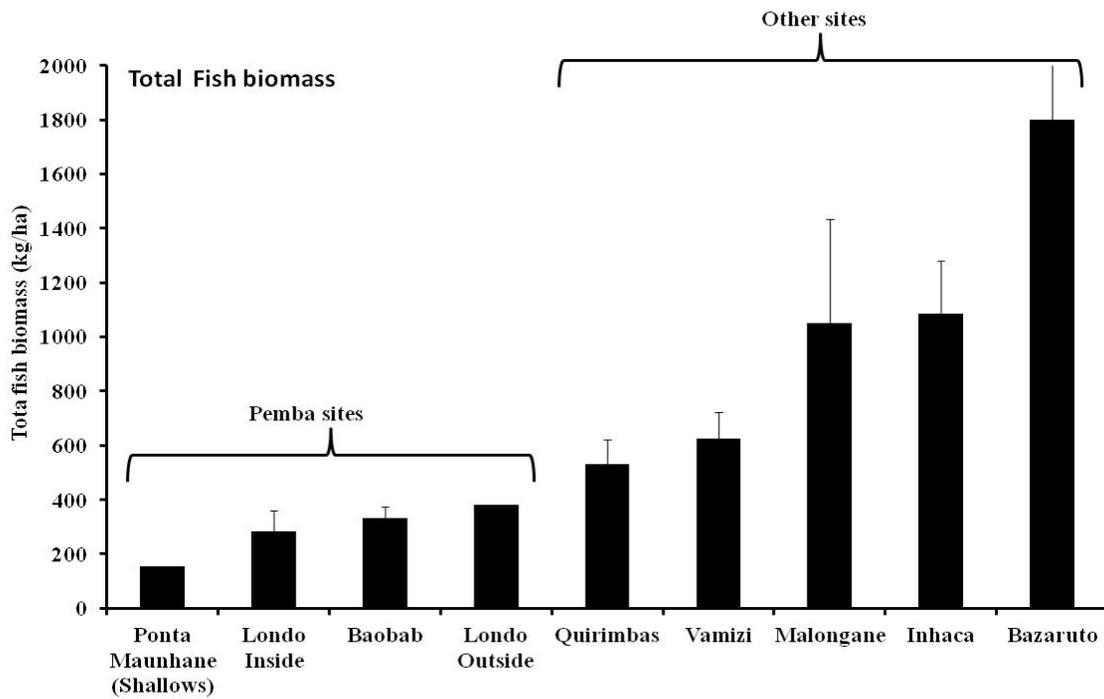
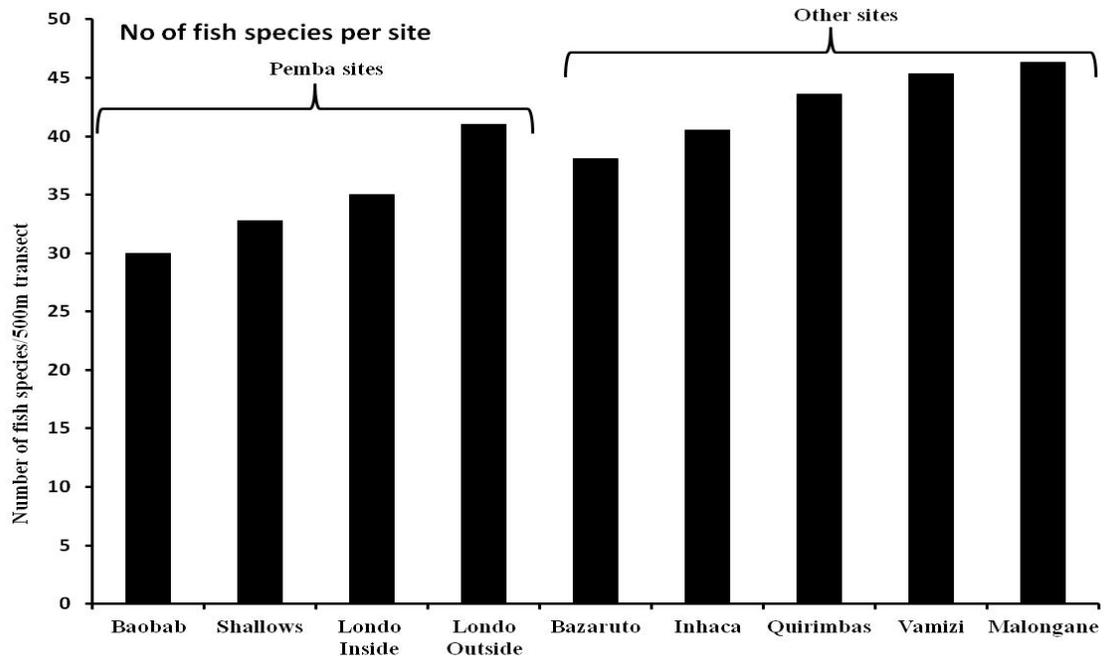


Fig. 2. The numbers of fish species and total fish biomass at studied sites in Pemba and comparing with other previously studied sites in Mozambique.

Table 2. Fish biomass of the dominant families from ecological surveys.

Fish family	Site			
	Londo Inside	Londo Outside	Baobab	Shallows
Acanthuridae	28.21±1.43	44.4	35.91±6.7	13.67
Aulostomidae		3.89		4.17
Balistidae		1.95		1.18
Chaetodontidae	6.56±2.81	25.96	13.35±9.45	4.35
Haemulidae		18.01		
Holocentridae	1.84±0	8.33	1.84±1.84	1.89
Labridae	74.06±33.23	69.36	36.52±11.14	52.44
Mullidae	1.69±1.69		4.44±4.44	
Pempheridae		9.08		
Penguipedidae	0.52±0.29	3.54	0.02±0.02	0.45
Pomacanthidae	7.52±1.02	12.75	8.54±5.36	5.47
Pomacentridae	122.57±44.87	152.18	221.94±8.91	43.42
Scaridae	18.2±4.05	17.14	7.98±2.08	4.54
Serranidae		8.96	0.8±0.81	1.07
Others	19.26±8.64	5.13	0.83±0.83	6.25
Total	284.88±4.41	382.56±6.81	332.18±6.52	153.01±1.87

**Sea urchins.** Sea urchins were identified to species and counted in nine haphazardly placed 10 m<sup>2</sup> plots per reef site. The wet weight of each sea urchin species was estimated by multiplying the population numbers per species by an average wet weight per species and summing all the species wet weights to obtain an estimate of the total sea urchin wet weight. High biomass values of sea urchins are considered a metric of reef degradation (McClanahan et al. 1998).

**Corals and Benthic Cover.** Search sampling was undertaken in all sites whereby observations were made in shallow (< 3m) field sites while snorkeling for ~40 min period to observe their state of bleaching and the presence of diseases. Observer swam with eyes closed in haphazardly chosen directions and distances and periodically or haphazardly opened eyes and sampled the areas directly below. All hard coral colonies within ~2 m radius beneath the observer were identified to the genus and counted. Their bleaching state was determined on a scale from normal, pale, to various percentage of the surface bleached white. Any diseases were identified and noted. These observations data were used to determine the health of the corals and also to estimate how susceptible the sites were to climate disturbances based on the relative abundance of the corals (McClanahan et al. 2007).

#### Ecological Survey

The numbers of fish species in Pemba ranged from 30 to 40 species with an average of 35 species per 500 m<sup>2</sup> (for the 10 studied families). The seaward site in Londo (41 species)

had the most numbers of species and Baobab and Shallows the least (Fig. 2). The average for this region is among the lower end of diversity for the other studied Mozambican sites but not atypical. The maximum values for this measure for a single site would be around 60 species and sites above 40 species would be in the 25% of the sites in the western Indian Ocean (WIO) with values of 30 species being typical for WIO region (McClanahan et al. 2011b).

The biomass or wet weight estimates of fish in this region ranged from 150 to 380 kg/ha, with the highest biomass on the seaward side of Londo and Shallows having the lowest values (Table 2). Most of this biomass was in unutilized families such as damselfishes (Pomacentridae) and small wrasses (Labridae). The abundance of parrotfish (Scaridae) and triggerfish (Balistidae), important key groups were notably low. There were modest numbers of surgeonfishes (Acanthuridae) that may be playing an important role in keeping algal at low levels.

Table 3. Sea urchin biomass of the dominant species as determined from ecological surveys.

Species	Site			
	Londo Inside	Londo Outside	Baobab	Shallows
<i>Diadema savignyi</i>	9.26±9.26			106.48±9.26
<i>Diadema setosum</i>	477.78±239.66		3250.0	
<i>Echinometra mathaei</i>				89.22±0
<i>Echinostrephus molaris</i>	0.19±0.19			8.06±0.19
<i>Echinothrix diadema</i>	141.37±141.37	462.67±52.72	38.56	372.7±141.37
<i>Tripneustes gratilla</i>				16.15±0
Total	592.61±333.4	462.6±462.6	3288.5	628.59±307.1

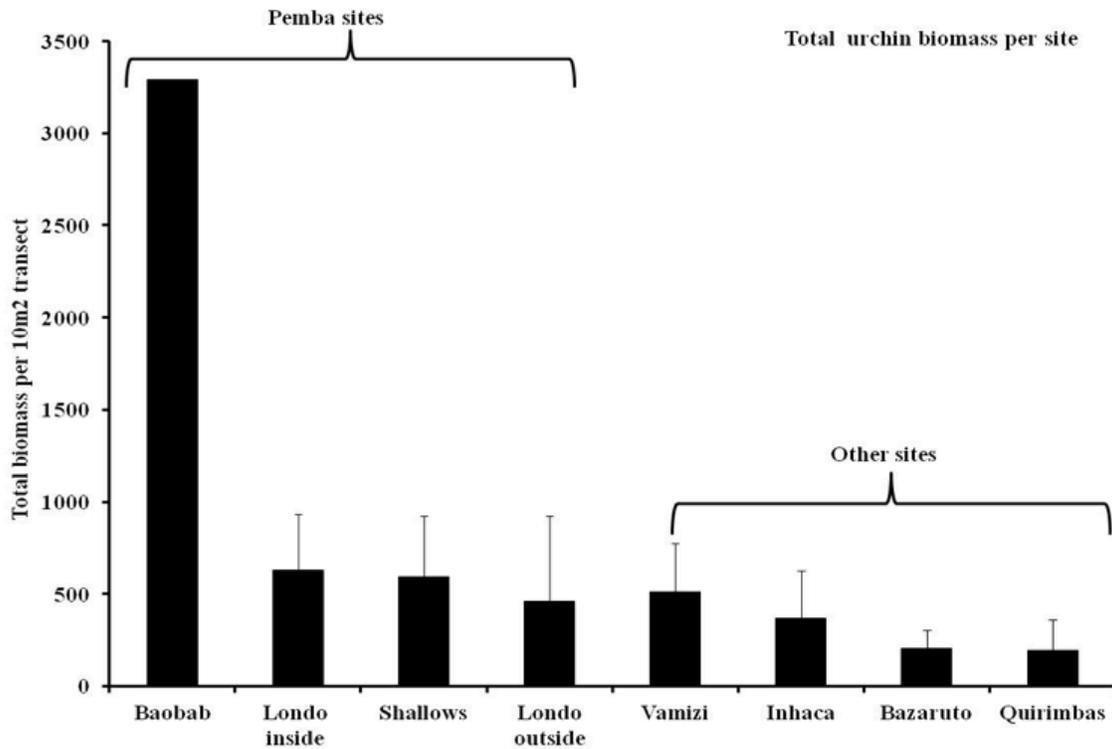
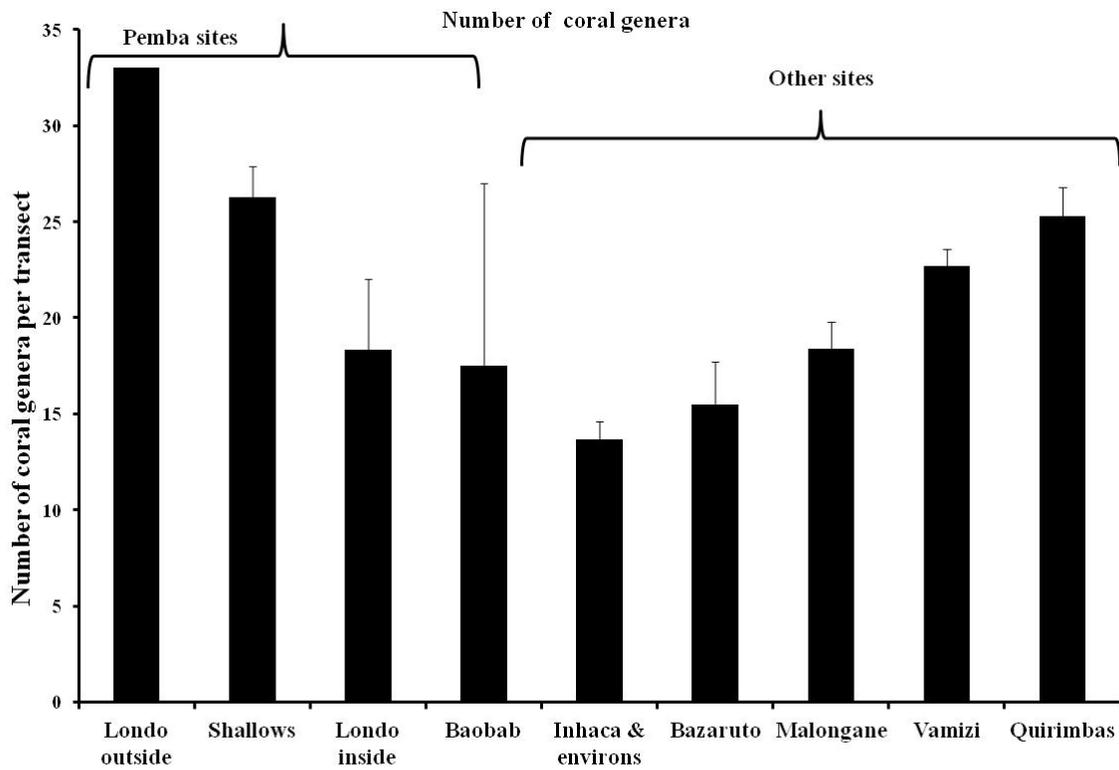
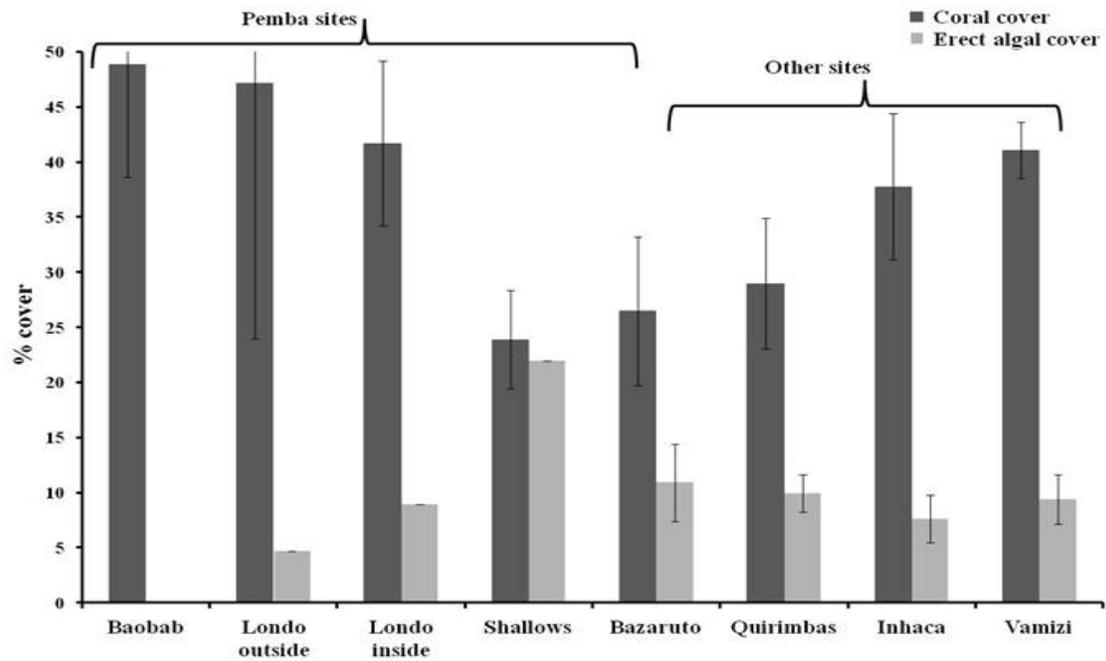


Figure 2. Sea urchin biomass in the studied Pemba sites compared to other previously studied Mozambique sites.

Comparing these values with other sites in Mozambique indicates their low levels, particularly when comparing them to the old marine protected areas of Bazaruto and Inhaca or the remote region on the Mozambique-South African border (Malongane). Despite the national park status of the Quirimbas sites, the biomass values were low there as well and may represent a mixture of the parks young age but also weak management in the face of demand for fish for Pemba town.



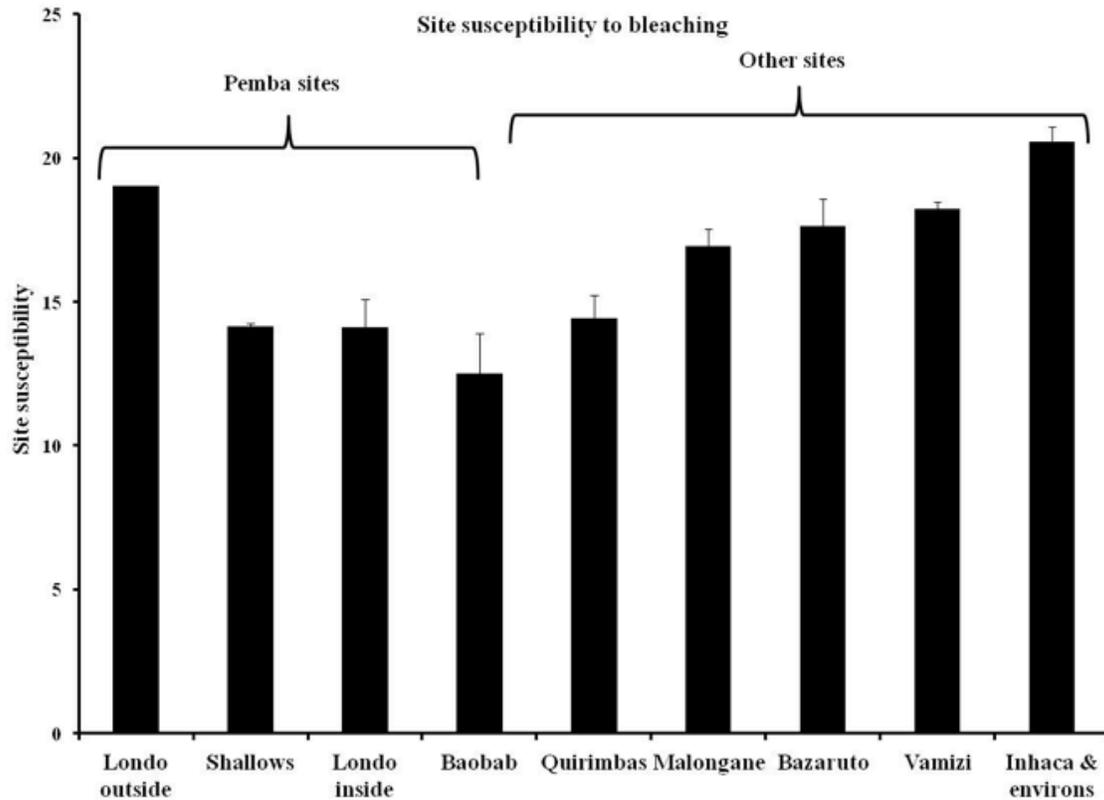


Fig. 3. Coral cover, diversity, and susceptibility to bleaching in the studied Pemba sites compared to other previously studied Mozambique sites. High susceptibility to bleaching is measure of the sites resilience to bleaching and positive numbers are considered a good indicator of this resilience.

Sea urchins numbers and abundance were quite variable in Pemba and throughout Mozambique (Table 3). The only site with high values of sea urchins that would be considered a threat to the reef was the Baobab site where *Diadema setosum* was very abundant. This site was the highest measured in Mozambique and sea urchins were not abundant in the other Mozambican study sites (Fig. 2)

The cover of corals in the Pemba area was generally quite high and comparable and even higher than the marine protected areas in the region (Fig. 3). The shallows dive site showed the lowest cover and also a cover of erect algae that indicates some form of degradation, probably low levels of grazing by herbivorous fishes. The sites with the lowest erect algae cover was in Baobab where the high sea urchin numbers are keeping algae in low abundance. Most Mozambique sites studied have high coral cover for the region ranging from 25 to 50% of the bottom cover and suggest reefs not badly disturbed by climate and destructive fishing gear.

Coral diversity in the Pemba was generally quite high with the seaward site on Londo having the highest number of coral taxa (33) among the studied Mozambique sites. This value is higher than the studied sites in the Quirimbas and Vamizi, which are considered among the most diverse reefs in the region. Shallows also had high number of taxa and

the other sites were more typical of other sites in Mozambique (Fig. 3). The numbers of coral taxa found in the seaward Londo site would make it among the top 10% of sites in the WIO region by this sampling method whereas the average for all sites of 23 taxa per sample is typical for the WIO region (McClanahan et al. 2011b).

Londo outside also had a high site coral susceptibility, which indicates that it is dominated by corals that are susceptible to temperature anomalies (McClanahan et al. 2007). This value would also be among the highest in the region whereas the average value of 14, indicates somewhat susceptible taxa but not that far above average for the WIO region. Mozambique contains many sites with high site susceptibility, which reflects the fact that these reefs have not been badly disturbed by temperature anomalies that have disturbed the broader WIO region. This indicates a good measure of resilience to climate change and global warming disturbances in the future.

Resource user leader survey

Site visit results

Ingonane – October 27, 2012

Four people attended this meeting off all them men. The community leader (Aquimo Mitilage) and a religious leader (Ajansi Abibo) were the main spokespersons. The community's secretary (Saidi Rafael) also took notes at the meeting. Aquimo is the only member of the CCP and he represents this location to the larger CCP meeting in Ruela. This location is an urban area with about 3 km of shoreline and about 13,700 inhabitants.

There are no fishers who are members of the CCP and they are estimated to be around 80 persons but have no history of meeting as a group. They must do other types of work and most are involved in building and carpentry. Twelve women were estimated to collect molluscs and small fish on the shoreline and use mosquito nets and cloths to collect the small fish. They did not know the numbers of boats but none have motors nor is this area used to harbor ring net boats. The main gears in use are beach seines but these are not from the local fishers but from fishers outside the area. Beach seine fishers were reported to be from Tanzania mixed with Mozambicans from Nakala. Because of the low catch landed in these areas, the main marketers are young boys who handle, cook, and sell the small fish on the streets. There are women marketers living in the community but they travel outside of this area and buy fish in distant landing areas and bring it to town to sell or sometimes to more distant inland markets. They estimate 10 women in the village have this occupation.

Aquimo said they would use beach seines if they could afford them but would enforce a three-finger rule, which is not currently enforced on the visiting fishers. Many gear, such as traps and handlines are not used because of the lack of big fish or because the beach seines remove these gears or the fish they catch. They use gillnets but have 1 finger mesh as they only catch small pelagic sardines. They would like to enforce a three-finger rule but the fish are too small to make this a viable rule.



Photo: Maringanha CCP leaders and local public beach.

Fish caught locally are small and sold by individuals and sizes and reported to be quite expensive, six or seven small fish selling for 500 Mt or four bigger fish for 100 Mt. The fisheries department was reported to visit the area only once in recent memory. The area is too urban to support any farming or much animal husbandry but people report diverse diets of which fish are eaten daily. They also eat other types of animals and vegetable proteins bought in the markets. The rising cost of fish is a major concern to most people in the area.

No special areas were reported apart from a Vasco da Gama historical landmark and the nearshore areas is reported to be degraded sand and seagrass. It was suggested that the best form of management now would be seasonal closures where half of their area was closed to fishing for six months on a rotating basis.

Aquimo was most interested in the forms of governance but had never organized the fishers into a meeting or informed them of CCP activities and rules. He believed that organizing them into a local group would be an immediate priority that could be followed by sending representatives to a large regional CCP forum. This might be a basis for increasing the CCP membership and involvement. He believed that corruption was a difficult problem and that co-management was the only viable management method where the local monitoring enforcement would be needed rather than government enforcement. The Maritime Administration could handle the most difficult cases but local

issues of smaller rule breaking could be handled locally and less likely to be corrupt. Local enforcement would include fines and also public burning of illegal gears.

Aquimo was supportive of a larger forum that included various government bodies and suggested the Maritime Administration, Fisheries Department, IDPPE, police, and the university. He believe, however, that because of corruption none of these should lead the process and that some outside authority like the Global Fish Alliance should lead the process. A management plan would realistically require a plan that involved as many of these groups as possible. They would ultimately like to request the capacity to create and enforce seasonal closures and the capacity to maintain it over time.

Maringanha – October 26, 2012

Fifteen people attended the meeting of which four were women. A woman (Benedita Jose) worked for the IDPPE or the fisheries development officer while the others were representing marketers. The community leader (Auni Sitahamade) and a council member (Momade Aibua) were the main informants along with many comments on fish catch from Benedita Jose. We talked as a group for about 2 hours and visited the local beach and fishing grounds. This is a suburban part of Pemba, located around 10 km east of the main town.

The CCP started in 2008 and has only four members (3 men and 1 women) and is a subgroup of the larger Ruela CCP. Membership among fishers is a problem, as they do not see any profit in becoming members or have not money to join the CCP. The numbers of fishers in the area is difficult to estimate because there are many fishers from outside of the area that fish in these grounds. There are around 33 boats in the areas of which 12 are sailboats and 21 are canoes. There are no motorboats and most fishing is by handlines and gillnets close to shore. Spearguns are not used by the local fishers but are heavily used by fishers from outside the area in their fishing grounds. Traps are not used because they are easily washed away in this area because of high water movement and waves. Beach seines are not used, as the bottom is reported to be rocky and difficult to drag nets across. Gillnets are the most profitable with catches of 20-30 kg/crew of five people reported as normal. The catch is mixed but includes goatfish and rabbitfish.

Men sell about half of their fish and keep the other half for home use. Most male fishers have other jobs of which carpentry and building are the main alternatives. Women collect molluscs, small fish and sea cucumbers and use mosquito nets to capture the small fish and this is among one of their many activities. Most women in the village (~100) participate in this collection and this food is for home use. People rarely eat meat apart from fish and their farms are too small to produce much vegetables and animal husbandry is common but on a small scale. Animals include goats, ducks, and chickens but sold to raise money for household and school needs. The land is very valuable and being sold off for housing developments.

No scales are used to weight catch and Benedita has been estimating the value of the catch for eight years in this area and her data is sent to the central office in Pemba and



Photo: Ruela landing sites showing ring net boats and the small-meshed nets.

part of their reports. Their size and numbers of individuals sell fish, as they believe this is trustworthier than a scale that can be tinkered with to produce erroneous weights. There are about five people that travel from Pemba town to buy and sell fish in town but they visit irregularly because at times there is no surplus fish. The biggest fish are sold to these marketers in two locations along the beach. Between two and five women buy and fry fish locally.

They say there are no special or sacred places in this area and people largely follow Muslim traditions. They report uninteresting ecosystems with local ecotourism potential in terms of having few reefs of values. Nevertheless, about 1.5km offshore there is reported to be the best dive site in Pemba, the fingers dive sites, which has a high diversity and cover of coral. Time and lack of a boat did not allow for a visit to this dive site.

They say that because of the rough bottom immigrant fishers using beach seines are not a problem but people from town use spearguns and illegal mesh sizes. They say among their own fishers that they enforce the three-finger mesh size rule and do not allow spearguns but can get as many as 50 speargun fishers in a day from outside of their community. Among the women, there can be as many as 30 mosquito nets used per day to catch the smallest fish. They might like to have a minimum size of fish rule but there are so few large fish that it would be difficult to enforce along with the problems of enforcement among visiting fishers. Consequently, they believe that a rotational seasonal closure is the most likely to succeed if they can get buoys and the capacity to enforce the closure. Their main request was to establish this closure and the capacity to enforce it along with increased mesh size restrictions, and to be assisted with engines to fish further from shore. They were also very supportive of a large meeting of all CCPs and stakeholders in the region.

Ruela – October 25, 2012

Five people attended the Ruela CCP meeting. The president was ill and could not attend but the treasurer (Dade) and two councilors (Ramadan and Amanga Sade) and an honorary member (Luis Omadi) provided most of the answers. They informed me that is also a union of CCPs in the area and Sade is the Secretary/Treasurer of this group. We talked as a group for about 2 hours and a summary is described below. This is the main urban center with fishers.

Despite Ruela being the main location of fishers in the region, there is very low membership among the fishers. The members are mostly senior leaders associated with fishing and leadership roles in the community. There are only 22 members in the Ruela CCP, which composes most of the urban areas of Pemba and environs and yet there could be close to 1000 fishers and marketers in this area. Only 102 fishers in Ruela have licenses from the government and this is required for membership. Most fishers remain unknown to the CCP leaders. They estimated 40 marketers being a mix of men and women and said all fish caught were sold in Pemba and that there was no export trade. Many of the marketers were buying fish from further away in the district (Ibo, Quirimbas, Pangani, and Tanga) and selling these fish in Pemba or sometimes in remote inland regions. The impression is that there is a very high demand for fish in Pemba that can only be met by importing from the larger region. People do eat meat besides fish, namely goats, ducks, and chicken, but fish is a part of daily consumption.

The leaders described difficulties of getting membership saying that people would not join unless there were monetary incentives. They also said in the past that they had three CCP units in the urban region but most of them were ineffective and did not participate, were not interested in being regulated, and therefore they made a single CCP with Ruela as the single unit but with leaders from other sites, such as Ingonane and Mahanginha being part of their CCP. Immigrants and notably Tanzanians were not allowed to be members of the CCP. They confirmed that crews of joint Tanzania and Mozambique beach seine users were their main management concern but also that is was outside of their control.

They estimated a total of 102 boats of which 46 had motors, 10 were sail powered and the remaining were small canoes. The motor powered boats were ringnet fishers that travel up to 100 km to catch pelagic fish. This is the most expensive but most profitable fishing method. The beach seiners operate from out of Ruela and sell their catch locally. There is no quantification of the catch apart from prices but estimates of less than 2 kg/fisher/day were given for various gear. Ring nets sometimes bring in very large catches but the details were not given. Fish are sold by size and numbers and not by scaled weights.

They say that have good relationships with the national government officials but that there is often corruption that maintains the illegal gear and officials are only present to do enforcement a few times per year. The long delays between enforcement activities were cited as the biggest problem with the government. Further, the government laws were a good starting point but there were needs for additional laws. Fishing at night with lamps

was given as an example of fishing method that should be but not illegal. Mesh sizes were difficult to enforce and the ring nets that I saw were using small meshes of around 2 cm and the beach seines had inner trap nets without mesh. There was once an independent body that was involved in enforcement and they once captured 77 illegal nets but this form of governance did not last but was seen as one of the better options for enforcement. The reasons for the demise in this management were not given.

They reported that the environment around the urban areas was not interesting ecologically, being mostly dead coral and sand and no areas of sacred or spiritual interest. They reported the creation of a small fisheries closure in front of the Pemba Beach Hotel that was established from 2005 to 2007 and worked well but eventually stopped working. High catches after opening of the closure were reported. They report that the mangrove area in front of Pemba Dive Bush Camp has been closed to fishing for some time and has been maintained by this private operation through a permit from the government.

The group recognized the importance of closures for the recovery of fish and for spillover effects into the fishery. They said that fish aggregation devices (FADs) had been tried by the Institute for the Development of Fisheries but did not work well in their area. They would like to see the return of the closure in front of Pemba Beach Hotel, as it is near to shore and easy to watch by locals and guests. They might be able to maintain a seasonal closure more easily than a full closures and said that previous closure was too small and should be increased to 3 km and to be guarded 24 hours and have well marked buoys.

The CCPs main request for help was to establish a fisheries closure, resources to monitor the closure and fisheries, to complete the building of their office, and for visitation to sites with good management. The general capacity building is required to maintain these activities beyond the donor's giving period. They were also supportive of a larger fisheries forum where more stakeholder discussions could be heard. They believe this lack of a larger forum is a major impediment to airing opinions. Corruption and bogus licenses were also a concern. They state that many fishers get licenses by claiming to use legal gear but are in fact using illegal gear. This checking of licenses and enforcement is important problem to tackle. This is also the case with immigrant fishers who use Mozambican nationals as fronts for their illegal fishing activities.

The general perception is that the village is very supportive of marine resource enforcement but that they feel powerless to enforce both government and their own regulations. They do not see any purpose of having additional regulations or bylaws if they cannot enforce the ones already in places. They agree that there are good relationships between the various CCPs and the government and that a forum would increase the transparency the possibility of getting rules enforced.

Jimbia – October 23, 2012

Eleven people attended our scoping meeting at the Jimbia CCP including the CCP President and the secretary (Bishe Daudi) who provided most of the answers to questions. We talked as a group for about 2 hours and a summary of the conversations and findings



Photo: Jimpia CCP leaders and harbor for transport to and from Ruela or Pemba Town.

are described below. This village is difficult to access with no access by roads and the single public boat travels to Pemba town once a day, often at odd times determined by the tide (was leaving at midnight on the day were there). This appears to lead to a more isolated and possibly cohesive community where efforts to local control of resources may have the highest chance of success.

The Jimpia CCP is composed of four villages of which the main one involved in marine resource use is Jimpia, inhabited by 720 people, but there are two nearby small satellite villages of around 100 people each and a larger village, Teshe, five kilometers from Jimpia where fish are sold and is inhabited by around ~4000 people. Men are primarily involved in traditional fishing using boats and women are more involved in intertidal collection of small fish, prawns, molluscs, sea cucumbers, and crabs. During a period when mosquito nets were distributed freely, women used these nets to capture fish but this practice was stopped by the CCP. The village has 84 boats of which 41 are canoes and none are motorized. Fishing is reported at all times with no seasons or tides being off limits for fishing.

The main gears in use by the village are gill nets and a beach seines and traps and spearguns are not used, due to lack of experience and training. There is a three-finger mesh size rule and it is enforced for the beach seine and gill nets. A single person and the profits splits between the owner and fishers on a 50:50 split own the beach seine. Beach seines and gillnets of smaller mesh size are confiscated and burned publically. Beach seines are considered the most expensive and most profitable gear and used in soft bottom areas without corals where they mostly catch small pelagic and mangrove associated species.

There are approximately six buyers and sellers of fish of which four of them are women that fry fish and sell in the larger Teshe village. Most fish is consumed in the local households and usually caught and sold in small bucket sizes, as most of the fish are very small. Four to five of these small buckets are typical of a daily catch for the village and are sold at 400 to 600 MT depending on the size of the fish. There is no quantification of

the catch and very little is sent out of the village. Fish catches are not recorded and there are no visits from the fisheries department to either quantify catch or enforce regulations.

There is strong local reliance on fisheries matters and graduated sanctions for breaking rules. People that do not follow rules or that steal are first asked to clean a public space, then to pay money commensurate with the crime, and finally sent to the police if they persist in breaking the rules. There are also beliefs in spirited areas and the use of charms to protect property. The village has one spirited area in the mangrove where no one is allowed to cut trees and those cutting them may be haunted if you are known by the spirits or have been informed of the presence of spirits. There are sacrifices and prayers performed in this area to satisfy the spirits.

The catch is reported as very low in the past 3 to 4 years and a major concern of the village, as it is the main source of protein along with beans. Beans are not grown in the village because they are eaten by monkeys and therefore must be bought from Pemba. Domestic animals are seldom eaten, except at funerals, and seen as a means of obtaining cash and not as a source of food. Consequently, the sale of fish and domestic animals is critical to obtaining rice, beans, and pulses.

Relationships with visiting fishers from Pemba town were the most contentious issue among the fishers. They report that they use small-meshed nets, fish at night and return all catch to Pemba. The lack of fish around Pemba town but good markets leads to their visiting the far side of the Bay, including the areas around Jimpia and Bandar, and returning with their catch to Pemba town. They report, like Bandar, that this pattern of fishing began in 2008 and since then they have experienced a large drop in their catch. This is one of the primary concerns of this fishing community and they feel powerless to address this issue as a CCP and there is very little communication with the government or these fishers that come at night and leave before dawn. They traditionally allow migrant fishers to stay and fish if they have fishing license but also restrict their stay to a set number of days, usually less than two weeks. The problem with the current situation is that the fishers come at night, do not stay, and avoid interaction with the village and CCP leaders. They communicate with the Ruela CCP but the Ruela CCP has no membership and little influence on the beach seiners. They describe a case where nine boats were captured by the village and reported to the fisheries department but two days later the boats and gear returned. Consequently, their current efforts seem to be focused on capturing illegal gear and burning it.

Most of the environment on the shore is mangrove habitat of moderate condition. There is a coral reef habitat on the leeward side of the Londo peninsula where the main tourism facilities are located and where there is both fishing and snorkeling by tourists (see ecology and biodiversity section). The water clarity was moderate in most of the sites and fish and coral transects could be done in the coral reef habitat.

The site is attractive to community-based aquaculture because of the strong community organization and there is a mangrove grow-out experimental program that is underway by the Association Réunionnaise de Développement de l'Aquaculture (ARDA). Some crabs



Photo: Bandar CCP leaders, village and landing site among mangroves.

may have been stolen but this is not confirmed and the project has produced its first successful cohorts for market. Consequently, there may be more opportunities for aquaculture, including algal culture but no efforts have been made. The leaders appeared confident that they could handle the issue around local theft and community control of aquaculture and issues of controlling fishing in their fishing grounds if given the resources.

The village's main request for help was to establish a fisheries closure directly in front of the village. The closure was attempted for 6 months in 2008 but failed due to lack of resources to deal with the night visiting fishers. The boundaries have already been established and would cover ~6 km of the shoreline from the Londo peninsula to the town. Since the arrival of Pemba fishers, they feel unable to manage a full closure and would like to try a seasonal closure if they could be given buoys and a boat to support surveillance and enforcement. They believe other efforts at management, such as minimum size restrictions, are a good idea but cannot be enforced until the problem with visiting beach seines has been solved.

The general perception is that the village is very supportive of marine resource enforcement and they are confident of their own ability to enforce management if given the resources. They have the reputation of being the most aggressive village in the bay for enforcing regulations. This may have led to poor relationships with the Ruela CCP but that this has improved in recent years as it is recognized that the Ruela CCP is not responsible for the lack of enforcement. There is clearly insufficient communication and lack of faith in the government that has preempted any efforts at co-management. They are supportive of any efforts to communicate with resource users and managers on a larger scale and with the government in particular.

Bandar – October 20, 2012

Sixteen people attended our scoping meeting at the Bandar CCP including the CCP President (Mashudi Nassir), the community chief (Mkadi Uranda), the queen of the village, and the various members and officials. We talked as a group for about 1.5 hours and then visited the marine landing for an additional hour. Below is a summary of the conversations and findings.

The village was established in 1948 and inhabited by ~3000 people of which about half rely on marine resources. Men are primarily involved in traditional fishing using boats and women are more involved in intertidal collection of small fish, prawns, and crabs. The village has 32 sailing boats and 132 canoes and sailing boats can travel out of the bay at times to catch pelagic fish by ring netting. There are no motorboats in use. The main gears in use by the village are ring and gill nets, hand lines, spearguns, and traps. There are 138 traps reported in use and one fisher uses 4 traps and the primary catch is rabbitfish (Siganidae). Fishing is reported at all times with no seasons or tides being off limits for fishing. Needlefish (Karipau) appear to be the primary catch of the nets in local use.

Beach seines are used in the area but they come from Pemba town and are not liked or encouraged by the village. There is a three-finger mesh size limit on nets but enforcing it is a constant problem. Nets are the most expensive and most profitable gear. At one time mosquito nets were given to the village freely to reduce malaria and they were used primarily for catching small fish in the shallow water.

There are approximately 50 buyers and sellers of fish of which most of them are women that fry fish, most of it is consumed in the local markets and the local administrative village. If fish are sold beyond this village it is not known or quantified. Nevertheless, high value items such as cucumbers, octopus, and lobster are sent to Pemba town for the high value marine product markets. This is also true with all domestic animals, which are seen as a means of obtaining cash and not as a source of food. Consequently, fish and beans and pulses are seen as the main protein sources for local consumption.

Fish products are sold by numbers and sizes and there is no scale for weighting fish and this is not sought after or considered important. Numbers and size and larger fish fetch higher per unit weight prices than small fish negotiate prices. Fish catches are

not recorded and there are never any visits from the fisheries department to either quantify catch or enforce regulations, which is seen as an example of why there is low trust in government officials. The behavior of government and fisheries officials was described as unprofessional, asking for free food and other handouts.

Relationships with visiting fishers from Pemba are the most contentious issue among the fishers. They report that they use small-meshed nets, fish at night and return all catch to Pemba. They say there are very few fish left around Pemba town and that most of the fish in the fish market in Pemba come from the far side of the Bay. Fishers are reported to be from Tanzania and use beach seines that are illegal in Mozambique. Tanzanian fishers are not allowed fishing licenses but they team up with Mozambican fishers who obtain the license and then use the Tanzanian seine nets. It was commonly believed that fisheries and government officials were among these partnerships and therefore immune to any government controls. This pattern of fishing began in 2008 and since then they have experienced a large drop in their catch. Most fish are reported to be less than 15 cm at present since the regular visitation of the Pemba seine net fishers. This is one of the primary concerns of this fishing community and they feel powerless to address this issue as a CCP and there is very little communication with the government. Establishing this communication and forums is a high priority for the G-FISH program.

Most of the environment on the shore is degraded mangrove habitat. There is a national ban on mangrove harvesting but this has not stopped the harvesting, mostly for local house building. There are efforts to plant and restrict mangrove harvesting near the village and evidence for planted mangrove seedlings.

There are two coral reefs in there nearshore area, one to the south named Kisanga and one to the north named Siaka. The water clarity was very poor during our trip and not worth surveying but we were told that at times the water clarity is very high and corals and associated fauna are present. There are two special or sacred areas in the nearshore environment that are unusual in having large stones and channels within the mangrove forest. There are no restrictions on going or fishing in these sites.

A private firm attempted aquaculture of prawns but a virus killed the prawns in 2011 and now that activity is not considered viable. People are interested in other forms of aquaculture, including algal culture but no efforts have been made. They feel confident that they could handle the issue around local theft and community control of aquaculture more than they can the issues of controlling fishing in their fishing grounds. Community control backed by legislation and specific mechanisms to deal with rule breakers will be needed for these communities to meet these aspirations. Animal husbandry is not seen as a replacement for fish as fish are eaten and animals sold. Planting of beans may be seen as a better option for local food security.

The village's main request for help was to establish a fisheries closure directly in front of the village. The closure and its boundaries have already been established and would cover 3.5 km of the shoreline and extend 5 km offshore. Villagers reported an attempt to do this but it was undermined by village members who managed to get special

exemptions from the village leaders, which undermined faith in the ability to fairly enforce the rules by the local leaders. Since the arrival of Pemba fishers, they feel even less able to manage a closure. They request that the closure be maintained by an independent body that is responsible and without favoritism.

The general perception is that the village is very supportive of marine resource enforcement but more skeptical of both their own internal and external governance but is willing to participate in an objective law enforcement system. There is clearly insufficient communication between the villages and the government that has preempted any efforts at co-management. Consequently, devolution of management to the community has largely abdicated control to poor people who are largely unable to develop effective enforcement of the few free loaders that undermine efforts. This free loader problem and the perceived corruption and incentivization of the government to be involved in illegal fishing has created a difficult set of problems. These can be overcome with the creation of more forums and more open communication on the desires of the members with fisheries livelihoods and clear means to adopt and enforce graduated sanctions. Alternative livelihoods may be useful but not a key aspects needing immediate attention and might be focused more on agriculture of protein sources needed for food security rather than animal husbandry or the production of high values marine products.

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Appendix 1. A list of fish species studied and their abundance in the studied Pemba sites.

Species	Site			
	Londo Inside	Londo Outside	Baobab	Shallows
<i>Abudefduf sexfasciatus</i>	6			
<i>Abudefduf sparoides</i>		5		
<i>Abudefduf vaigiensis</i>	4			8
<i>Acanthurus dussumieri</i>				1
<i>Acanthurus leucosternon</i>		1		1
<i>Acanthurus nigrofuscus</i>	2	5		7
<i>Acanthurus triostegus</i>				1
<i>Amblyglyphidodon leucogaster</i>	10	10		18
<i>Amphiprion akallopisos</i>	135	2		
<i>Amphiprion allardi</i>				2
<i>Anampses meleagrides</i>				1
<i>Anampses twistii</i>	9	2		5
<i>Balistapus undulatus</i>	2	2	3	1
<i>Bodianus anthioides</i>				1
<i>Bodianus axillaris</i>	1	4		1
<i>Bodianus diana</i>	1			
<i>Calotomus carolinus</i>				1
<i>Cantherhinus fronticinctus</i>		3		
<i>Cantherhinus pardalis</i>				2
<i>Centropyge multispinis</i>	11	4	4	6
<i>Cetoscarus bicolor</i>	1		2	
<i>Chaetodon auriga</i>	2	1		3
<i>Chaetodon guttatissimus</i>	2	2	4	
<i>Chaetodon kleinii</i>		1	2	
<i>Chaetodon lunula</i>	1	1	1	2
<i>Chaetodon meyeri</i>	1	1		
<i>Chaetodon trifascialis</i>		2		
<i>Chaetodon trifasciatus</i>	8	4	10	4
<i>Chaetodon xanthocephalus</i>			1	
<i>Cheilinus diagrammus</i>			1	1
<i>Cheilinus fasciatus</i>	2		2	
<i>Cheilinus oxycephalus</i>				3
<i>Cheilinus trilobatus</i>	3			2
<i>Cheilio inermis</i>				1
<i>Chlorurus strongylocephalus</i>			1	
<i>Chromis agilis</i>	5			
<i>Chromis dimidiata</i>	500	410	1150	72
<i>Chromis nigrura</i>			2	28

<i>Chromis opercularis</i>	12	13	7	2
<i>Chromis ternatensis</i>	240	284	635	270
<i>Chromis viridis</i>	52	2	382	
<i>Chromis weberi</i>	52		25	50
<i>Chrysiptera unimaculata</i>	4		3	11
<i>Ctenochaetus binotatus</i>	21	5	25	2
<i>Ctenochaetus striatus</i>	3			1
<i>Ctenochaetus strigosus</i>	8		15	3
<i>Dascyllus aruanus</i>	21			7
<i>Dascyllus trimaculatus</i>	106	10		2
<i>Epibulus insidiator</i>	2			1
<i>Forcipiger flavissimus</i>		1		
<i>Gomphosus coeruleus</i>	16	11	15	8
<i>Halichoeres hortulanus</i>	9	9		5
<i>Halichoeres scapularis</i>	7			
<i>Hemigymnus fasciatus</i>	3			
<i>Hemigymnus melapterus</i>			1	
<i>Labrichthys unilineatus</i>	5	11	1	2
<i>Labroides bicolor</i>	4	1	1	1
<i>Labroides dimidiatus</i>	8	6	10	6
<i>Naso lituratus</i>				1
<i>Neoglyphidodon melas</i>		1		
<i>Oxycheilinus digramma</i>	1	1		3
<i>Oxymonacanthus longirostris</i>		10		1
<i>Pervagor janthinosoma</i>				2
<i>Plectroglyphidodon dickii</i>		1		
<i>Plectroglyphidodon johnstonianus</i>		6		
<i>Plectroglyphidodon lacrymatus</i>	2	53		90
<i>Plectroglyphidodon dickii</i>				2
<i>Plectroglyphidodon johnstonian</i>	1			
<i>Plectroglyphidodon lacrymatus</i>	93		11	39
<i>Pomacentrus baenschi</i>	1			17
<i>Pomacentrus caeruleus</i>	3			
<i>Pomacentrus sulfureus</i>	42	30	100	
<i>Pomacentrus trilineatus</i>				3
<i>Pseudocheilinus hexataenia</i>	2	1	2	2
<i>Pygoplites diacanthus</i>			7	
<i>Scarus falcipinnis</i>				1
<i>Scarus frenatus</i>	1			
<i>Scarus niger</i>	2	2	3	
<i>Scarus psittacus</i>				1
<i>Scarus scaber</i>			1	
<i>Scarus sordidus</i>	7	4	5	

<i>Stegastes fasciolatus</i>	1			
<i>Stegastes nigricans</i>	3			
<i>Stethojulis albobittata</i>	2			2
<i>Sufflamen chrysoptera</i>				1
<i>Thalassoma amblycephalum</i>	6			
<i>Thalassoma hardwicke</i>	18		38	4
<i>Thalassoma hebraicum</i>	9		2	29
<i>Thalassoma lunare</i>	16		7	
<i>Zebrasoma scopas</i>	11	11	13	3
<i>Chromis xutha</i>			2	
Mean number of species	33	23	67	13
Total Count of species/500m <sup>2</sup>	35	41	30	33



## TROCA DE EXPERIÊNCIA ENTRE CCPs , EM CABO DELGADO

No dia 29 de Novembro de 2012, Cabo Delgado recebeu a presença de representantes de alguns CCPs de Inhambane e do IDPPE de Inhassoro, com vista à troca de experiências na área da **Gestão Participativa**. O Sr. Ahmed Garret, técnico do IDPPE de Pemba, liderou o encontro ocorrido entre os CCPs visitantes e o CCP de Ruela. Numa intervenção do Sr. Horácio Como, IDPPE de Inhassoro, foi dado a conhecer que Inhassoro é considerado um distrito modelo dentro da província de Inhambane, em termos de fiscalização e resultados da gestão de recursos. Contribuindo para tal, está a constante sensibilização das comunidades que tratam o mar como se fosse uma machamba, protegendo-o; estas comunidades implementam medidas de gestão, como a zona de veda, onde se estabelecem regras e penalidades às infracções, das quais se salientam:

- Durante a veda é proibido o arrasto permitindo-se, apenas, as artes selectivas
- A pesca nocturna está vedada, excepto a pesca á linha
- Ao Domingo a pesca está proibida, excepto a pesca à linha
- Infracções à veda são penalizadas com tempo de interdição à pesca, após a abertura da veda

Um conjunto de medidas, decididas e implementadas pelas comunidades, tem permitido gerir o recurso marinho de uma forma sustentável.

Este encontro terminou com a troca de contactos e a vontade de dar continuidade a este processo de aprendizagem mútua. 

## Vamos Falar!

### “DIA MUNDIAL DO PESCADOR”

A 21 de Novembro, em Pemba, este dia foi celebrado na praia do Wimbe e contou com a presença de representantes do Governo Provincial, da Direcção Provincial das Pescas, dos Conselhos Comunitários de Pesca, instituições públicas e privadas, os Media e o Grupo da “Iniciativa Local”. O lema deste ano centrou-se numa pesca sustentável livre de artes nocivas e na importância deste sector para a economia. Nos vários discursos apresentados, salientou-se a necessidade de se optar por práticas sustentáveis e os vários desafios que as comunidades pesqueiras enfrentam na perseguição desse objectivo. Deu-se início às celebrações com a deposição de uma coroa de flores no mar e a dança vibrante do grupo cultural pincelou de cor este evento. A associação de pescadores “VEPESPA” aproveitou esta oportunidade para expôr e vender os seus produtos, sendo premiada, através do IDPPE, com novas redes de pesca por ser a associação com melhores resultados operacionais.

O Grupo da “Iniciativa Local” distribuiu informação diversa sobre as suas actividades, incluindo panfletos sobre artes nocivas e as acções que se podem tomar, quer a nível individual quer a nível comunitário, para conservar os recursos marinhos; também, participou em entrevista da “Rádio Sem Fronteiras” sobre o tema em foco. 

## ACTIVIDADES DA “INICIATIVA LOCAL”:

No ultimo semestre, o grupo que leva o nome da Pesca Sustentável desenvolveu as seguintes actividades:

### • Julho & Agosto12

- Visita do Director do Projecto, Sr. Roberto Martin, a Pemba;
- Acções de capacitação junto às comunidades de Paquite, Natite, Ingonane, Cariacó, Eduardo Mondlane, Maringanha, Bandar e Jimpia, em temas de Legislação, Licenciamento, Sustentabilidade, Artes Nocivas e o papel da comunidade e dos CCPs;

### • Setembro12

- Participação na Conferência Internacional sobre a Sustentabilidade Marinha na Produção Alimentar, ocorrida em Hong Kong, onde a “Iniciativa Local” / “Global Fish Alliance” apresentou o seu projecto;

### • Outubro12

- “Wild Life Conservation Society” deu continuidade à sua pesquisa e realizou uma amostragem ecológica da baía de Pemba

### • Novembro12

- “Dia Mundial do Pescador” - divulgação de informação
- Participação em programas de rádio pela “RSF”

### • Dezembro12

- Participação no Workshop promovido pelo IIP sobre o seu Plano Quinquenal de Actividades; 



“Iniciativa Local” participando no Dia Mundial do Pescador 2012 – Praia do Wimbe

## Agenda de Janeiro 2013

- ✓ **Elaboração do plano de actividades 2013**
  - **Programas Radiofónicos**
  - **Programas infantis**
  - **Acções de Divulgação e Informação**
  - **Programas Comunitários**
  - **Parcerias**



### TRANSFORMAR ARTES NOCÍVAS EM BENS ÚTEIS – ASSOCIAÇÃO WUNWA WATHIANA

O Grupo da “Iniciativa Local” lançou o desafio a este grupo de mulheres do Paquitequete que aceitou, imediatamente, sem titubear. Assim, as artes nocivas e ilegais, apreendidas nas acções de fiscalização, serão transformadas em artesanato. Estas mulheres, comerciantes de peixe, viram o seu negócio declinar nos últimos tempos e estão conscientes da necessidade de mudar comportamentos. Com esta actividade alternativa visam uma oportunidade de contribuir para a reciclagem de uma arte de pesca que, fortemente, ameaça a sustentabilidade do mar e que, simultaneamente, lhes trará uma outra fonte de rendimento. A Associação “AMA” – Amigos do Ambiente - em encontro com a “Iniciativa Local” disponibilizou-se em fomentar contactos entre esta associação e outros CCPs da província para que as redes, aí confiscadas, em vez de serem queimadas, sejam incorporadas neste projecto. As redes de malhagem fina não permitem a saída dos peixes juvenis e as redes mosquiteiras, de malhagem muito inferior, não deixa escapar nada do que se mova. A agravar esta situação está o facto destas práticas serem realizadas junto á costa e em áreas coralinhas que são os berçários de muitas espécies marinhas, incluindo os peixes comercialmente consumidos. Numa segunda fase, outros materiais poluentes do mar irão, também, ser transformados em artigos de utilidade doméstica, como as garrafas PET e os chinelos velhos. 

### Vamos Falar!

#### “PEIXE NÃO CAI DO CÉU COMO CHUVA!”

**Quem melhor para nos falar sobre a situação do peixe do que o próprio pescador!**

“O mar está cansado! É preciso dar descanso ao mar!”

“Cada vez somos mais! Vimos de todo o lado e usando as mesmas artes regressamos a casa sem nada! A baía já não tem peixe!”

“As pessoas sem escolaridade não têm serviço e, assim, viram-se para a pesca! Poderíamos tentar ser agricultores mas machamba... ladrão rouba!”

“Pescamos a toda a hora, a todo o tempo! De manhã, à noite e, até, na matiné!”

“Não se pode ir, sempre, ao mar! Nas marés mortas o pescador reparava o barco, as suas redes. Junto à costa só se deveriam usar artes selectivas, como o anzol!”

“O mar não respira!”

“Mas ainda vamos a tempo! É preciso tomar medidas fortes para dar início a um processo organizado! Os CCP da baía têm de ser re-estruturados para que tenham força e façam cumprir a lei! Mas as estruturas governamentais têm de apoiar os CCP.”

“Dantes, eu pescava raia com zagaia...”

**Estes são alguns dos comentários lamentosos de pescadores mais velhos e experientes, partilhados pela vivência dos seus líderes comunitários.** 

### GUIA DO CONSUMIDOR

A sustentabilidade do mar não depende, somente, dos pescadores. Nós, como consumidores, também temos uma responsabilidade no processo. O pescador só pesca o que sabe que irá vender! Ao escolhermos, criteriosamente, o que iremos consumir estaremos a assegurar que, amanhã, continuaremos a vêr corais vivos com toda a sua miríade de vida, belas praias de areia branca e peixe de qualidade na nossa alimentação – tudo está interligado. Considere o quadro, elaborado pela ACCM. E quando em dúvida não compre! 

MELHOR ESCOLHA	PENSE DUAS VEZES!	DEFINITIVAMENTE NÃO!
Bonito	Voador	Garoupa-Gigante (a,b,e)
Dourado	Peixes de Bico (b,d)	Raia-Manta (a, em processo; d,e)
Peixe-Rei (Xaréu)	Kob (b,d,e)	Garoupa-Batata (a,b,d,e)
Sardas & Cavalas	Peixe-Serra Espanhol (b,e)	
Tainha	Peixe-Papagaio (c,d)	
Polvo	Camarão por Arrasto (c)	Pargo Vermelho (a,b,d)
Lulas	Raias (b,d,e)	Dentuço Manchado (a,b,d)
Atum pescado á Linha	Tubarões (b,d,e)	
Panga	Albacaroa Amarela & Patudo (b,e)	Marlin Azul & Listado (b,e)

(a) Espécies protegidas por lei em Moçambique

(b) Raro / sobrepesca

(c) tipo de pesca danosa ao meio ambiente

(d) razões biológicas - crescimento lento, baixa taxa de reprodução ou crítica importância ecológica

(e) Espécies incluídas na Lista Vermelha da IUCN de Espécies Ameaçadas como tendo a população diminuindo



Capacitação de pescadores - Bairro de Cariacó

### Agenda de Março:

- ✓ Reuniões do Comité com participações temáticas
- ✓ Programa Radiofónico “Pesca, que futuro?”
- ✓ Encontro com DPP e CCPs – Licenciamento & Fiscalização 



### ÁREAS DE VEDA – QUE ALTERNATIVAS PARA AS COMUNIDADES PESQUEIRAS?

A criação de zonas de veda, quer como medida de gestão quer como áreas de preservação, implica um grande esforço de subsistência para as comunidades. Pescadores, processadores e outros trabalhadores que dependem do rendimento da actividade piscatória podem defrontar-se com poucas alternativas de emprego. Face a estas circunstâncias, os pescadores são tentados a continuar a actividade nas zonas de veda. O turismo é encarado como uma alternativa clássica que utiliza a experiência náutica e o conhecimento privilegiado de localizações apetecíveis para passeios de barco. No entanto, as comunidades, se unidas e organizadas, poderão desenvolver outros micro-negócios que lhes permitam obter rentabilidade durante os períodos de veda.

Todas as comunidades da baía indicam que a rentabilidade desta actividade atingiu níveis demasiado baixos. A única solução para o futuro, então, passa pela mudança de atitudes e a adopção de medidas de conservação que permitam a sustentabilidade e a segurança alimentar das próprias comunidades.



### Vamos Falar!

#### PEQUENOS PASSOS, GRANDES MUDANÇAS

O peixe é vastamente conhecido pelas suas características nutricionais e torna-se numa importante fonte alimentar para a dieta humana. No entanto, começamos a perceber que a quantidade de pescado vendido em Pemba está a diminuir; Que somos mais à procura de peixe do que aquele que é vendido; Que o seu preço disparou para não voltar a descer! São muitos os motivos que contribuem para este facto mas um deles é inegável – estamos a mutilar o mar!

Arrancamos os corais com as nossas âncoras! Sufocamos a vida marinha com o nosso lixo! Deixamos o nosso ego falar mais alto e usamos o mar como troféu, expôndo-o em delicadas conchas nas nossas salas e adornando-nos de tartaruga! Sucumbimos à nossa gula e, sempre, pedimos aquele peixinho pequenino e tenro no nosso restaurante preferido!

Muitas vezes, fazemo-lo sem pensar! Agimos por um impulso despreocupado! Pensamos que a nossa acção não terá um impacto significativo... Mas somos muitos a repetir esses mesmos gestos e se não nos tornarmos mais conscientes, os nossos filhos, apenas, terão uma vaga ideia da importância dos oceanos. Os nossos netos deles ouvirão histórias incríveis. E nós... Lembraremos com saudade o inconfundível sabor a mar e lamentaremos nada ter feito para o proteger!

### VENDA DE PEIXE FRESCO COM MELHORES CONDIÇÕES DE HIGIENE & LIMPEZA, EM PEMBA

A APELCADE, Associação dos Pescadores do Litoral de Cabo Delgado, inaugurou as suas novas instalações no Paquite, a 3 de Janeiro de 2013. Com este evento, oficializado pela presença do representante do Conselho Municipal de Pemba e do Director Provincial das Pescas, pretende-se elevar a qualidade do pescado vendido nesta cidade. Esta associação acolheu as recomendações do Inspector Provincial das Actividades Económicas, adoptando critérios essenciais de sanidade e manuseamento, e criou um espaço resguardado do sol e poeiras, com um sistema de drenagem de águas sujas. Ao unirem-se, os pescadores e revendedores, conseguiram conjugar forças e retirar um maior benefício combinado pela venda dos seus produtos, mantendo uma estrutura de preços competitivos. No seu discurso lamentaram, no entanto, que os demais vendedores informais continuassem a manter-se no largo do Paquite a vender pescado fresco em condições de higiene precárias, sem intervenção das autoridades competentes.



Reunião com a comunidade de pescadores de Bandar - "O despertar da curiosidade"

#### Ser consciente é:

- ✓ Reutilizar materiais = reduzir a produção de lixo
- ✓ Usar papel reciclado = menor erosão e sedimentação
- ✓ Colocar o lixo nos sítios apropriados
- ✓ Não Recolher/ Comprar/ Pescar espécies protegidas
- ✓ Não ser condescendente – não comprar produtos derivados de espécies protegidas (ex. Tartaruga)
- ✓ Não comprar pescado juvenil; Não consumir pescado juvenil.
- ✓ Não apanhar corais vivos
- ✓ Ensinar os mais jovens a serem conscientes!



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# SUSTAINABLE FISHERIES IN TONLE SAP LAKE

Volume 1, Issue 2

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GLOBAL FISH ALLIANCE

## Context:

- ◆ Sustainable Fisheries Radio Discussion
- ◆ Making a Contribution in Raising Awareness to the Rights of Fishermen
- ◆ Exposure Visit to Kampong Plok and Chong Khneas, Siem Reap
- ◆ National Dialogue on Local Innovations to Support Reform in Aquatic Resources Governance on the Tonle Sap Lake

## Sustainable Fisheries Radio Discussion

To share the fisheries collaboration work on the Tonle Sap Lake and to raise awareness of fisheries issues to the public, G-FISH in collaboration with the Communications Task force has created a Radio Discussion program.

The program, “Sustainable Fisheries Radio Discussion”, will provide regular up to date information about the activities of fisheries stakeholders on the Tonle Sap Lake and also address any urgent and important issues that arise from the Fisheries Administration (FiA), Tonle Sap Authority (TSA), Ministry

of Labor (MoL), local authorities and fishermen.

The Sustainable Fisheries



Radio program will be of benefit to all people associated with fisheries or those who would like to learn more about fisheries. Fisheries experts from FiA, TSA, Fisheries NGOs, and Communities will come to share their fisheries work

and experiences on the program.

The Sustainable Fisheries discussion radio will cover all provinces around Tonle Sap Lake - Kampong Chhnang, Pursat, Battambang, Banteay Meanchey, Siem Reap and Kampong Thom province.

*(Continue to page 3)*

## Making a Contribution in Raising Awareness to the Rights of Fishermen



Floating village in Kampong Pluk Commune.

“Flooded forests are a valuable natural resource.”



Exposure visited to Kampong Pluk Commune.

The Coalition of Cambodia Fishers (CCF) has a clear mission in raising awareness for fishermen’s rights to receive benefits from natural resources. CCF is a non-profit organization working directly with fishermen in three areas in Cambodia—coastal, Mekong and Tonle Sap Lake regions.

Focusing on advocacy and building capacity, each of the CCF members are trained in democracy and rights, facilitation skills, and

as trainers, to allow them to work independently and inform villagers about their rights and democracy. CCF is also strengthening their network to allow the improvement of sustainable fisheries in the lake.

Currently, CCF is working in collaboration with local police officers and provincial Fisheries Administration (FiA), Fisheries organizations and villagers to raise awareness of fisheries resources and to improve live-

lihoods for fishery communities.

“At the end of 2012, we noticed that fish numbers had decreased especially smaller fish” Mr. Long Sochet, CCF Team leader says. He continues, “The shortage of fish this year really affects the life of the fishermen. I think the decrease is because of water shortages this year and because of illegal fishing that occurred in the middle of June 2012”

*For further details about the work that CCF does please contact: Mr. LONG Sochet, CCF Leader.*

## Exposure Visit to Kampong Plok and Chong Khneas, Siem Reap

This exposure visit ran for two days from 13 to 14 December, 2012. The Fisheries Action Coalition Team (FACT) invited fishery communities from Phat Sanday, Phras Konloun and Thoul Neang Sav Tripe to Siem Reap province to visit the Kam Pong Pluk district who offer an eco-tourism experience to visitors. Kam Pong Pluk provides visitors with a restaurant, beautiful scenery, and the opportunity to visit the unique and special flooded forest by boat.

This tourism project is designed to assist with the management of the conservation area at each community and improve livelihoods therefore reducing poverty in accordance with govern-

ment policy.

FACT and the Coalition of Cambodian Fishers (CCF) supported by G-FISH assisted with the flooded forest replanting activities to enhance the conservation area.

The objective of this visit was to assist with capacity building for the management of the conservation area, and to allow other communities to gain experience and understanding of a successful eco-tourism operation, which they can use to establish in their own communities. This in turn supports the Cambodian Base Organization (CBO) to manage the conservation area effectively.

On the First day of the visit

members of the Phat Sandy, Thoul Neang Sav and Phres Konlong communities went to Kam Pong Pluk to meet with the commune council and villagers to share their experiences. Following this meeting community members visited vegetable sellers and growers in the area.

During the second day members met with the commune chief at Chong Khneas for further discussions regarding eco-tourism operations. After this meeting members visited the water hyacinth handicraft center to view the handicrafts being made to sell to visitors. The visit concluded at FACT office for a debrief of the exposure visit.

*For further details about the work please contact: Mr. SOUNG Sophat, FACT officer.*

## Sustainable Fisheries Radio Discussion *(Continue from page 1)*

Please join us to listen to our program which is scheduled to run on Saturday mornings from 8.10am to 9am. Our first discussion topic, will be Flooded Forest and Replanting. Other upcoming topics will include:

- Problems associated with cutting down flooded forests and solutions for avoiding this activity;
- Conservation areas on the Tonle Sap Lake;
- Fisheries reform;

- Why and how closed season is important for fisheries breeding, feeding and migration;
- What aquatic resources are in the Tonle Sap Lake;
- Patrolling of Community Fisheries (Cfi)
- Community Fisheries (Cfi) savings groups;
- Who are the relevant government officials for the Tonle Sap Lake;
- Role of Communities;
- Role of police and authorities in addressing illegal fishing activities;
- Role of civil society organizations;
- Role of media in broadcasting fisheries issues;
- Fishing gear-family fishing gear; and
- Fisheries Law.

*For further details about the work please contact: Ms. NOU Vannsan, Communications and Networking Facilitator, G-FISH*



*FiA cracked down illegal fishing in Tonle Sap Lake.*

## National Dialogue on Local Innovations to Support Reform in Aquatic Resources Governance on the Tonle Sap Lake

In cooperation with WorldFish, the Cambodia Development Research Institute (CDRI) organized a workshop in order to invite all fisheries stakeholders to share their successful experiences from the Strengthening Aquatic Resources Governance (STARGO) project.

The purpose of this workshop was to discuss and exchange experiences and identify solutions for the future and establish the main activities that local communities are able to achieve in order to support fisheries reform and improve livelihoods.

Opening remarks and appreciation by H.E. Dr. NAO Thouk, Fisheries Administration Director, were given for the workshop on further actions to support reform in aquatic resource governance in the Tonle Sap Lake, and to community members from Phat Sanday, Kampong Ko and Peam Bang commune for their contribution toward preserving natural biodiversity in their communities.

Mr. Mam Kosal, Program Specialist from WorldFish Center, gave a presentation about the current STARGO project being conducted in

three communes on the Tonle Sap Lake: Phat Sanday, Kampong Ko and Peam Bang. This pilot project aims to promote collaborative resource management among key stakeholders, including community fisheries (CFi), Fisheries Administration (FiA), local authorities and civil society networks, to conserve biodiversity and enhance local livelihoods.

*(Continue to page 4)*

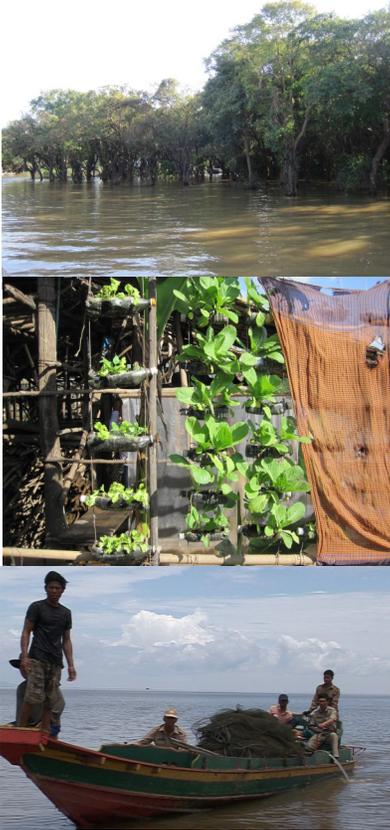
**“To destroy flooded forests destroys a fish’s Home”**



*G-FISH team is meeting with Communities leaders and Commune in chief in Chong Khneas commune .*

## National Dialogue on Local Innovations to Support Reform in Aquatic Resources Governance on the Tonle Sap Lake

*(Continue from page 3)*



The STARGO process is a community-led approach that allows relevant stakeholders involved in the development and testing of various innovations, institutional in particular, to improve community fisheries management and help conserve contested natural resource areas. Activities include strengthening CFis through testing of an expanded structure of current

CFi management, enhanced patrolling to allow for protection of larger areas of fishing grounds by local communities, and community-based commercial fisheries production. Some of these activities are intended to generate sustainable income to protect fishing grounds by the communities.

At the end of the workshop, all participants discussed the

challenges of works. They contributed new ideas on how to improve the work approach, and support reform in aquatic resource governance on the Tonle Sap Lake.

*For further details about the work please contact: Mr. MAM Kosal, WorldFish Program Specialist*

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# និរន្តរភាពវិស័យផលផលនៅក្នុងបឹងទន្លេសាប

## FHI 360/Global FISH Alliance

ព្រឹត្តិប័ត្រប្រចាំខែ មករា ឆ្នាំ២០១៣

### សម្ព័ន្ធប្រជានេសាទកម្ពុជាចូលរួមចំណែកក្នុងការជួយលើកស្ទួយសិទ្ធិប្រជានេសាទ

សម្ព័ន្ធប្រជានេសាទកម្ពុជាមានគោលបំណងយ៉ាងជាក់លាក់ក្នុងការលើកស្ទួយសិទ្ធិរបស់ប្រជានេសាទដែលជាអ្នកត្រូវទទួលបានប្រយោជន៍ពីធនធានធម្មជាតិ។ សម្ព័ន្ធប្រជានេសាទ កម្ពុជាដែលជាអង្គការមិនទទួលបានប្រយោជន៍បានធ្វើការដោយផ្ទាល់ជាមួយប្រជានេសាទនៅតំបន់ទាំងបីគឺតំបន់សមុទ្រ ទន្លេមេគង្គនិងតំបន់បឹងទន្លេសាប។ ដោយផ្ដោតទៅលើការតស៊ូមតិ និងពង្រឹងសមត្ថភាពសម្ព័ន្ធប្រជានេសាទកម្ពុជាបានបង្ហាត់បង្រៀនដល់បណ្តាញ របស់ខ្លួនក៏ដូចជាប្រជានេសាទទៅលើសិទ្ធិប្រជាធិបតេយ្យនិងសិទ្ធិ ជំនាញខាងសម្របសម្រួល ព្រមទាំងជំនាញក្នុងការបង្រៀន។

ជំនាញទាំងនេះអាចអោយសមាជិកបណ្តាញរបស់ប្រជានេសាទមានសមត្ថភាពធ្វើការដោយឯករាជ្យនិងក៏មានសមត្ថភាពណែនាំប្រជាជនអំពីសិទ្ធិនិងសិទ្ធិប្រជាធិបតេយ្យ។ បន្ថែមពីនេះទៅទៀតសម្ព័ន្ធប្រជានេសាទកម្ពុជាក៏បានពង្រឹងបណ្តាញពួកគេអោយកាន់តែធំនិងរឹងមាំជាងមុនដើម្បីជួយគាំទ្រធនធានផលផលក្នុងបឹងទន្លេសាប។

បច្ចុប្បន្នសម្ព័ន្ធប្រជានេសាទកម្ពុជាបានធ្វើការសហការជាមួយប៉ូលីសនៅថ្នាក់តំបន់ រដ្ឋបាលផលផល អង្គការក្នុងនិងក្រៅរដ្ឋាភិបាលព្រមជាមួយប្រជានេសាទទាំងអស់ដើម្បី ទប់ស្កាត់និងការពារធនធានផលផលព្រមទាំងរួមគ្នាជួយលើកស្ទួយជីវភាពប្រជានេសាទ។

“នៅចុងឆ្នាំ២០១២នេះយើងសង្កេតឃើញថាចំនួនត្រីមានការថយចុះច្រើនជាពិសេសត្រីតូចៗ”លោកឡុង សុចៃត ប្រធានអង្គការសម្ព័ន្ធប្រជានេសាទកម្ពុជាមានប្រសាសន៍។ លោកបានបន្តទៀតថា “ការថយចុះត្រីឆ្នាំនេះពិតជាប៉ះពាល់ដល់ជីវភាពប្រជាជនយ៉ាងខ្លាំង។ ហើយខ្ញុំគិតថាការថយចុះនេះគឺបណ្តាលមកមូលហេតុពីរគឺ ទីមួយទឹកឆ្នាំនេះមានសភាពតូចដែលត្រីថយចុះ ហើយមូលហេតុទីពីរអាចបណ្តាលមកពីការនេសាទខុសច្បាប់ដែលកើតឡើងយ៉ាងច្រើននៅពាក់កណ្តាលខែមិថុនាឆ្នាំ២០១២កន្លងមក។”

*ព័ត៌មានបន្ថែមទាក់ទងនឹងការងារនេះសូមទាក់ទងលោកឡុង សុចៃត ប្រធានសម្ព័ន្ធប្រជានេសាទកម្ពុជា។*

## កម្មវិធីវិទ្យុ និងន្តរភាពវិស័យជលផល

ដោយមានកិច្ចសហប្រតិបត្តិការណ៍ជាមួយក្រុមការងារពិសេសស្តីពីប្រព័ន្ធផ្សព្វផ្សាយ អង្គការជីហ្វីស(G-FISH)បានបង្កើតកម្មវិធីវិទ្យុមួយដើម្បីពិភាក្សានិងចែករំលែកកិច្ចសហប្រតិបត្តិការណ៍លើវិស័យជលផលក្នុងបឹងទន្លេសាបជាសាធារណៈ។

កម្មវិធីវិទ្យុនិងន្តរភាពធនធានជលផល នឹងផ្តល់ព័ត៌មានថ្មីៗអំពីសកម្មភាពរបស់បណ្តារ ស្ថាប័ននានា ដែលធ្វើការពាក់ព័ន្ធលើវិស័យជលផលនៅក្នុងបឹងទន្លេសាប។ ហើយកម្មវិធីនេះក៏នឹងផ្តោតសំខាន់ទៅលើហេតុការណ៍បន្ទាន់អំពីសកម្មភាពណែនាំរបស់រាជរដ្ឋាភិបាល រដ្ឋបាលជលផល អាជ្ញាធរបឹងទន្លេសាប ក្រសួងការងារ និងសេចក្តីណែនាំឬសំនូមពរ ផ្សេងៗរបស់អាជ្ញាធរថ្នាក់តំបន់ និងប្រជាជនសាទ។

កម្មវិធីវិទ្យុនិងន្តរភាពវិស័យជលផល និងផ្តល់សារៈប្រយោជន៍ទៅដល់អ្នកពាក់ព័ន្ធនិង អ្នកដែលចង់រៀនបន្ថែមលើផ្នែកជលផល។ វាក្តិនឹងជំនាញៗលើវិស័យជលផលដែលអញ្ជើញមកពីស្ថាប័នរដ្ឋ អង្គការ និងសហគមន៍នឹងមកចូលរួមចែករំលែកបទពិសោធន៍សកម្មភាពការងាររបស់ស្ថាប័នរៀងៗខ្លួនមកជំរាបជូនសារធារណជន។

កម្មវិធីវិទ្យុដែលពិភាក្សាទៅលើនិរន្តរភាពវិស័យជលផលនិងផ្សព្វផ្សាយគ្របដណ្តប់លើទីក្រុងភ្នំពេញ និងខេត្តចំនួនប្រាំមួយរួមមាន ខេត្តកំពង់ឆ្នាំង ពោធិ៍សាត់ បាត់ដំបង បន្ទាយមានជ័យ សៀមរាប និងខេត្តកំពង់ធំ។

សូមអញ្ជើញតាមដានស្តាប់កម្មវិធីវិទ្យុនេះជាមួយយើងរៀងរាល់ថ្ងៃសៅរ៍វេលាម៉ោង៨:១០នាទីរហូតដល់ម៉ោង៩:០០ព្រឹក។ **ព្រលិតទឹក**គឺជាចំណងជើងដំបូងដែលនឹងត្រូវយកមកពិភាក្សា។ ចំណងជើងបន្ទាប់ៗរួមមាន៖

- កត្តាបំផ្លិចបំផ្លាញព្រលិតទឹកនិងដំណោះស្រាយ
- ការដាំព្រលិតទឹកឡើងវិញ
- តំបន់អភិរក្ស
- កំណែទម្រង់វិស័យជលផល
- ហេតុអ្វីបានជាជួរជួរនេសាទមានសារៈសំខាន់ក្នុងការបង្កាត់ពូជចិញ្ចឹមនិងការបម្លាស់ទីរបស់ត្រី?
- អ្វីទៅជាធនធានជីវសាស្ត្រនៅក្នុងបឹងទន្លេសាប?
- តួនាទីក្រុមល្អិតរបស់សហគមន៍នេសាទ
- ការងារក្រុមសន្សំរបស់សហគមន៍នេសាទ
- តួនាទីរបស់សហគមន៍នេសាទក្នុងបឹងទន្លេសាប
- តួនាទីរបស់អាជ្ញាធរដែនដីក្នុងការបង្ក្រាបបទល្មើស
- តួនាទីរបស់អង្គការសង្គមស៊ីវិល
- តួនាទីរបស់អ្នកសារព័ត៌មានក្នុងការផ្សព្វផ្សាយព័ត៌មានអំពីជលផល
- ឧបករណ៍នេសាទលក្ខណៈគ្រួសារ
- ច្បាប់ជលផល

ព័ត៌មានបន្ថែមទាក់ទងនឹងការងារនេះសូមទាក់ទង អ្នកស្រី **នូ វ៉ាន់សាន** អ្នកសម្របសម្រួលផ្នែកទំនាក់ទំនងនិងបណ្តាញអង្គការG-FISH។

## គំនិតផ្តួចផ្តើមថ្នាក់មូលដ្ឋាន ដើម្បីទ្រទ្រង់កំណែទម្រង់ អភិបាលកិច្ចធនធានជលផល បឹងទន្លេសាប

ក្នុងការធ្វើកិច្ចសហការជាមួយអង្គការWorldFish និងវិទ្យាស្ថានបណ្តុះបណ្តាលនិង ស្រាវជ្រាវកម្ពុជាបានប្រារព្ធ ធ្វើសិក្ខាសាលាដែលអញ្ជើញអ្នកពាក់ព័ន្ធនឹងវិស័យជលផលដើម្បីចែករំលែកនូវភាពជោគជ័យនិងបទពិសោធន៍ល្អៗរបស់គំរោងគំនិតផ្តួចផ្តើមថ្នាក់មូលដ្ឋានដើម្បីទ្រទ្រង់កំណែទម្រង់ អភិបាលកិច្ចធនធានជលផល បឹងទន្លេសាបហៅកាត់ថា STARGO ។

គោលបំណងក្នុងសិក្ខាសាលានេះគឺដើម្បីពិភាក្សានិងផ្លាស់ប្តូរបទពិសោធន៍និងកំណត់រកជំនោះស្រាយសំរាប់ ពេលអនាគត និងបង្កើតនូវសកម្មភាពធំៗដែលនៅសហគមន៍ងាយនឹងសំរេចក្នុងការ គាំទ្រកំណែទម្រង់លើវិស័យជលផល និងធ្វើអោយជីវភាពប្រជាជនប្រសើរឡើង ។

ឯកឧត្តមបណ្ឌិត ណៅ ធួក ប្រធានរដ្ឋបាលជលផលប្រកាសបើកអង្គសិក្ខាសាលាទាំងមូលនិងសំដែងការគាំ ទ្រសកម្មភាពរបស់គំរោងកំណែទម្រង់អភិបាលកិច្ចធនធានជលផលក្នុងបឹងទន្លេសាបទៅថ្ងៃអនាគត ព្រមទាំង កោតសរសើរសមាជិកសហគមន៍ជាតិសណ្តាយ កំពង់ គោ និង ពាមបាង ចំពោះការរួមចំនែកការពារធនធាន ធម្មជាតិ និងជីវចម្រុះនៅក្នុងសហគមន៍របស់ពួកគាត់។

លោក ម៉ម កុសល អ្នកឯកទេសជំនាញការនៃមជ្ឈមណ្ឌលត្រីពិភពលោកបានធ្វើបទបង្ហាញអំពីដំនើរការរបស់ គំរោងSTARGOនៅក្នុងឃុំចំនួនបី ក្នុងបឹងទន្លេសាបគឺឃុំជាតិសណ្តាយ កំពង់ គោ និង ពាមបាង។ គោល បំណងក្នុងគំរោងសាកល្បងនេះគឺផ្សព្វផ្សាយកិច្ចសហប្រតិបត្តិការណ៍លើការគ្រប់គ្រងធនធានជលផលទៅ ដល់អ្នកពាក់ព័ន្ធសំខាន់ៗរួមមានសហគមន៍នេសាទ រដ្ឋបាលជលផល អាជ្ញាធរដែនដី និងបណ្តាញសង្គមស៊ីវិលដើម្បីអភិរក្សជីវចម្រុះ និង បង្កើនការទ្រទ្រង់ជីវភាពរបស់ប្រជាពលរដ្ឋ ។

ដំណើរការនៃគម្រោងស្តារហ្វូ(STARGO) ពង្រឹងការចូលរួមនៃអ្នកពាក់ព័ន្ធនានាក្នុងការ បង្កើត និង សាកល្បង គោលគំនិតថ្មីៗ ដើម្បីកែលម្អការគ្រប់គ្រងសហគមន៍នេសាទ និងជួយដោះស្រាយបញ្ហាទាក់ទងនឹងកំនើនភាព ប្រកួតប្រជែងលើការប្រើប្រាស់ធនធានធម្មជាតិ។ សកម្មភាពរបស់គម្រោងនេះរួមមានការពង្រឹងសមត្ថភាព សហគមន៍នេសាទ តាមរយៈការសាកល្បងកែលម្អចន្លោះសម្ព័ន្ធគ្រប់គ្រងដែលមានស្រាប់របស់សហគមន៍ នេសាទពង្រឹងការល្បួតដើម្បីឲ្យប្រជាជននេសាទ ចូលរួមការពារដែននេសាទបានធំទូលាយជាងមុននឹង ផលិតកម្មតាមបែបសហគមន៍សំរាប់រកផលចំនូលតាមបែបពាណិជ្ជកម្ម។ សកម្មភាពខាងលើនេះ មានគោល ដៅផ្តល់នូវប្រភពប្រាក់ចំនូលប្រកបដោយនិរន្តរភាពសម្រាប់សហគមន៍ដើម្បីចូលរួមការពារដែននេសាទ។ សកម្មភាពមានការគ្រោងទុកមុនដើម្បីធ្វើឲ្យមានប្រាក់ចំនូលដែលអាចទ្រទ្រង់និងការពារការធ្វើនេសាទដោយ សហគមន៍ ។

ចុងបញ្ចប់នៃសិក្ខាសាលានេះ អ្នកចូលរួមទាំងអស់បានពិភាក្សាទៅលើការងារប្រឈម។ ពួកគេបានផ្តល់នូវ គំនិតថ្មីៗជាត្រូវធ្វើយ៉ាងណាដើម្បីឲ្យវិធីសាស្ត្រក្នុងការធ្វើការងារអោយរីកចំរើន និងទទួល គាំទ្រកំនែទម្រង់ អភិបាលកិច្ចធនធានជលផលក្នុងបឹងទន្លេសាប ។

*ព័ត៌មានបន្ថែមទាក់ទងនឹងការងារនេះសូមទាក់ទងលោក ម៉មកុសលមន្ត្រីជំនាញអង្គការ WorldFish Center ។*

## ទស្សនៈកិច្ចសិក្សាយកបទពិសោធន៍ អំពីការគ្រប់គ្រងកន្លែងអភិរក្ស និងការកែលំអរ ជីវភាពនៅឃុំ កំពង់ត្រក ខេត្តសៀមរាប

ដំណើរទស្សនៈកិច្ចសិក្សារយៈពេលពីរថ្ងៃ គឺចាប់ពីថ្ងៃទី ១៣ ដល់ ១៤ ខែធ្នូ ឆ្នាំ២០១២។ អង្គការសម្ព័ន្ធភាព ដើម្បីអភិរក្សធនធានជលផល(FACT)បានអញ្ជើញសហគមន៍នេសាទដែលមកពីសហគមន៍ជាតិសណ្តាយ ទួលនាងសាវ និង ព្រះគន្លង ដើម្បីធ្វើដំណើរទៅកាន់ខេត្តសៀមរាប ឃុំកំពង់ត្រក ដែលជាការស្នើសុំរបស់ សហគមន៍ដើម្បីសិក្សាអំពីបទពិសោធន៍ជោគជ័យពីតំបន់ទេសចរណ៍ធម្មជាតិមួយនេះ។ ឃុំកំពង់ត្រកមាន ភោជនីយដ្ឋាន ទេសភាពស្រស់ស្អាត និង អាចឲ្យភ្ញៀវទេសចរណ៍ដើរទស្សនាកន្លែងដែលប្លែកៗ ព្រមទាំង អាចជិះទូកទៅទស្សនាព្រៃលិចទឹកដែលជាទីទាក់ទាញភ្ញៀវទេសចរណ៍។

កម្មវិធីទស្សនកិច្ចមួយនេះបង្កើតឡើងដើម្បីជួយពង្រឹងសមត្ថភាពដល់ការគ្រប់គ្រងតំបន់អភិរក្សនៅតាមសហ គមន៍នីមួយៗ និងជួយជំរុញឲ្យជីវភាពប្រជាជនកាន់តែប្រសើរឡើងដើម្បីជួយកាត់បន្ថយភាពក្រីក្រស្របតាម ទិសដៅរបស់រាជរដ្ឋាភិបាល ។

ក្រោមការជួយគាំទ្ររបស់អង្គការជីហ្វីស(G-FISH) អង្គការសម្ព័ន្ធភាពដើម្បីអភិរក្សធនធានជលផល និងសម្ព័ន្ធ ប្រជានេសាទបានដាំព្រៃលិចទឹកឡើងវិញនិងបង្កើនការល្អិតនៅតំបន់អភិរក្សឃុំជាតិសណ្តាយ ។

ក្នុងដំណើរទស្សនៈកិច្ចនេះមានគោលបំណងដើម្បីជួយពង្រឹងសមត្ថភាពបន្ថែមលើការគ្រប់គ្រងកន្លែងអភិរក្ស និងផ្តល់ឪកាសអោយសហគមន៍ទទួលបានបទពិសោធន៍ និងស្វែងយល់ពីភាពជោគជ័យនៃកិច្ចប្រតិបត្តិ ការណ៍លើផ្នែកទេសចរណ៍ធម្មជាតិដែលសហគមន៍កំពង់ត្រកធ្លាប់បានបង្កើតសហគមន៍ដោយខ្លួនឯង។ ហើយ សកម្មភាពនេះក៏ក្នុងគោលបំណងគាំទ្រដល់អង្គការមហាជនក្នុងដំណើរការអនុវត្តលើការគ្រប់គ្រងតំបន់អភិ រក្សប្រកប ដោយមានប្រសិទ្ធភាព ។

នៅថ្ងៃដំបូងនៃដំណើរទស្សនកិច្ច សមាជិករបស់សហគមន៍ជាតិសណ្តាយ ទួលនាងសាវ និងព្រះគន្លងជួប ជាមួយនឹងក្រុមព្រឹក្សាឃុំ និងអ្នកភូមិកំពង់ត្រកដើម្បីចែករំលែកនូវបទពិសោធន៍របស់ ពួកគាត់។ បន្ទាប់ពី ការជួបជុំនេះ សមាជិកសហគមន៍ទាំងអស់បានទៅមើលកន្លែងលក់ដូរនិងដាំបន្លែរបស់សហគមន៍។

នៅក្នុងអំឡុងថ្ងៃទីពីរសមាជិកទាំងអស់បានជួបជាមួយមេឃុំចុងឃ្មៀស ដើម្បីពិភាក្សាទៅលើកិច្ចប្រតិបត្តិ ការណ៍ផ្នែកទេសចរណ៍ធម្មជាតិ។ បន្ទាប់ពីប្រជុំចប់សមាជិកទាំងអស់បានធ្វើដំណើរទៅមើលសិប្បកម្មកែច្នៃ កំប្លោកដើម្បីពិនិត្យមើលអំពីរបៀបបង្កើតជាការបូបដើម្បីលក់អោយភ្ញៀវទេសចរណ៍។ ជាកិច្ចបញ្ចប់សមាជិក ទាំងអស់ក៏ធ្វើការឆ្លុះបញ្ចាំងពីលទ្ធផលនៃដំណើរទស្សនៈកិច្ចនេះនៅការវិយាល័យរបស់អង្គការសម្ព័ន្ធភាពដើម្បី អភិរក្សធនធានជលផល ។

ព័ត៌មានបន្ថែមទាក់ទងនឹងការងារនេះសូមទាក់ទងលោក **ស៊ង សុផាត** មន្ត្រីកម្មវិធីអង្គការ FACT។



**USAID**  
FROM THE AMERICAN PEOPLE



# SUSTAINABLE FISHERIES IN TONLE SAP LAKE

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GLOBAL FISH ALLIANCE

## Life of a Fishing Lot Owner

### Context:

- ◆ Life of a Fishing Lot Owner
- ◆ G-FISH Cambodia Activities
- ◆ Cambodia Capacities Development (CCD) Activities
- ◆ Floating Biodigester Project

As is the story of many other fishing lot owners, after the government abolished all fishing lots, Mrs. PEN Sopheap was required to change her source of income to ensure her family's wellbeing. She turned to selling natural fertilizer and raising fish in Siem Reap.

As the head of the family, Sopheap invested a great deal of money in her fishing lot and she was able to generate a

good income from this business. Depending on the harvest season she



could earn from 18 to 50 million riel a day.

During her time as a fishing lot owner, just over a year, Sopheap invested in fishing gear

and provided some fishing gear to local villagers.

On March 7, 2012, the Royal Government of Cambodia announced to the public that it would be cancelling all fishing lots. At this time Sopheap began to sell all her fishing gear and gifting some of it to the villagers.

*(Continue to page 3)*

វិទ្យុខ្មែរអន្តរជាតិ



KHMER INTERNATIONAL RADIO

Sustainable Fisheries Radio Discussion  
broadcast every Saturday from 8:00-  
9:00 am on VAYOFM105.5MHz

“If we do not  
permit the earth  
to produce beauty  
and joy, it will  
in the end not  
produce food,  
either.”

Joseph Wood Krutch



Task Forces Meeting on  
26 February 2013

## G-FISH Cambodia Activities

The Global FISH( *Fisheries Improvement for Sustainable Harvest*) Alliance (G-FISH) promotes sustainable fisheries and aquaculture practices through the application of a system-wide approach that balances economic, environmental, governmental, and social components essential to enhancing livelihoods and biodiversity. G-Fish brings together government, private sector, and civil society to work collaboratively on specific fisheries around the world. In September 2011, G-Fish conducted a whole system in the room workshop with many stakeholders from across several sectors to discuss the situation of fisheries on the Tonle Sap Lake. Five common goals in four main categories were identified:

- Enrichment of livelihoods:
  - \* Improvement of community livelihoods through proper natural resource management
- Capacity building:
  - \* Effective and efficient communications on Tonle Sap resource management
- Good governance:
  - \* Improvement of collaboration among stakeholders
  - \* Effective compliance with fisheries laws
- Increase in fisheries resources (i.e. increase productivity)
  - \* Conservation of flooded forests and promotion of sanctuaries for future generations to have food to eat

Three Task Forces were formed (Communications, Resource Conservation, and Livelihoods) to address the common goals agreed to tackle discrete activities or work in focus areas to achieve the common goals.

G-FISH acts as a communications hub, linking stakeholders together to ensure that appropriate and relevant information, knowledge, and expertise reaches every member of the sector. G-Fish Cambodia aims to serve as the neutral convening Secretary for the three task forces to facilitate and foster collaboration among its members.

The activities planned by G-Fish for 2013 include:

- A Speaker’s Series – inviting experts to discuss topics such as fisheries law, fishing gear, flooded forest management, livelihoods, eco-tourism, and environment issues so valuable information can be disseminated to relevant stakeholder groups;
- A weekly radio program, addressing areas such as flooded forest management and fisheries regulations, to enable relevant up to date information to reach relevant stakeholder groups;
- Supporting the work of stakeholders through the coordination and convening of taskforces;
- Supporting and facilitating partnership building and collaboration between government bodies and stakeholders;
- Tracking and collating in country press coverage (audio and print);
- Developing a database of fisheries stakeholders in Cambodia to establish a tool which will enable taskforces to link members to experts, donors, conservation agencies, and potential private sectors partners; and
- Monthly newsletters with relevant and up to date information for stakeholder groups.

For further please contact: Mrs. NOU Vannsan,  
Communications and Networking Facilitator ,  
G-FISH

## Life of a Fishing Lot Owner (from page 1)

She and her family left the fishing lot and returned to her hometown in Siem Reap province where she started a fish farm and selling natural fertilizer. Initially the transition was difficult economically for her family but Sopheap was committed to working hard on her new business venture.

After a difficult and challenging year Sopheap has found her feet. She is now generating an income from her fish farm and selling natural fertilizer. Even though it is not like before, she is very happy with her business. She said, "I am happy to be who I am now. I have a new career, I can support my children to go to school, and I live with a happy family."

*For further details please contact: Mrs. PEN Sopheap, Former owner of fishing lot number 3*



*Sopheap working in her fishing lot in 2011*

## Cambodia Capacities Development (CCD) Activities

**Kampong Chhnang-** Cambodian Capacities Development (CCD) is a Cambodian non-governmental organization working to build community capacity at a grassroots level; an important role in improving livelihoods and protecting natural resources.

The CCD supports monthly meetings with community fisheries to provide up to date information related to fisheries law, fishers rights, the implications of destroying natural resources, and any social

issues villagers want to address. The CCD is focusing on strengthening law enforcement knowledge within the communities.

Providing leadership and management skills to local communities are a high priority for CCD. They provide leadership and management skills training to community members, as well as an expert to guide community members.

CCD supports the community plan which works towards stopping illegal fishing, enhancing conservation areas, and support-

ing the community activities conducted by the commune women. They are working closely with local FiA, local authorities, environment officers and other relevant stakeholders to combat illegal fishing and the destruction of flooded forest areas.

*For more information relating to CCD's work please contact Mrs. SENG Kimsreu, CCD Project Manager or visit their website:<http://www.ccdcambodia.org>*

**"Flooded Forest is  
a life of  
Fisheries"**



*CCD meeting with Communities*

## SUSTAINABLE FISHERIES

### Floating Biodigester Project



Live & Learn Environmental Education work with floating and flood-affected communities around the Tonle Sap Lake in the areas of natural resource management, sustainable livelihoods, water and sanitation, self-help groups, and ecotourism. Live & Learn is currently focused on 5 communes around the southern end of the lake, in Boribor, Krakor, and Kampong Svay districts.

In cooperation with the Royal University of Agriculture (RUA), Live & Learn Environmental Education Cambodia has been running an experimental project with floating biodigesters for human and pig waste treatment. At the RUA experimental site, seven biodigesters were built and installed. In addition, two eco-san toilets were constructed that connect with a biodigester to collect human waste

which breaks down and produces methane gas.

Students of RUA were actively involved with the building and installation of the biodigesters. They are also involved in the monitoring process which involves the adding of human and pig waste daily into the biodigesters, monitoring the biodigester systems, and measuring the gas production. Once students have learnt how to build and install biodigesters, they are able to assist with building and installing biodigesters in the target communities.

Different waste products are being trialed in the biodigesters and their efficiency for producing methane measured. The slurry from each biodigester is tested to measure the reduction of pathogens. This slurry can then be used as a fertilizer.

After the prototype of

floating biodigester was improved, more than 20 biodigesters were built and installed in floating villages, including Phat Sanday and Chhnok Trou communes; and flood-affected, Tro-paing Chan and Kbal Trach communes.

The benefits of the floating biodigester to floating communities include improved sanitation by reducing solid human waste and pig waste output into the lake, the creation of valuable by-products: the slurry can be used as a fertilizer and the methane gas can be collected and used for cooking which is a cleaner fuel and decreases the need to cut down flooded forest areas for cooking fuel.

*For further information relating to floating biodigesters and eco-san toilets please contact Mr. KEO Sareth, WASH Program Manager, or visit the Live and Learn Environmental Education website <http://www.livelearn.org/locations/cambodia>*

## FHI 360/Global FISH Alliance

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Phone: (855) 89 555 313

# និរន្តរភាពវិស័យជលផលនៅក្នុងបឹងទន្លេសាប

## FHI 360/Global FISH Alliance

ព្រឹត្តិប័ត្រប្រចាំខែកុម្ភៈ ឆ្នាំ២០១៣

### សកម្មភាពម្ចាស់ឡូត៍នេសាទ

តាំងពីពេលដែលរាជរដ្ឋាភិបាលបានលុបឡូត៍នេសាទទាំងអស់ អ្នកស្រី ប៉ែន សុភាព ដែលជាអតីតម្ចាស់ឡូត៍នេសាទលេខ៣ បានផ្លាស់ប្តូរមុខរបរបស់គាត់ដោយស្វ័យប្រវត្តិទៅជាអ្នកលក់ដីធម្មជាតិ និង បើកកសិដ្ឋានចិញ្ចឹមត្រី ។

អ្នកស្រី ប៉ែន សុភាព ដែលជាមេគ្រួសាររូបនេះធ្លាប់បានបណ្តាក់ទុនយ៉ាងច្រើន ដើម្បីធ្វើអាជីវកម្មក្នុងឡូត៍នេសាទលេខ៣ ហើយគាត់ក៏បានចំណេញប្រាក់ជាច្រើនពីការធ្វើជំនួញរបស់គាត់ផងដែរ ។ កាលពីមុនគាត់អាចរកប្រាក់ចំណូលបានចាប់ពី១៨ ទៅ៥០លានរៀលក្នុងមួយថ្ងៃ ដោយអាស្រ័យទៅលើខែដែលអាចចាប់ត្រីបាន។ ក្នុងរយៈកាលជាងមួយឆ្នាំនៃរបរនេសាទរបស់គាត់ អ្នកស្រី ប៉ែន សុភាព ធ្លាប់បានជួយដល់អ្នកភូមិដែលរស់នៅតំបន់ឡូត៍នេសាទលេខ៣ជាច្រើន គាត់បានផ្តល់នូវឧបករណ៍នេសាទ និង អនុញ្ញាតឲ្យពួកគាត់ចូលធ្វើនេសាទនៅក្នុងតំបន់នេសាទរបស់គាត់ ។

នៅថ្ងៃទី៧ ខែមីនា ឆ្នាំ២០១២ រាជរដ្ឋាភិបាលនៃព្រះរាជាណាចក្រកម្ពុជាបានប្រកាសបិទឡូត៍នេសាទទាំងអស់ជាសាធារណៈ។ អ្នកស្រី សុភាព បានចាប់ផ្តើមប្រមូលឧបករណ៍នេសាទរបស់គាត់យកទៅលក់ និង ខ្លះទៀតយកទៅប្រគល់ឲ្យប្រជាពលរដ្ឋ ។ គាត់ និងក្រុមគ្រួសាររបស់គាត់បានចាកចេញពីទៅរស់នៅស្រុកកំណើតរបស់ខ្លួនឯខេត្ត សៀមរាប។ នេះជាកន្លែងដែលគាត់បានសំរេចចិត្តបើកកសិដ្ឋានចិញ្ចឹមត្រី និង លក់ដីធម្មជាតិ ។ ទោះបីជាមានការលំបាកសំរាប់សេដ្ឋកិច្ចគ្រួសាររបស់គាត់នៅពេលដំបូងក៏ដោយ ក៏អ្នកស្រីបានតាំងចិត្តខិតខំធ្វើការសំរាប់មុខរបរថ្មីរបស់គាត់នេះដែរ។

បន្ទាប់ពីរស់នៅយ៉ាងលំបាកលំបិនជាងមួយឆ្នាំ បច្ចុប្បន្ននេះអ្នកស្រី សុភាព អាចក្រោកឈរឡើងវិញម្តងទៀតហើយ។ គាត់អាចទទួលបានប្រាក់ចំណូលពីការលក់ដីធម្មជាតិ និងកសិដ្ឋានចិញ្ចឹមត្រី។ ទោះបីជាជីវភាពរបស់គាត់មិនដូចពីមុនទាំងស្រុង អ្នកស្រីបានមានប្រសាសន៍ថា គាត់សប្បាយចិត្តខ្លាំងណាស់ជាមួយមុខរបរកសិដ្ឋានចិញ្ចឹមត្រីនេះ។ គាត់បាននិយាយថា “ខ្ញុំសប្បាយចិត្តក្នុងនាមជាខ្ញុំ។ ខ្ញុំមានមុខរបរថ្មី ហើយខ្ញុំអាចបញ្ជូនកូនៗរបស់ខ្ញុំទៅរៀន ព្រមទាំងខ្ញុំអាចរស់នៅជាមួយគ្រួសារដោយសប្បាយចិត្ត។”

*ព័ត៌មានបន្ថែមទាក់ទងនឹងការងារនេះសូមទាក់ទងអ្នកស្រី ប៉ែន សុភាព អតីតម្ចាស់ឡូត៍នេសាទលេខ៣*

## សកម្មភាពរបស់សម្ព័ន្ធជីហ្វីស

សម្ព័ន្ធជីហ្វីស ធ្វើការដើម្បីលើកកម្ពស់វិស័យផលិតផលប្រកបដោយនិរន្តរភាព និងការអនុវត្តដែលប្រកបដោយ ជលវប្បកម្មតាមរយៈការអនុវត្តតាមយន្តការគ្រប់គ្រងជាប្រព័ន្ធ ដែលផ្តល់នូវលំនឹងផ្នែកសេដ្ឋកិច្ច បរិស្ថាន រដ្ឋាភិបាល និង សង្គម សំរាប់បង្កើនគុណភាពការរស់នៅ និងប្រព័ន្ធដីវចំរុះ។ សម្ព័ន្ធជីហ្វីស រៀបចំវេទិកាជួបជុំរវាងរដ្ឋាភិបាល និង ឯកជនអោយធ្វើការជាដៃគូយ៉ាងជិតស្និទ្ធក្នុងជំនាញផ្នែកផលិតផលនៅទូទាំងពិភពលោក។ នៅក្នុងខែកញ្ញា ឆ្នាំ២០១១ សម្ព័ន្ធជីហ្វី បានរៀបចំកិច្ចប្រជុំមួយដែលមានការចូលរួមពីសំណាក់ដៃគូពាក់ព័ន្ធផ្សេងៗ ដើម្បីពិភាក្សាពីស្ថានភាព ធនធានផលិតផលនៅក្នុងបឹងទន្លេសាប។ ជាលទ្ធផលដែលទទួលបានពីកិច្ចប្រជុំរួមមានចំនុចបួនធំៗត្រូវបានដាក់ជាគោល ដៅ។

អង្គការសម្ព័ន្ធត្រីពិភពលោក ហៅកាត់ថា ជីហ្វីស បានប្រតិបត្តិទៅលើនិរន្តរភាពវិស័យផលិតផល និងការអនុវត្តផល វប្បកម្មតាមរយៈ៖

- **ការបង្កើនជីវភាពរស់នៅ**
  - បង្កើនជីវភាពរស់នៅរបស់សហគមន៍តាមរយៈការរៀបចំចាត់ចែងធនធានធម្មជាតិត្រឹមត្រូវ
- **ការបង្កើនសម្ថភាព**
  - ពង្រឹង ប្រសិទ្ធភាព និង គុណភាពនៃការទំនាក់ទំនងលើការរៀបចំចាត់ចែងធនធានធម្មជាតិ
- **អភិបាលកិច្ចល្អ**
  - ការធ្វើអោយប្រសើរឡើង និងការសហការគ្នាក្នុងចំណោមដៃគូដែលពាក់ព័ន្ធ
  - ការធ្វើអោយមានប្រសិទ្ធភាពឡើងក្នុងការអនុវត្តច្បាប់ផលិតផល
- **បង្កើនធនធានផលិតផល (បង្កើនការផលិត)**
  - អភិរក្សព្រៃលិចទឹក និង លើកកម្ពស់ជំរកត្រីពងសំរាប់អនាគតស្បៀង

ក្រុមការងារពិសេសចំនួនបីត្រូវបានបង្កើតឡើង (ផ្នែកទំនាក់ទំនង ផ្នែកអភិរក្សធនធានធម្មជាតិ និងផ្នែកទ្រទ្រង់ ជីវភាព) ដើម្បីឆ្លើយតបទៅនឹងគោលដៅខាងលើនេះក្នុងការជួយដោះស្រាយសកម្មភាពដាច់ដោយឡែកពីគ្នា និងធ្វើការ ទៅតាមមុខជំនាញរៀងៗខ្លួនដើម្បីអោយបានទទួលជោគជ័យលើគោលដៅរួមតែមួយ។

សម្ព័ន្ធជីហ្វីស ដើរតួនាទីជាអង្គការដែលទាក់ទងនឹងការទំនាក់ទំនង ភ្ជាប់ស្ថាប័នដែលពាក់ព័ន្ធជាមួយគ្នាដើម្បីឲ្យ មានភាពច្បាស់លាស់ថា ព័ត៌មាន ចំណេះដឹង និងជំនាញត្រឹមត្រូវបានបញ្ជូនទៅដល់សមាជិកគ្រប់រូបនៅក្នុងផ្នែកនេះ។ សម្ព័ន្ធជីហ្វីសកម្ពុជាដើរតួនាទីជាសហការីអព្យាក្រឹតមួយ សំរាប់សម្របសម្រួលក្រុមការងារពិសេសទាំងបី និងជំរុញឲ្យ មានការរីកចំរើនឡើងនៃកិច្ចសហប្រតិបត្តិការណ៍រវាងសមាជិកជាដៃគូទាំងអស់។

ផែនការសកម្មភាពរបស់សម្ព័ន្ធជីហ្វីសក្នុងឆ្នាំ២០១៣ មានដូចជា៖

- កិច្ចពិភាក្សារបស់អ្នកជំនាញ៖ អ្នកជំនាញពិភាក្សាលើប្រធានបទដូចជាច្បាប់ផលិតផល ឧបករណ៍នេសាទ ការ គ្រប់គ្រងព្រៃលិចទឹក ជីវភាពរស់នៅរបស់សហគមន៍ ទេសចរណ៍ធម្មជាតិ និងបញ្ហាបរិស្ថាន ដែលសុទ្ធសឹងតែជា ព័ត៌មានដ៏មានតំលៃសំរាប់ចែកចាយជូនដល់ដៃគូដែលពាក់ព័ន្ធ
- កម្មវិធីវិទ្យុប្រចាំសប្តាហ៍ ដោយផ្ដោតទៅលើបញ្ហាមួយចំនួន ដូចជាការរៀបចំគ្រប់គ្រងព្រៃលិចទឹក និងប្រតិបត្តិការ ច្បាប់ផលិតផល ដើម្បីផ្តល់នូវបច្ចុប្បន្នភាពដល់ដៃគូដែលពាក់ព័ន្ធ
- គាំទ្រកិច្ចការងាររបស់ដៃគូ តាមរយៈការរៀបចំចាត់ចែង និងការជួបប្រជុំជាមួយក្រុមការងារពិសេសទាំងបី
- គាំទ្រនិងសម្របសម្រួលក្នុងការបង្កើនភាពជាដៃគូ និងសហប្រតិបត្តិការរវាងរដ្ឋាភិបាល និងដៃគូដែលពាក់ព័ន្ធ
- ប្រមូលនិងចងក្រងនូវការបោះពុម្ពផ្សាយ និងផ្សព្វផ្សាយរបស់សារព័ត៌មាន

- បង្កើតនូវប្រព័ន្ធទិន្នន័យរបស់អ្នកពាក់ព័ន្ធលើវិស័យផលជលនៅប្រទេសកម្ពុជា ដើម្បីបង្កើតជាឧបករណ៍ដែល ជា ការជំរុញសកម្មភាពដែលភ្ជាប់គ្នារវាងសមាជិកក្រុមការងារពិសេសស្រុកភ្ជាប់ទំនាក់ទំនងរវាងសមាជិកជាមួយអ្នក ជំនាញ ម្ចាស់ជំនួយ ភ្នាក់ងារអភិរក្ស និងដៃគូឯកជនមួយចំនួនទៀតដែលមានសក្តានុពល
- បោះពុម្ពផ្សាយនូវព្រឹត្តិប័ត្រប្រចាំខែទាក់ទងនឹងបច្ចុប្បន្នភាពសំរាប់ក្រុមដៃគូដែលពាក់ព័ន្ធ។

ព័ត៌មានបន្ថែមទាក់ទងនឹងការងារនេះសូមទាក់ទងអ្នកស្រី នូ វ៉ាន់សាន អ្នកសម្របសម្រួលទំនាក់ទំនងនឹងបណ្តាញ របស់អង្គការជីហ្វីស

## ពង្រឹងសម្បទានប្រជាជនសេសសល់ដើម្បីជួយលើកស្ទួយជីវភាពប្រជាជននិងការពារ ធនធានធម្មជាតិនៅតំបន់បឹងទន្លេសាប

**ខេត្តកំពង់ឆ្នាំង** - អង្គការបង្កើនសម្បទានសហគមន៍ដើម្បីអភិវឌ្ឍន៍ គឺជាអង្គការមិនមែនរដ្ឋាភិបាល កំពុងធ្វើការ ពង្រឹងសម្បទានសហគមន៍នៅក្នុងតំបន់ដែលដើរតួនាទីយ៉ាងសំខាន់ ក្នុងការធ្វើអោយជីវភាពប្រជាជនមានភាពប្រសើរ ឡើងនិងការការពារធនធានធម្មជាតិ។

អង្គការបានបង្កើនសម្បទានសហគមន៍ ដើម្បីអភិវឌ្ឍន៍ផ្តល់ការគាំទ្រដល់ការប្រជុំប្រចាំខែរបស់សហគមន៍ នេសាទដើម្បីចែករំលែកព័ត៌មានថ្មីៗទាក់ទងនឹងច្បាប់ផលជល សិទ្ធិប្រជាជននេសាទ ការទាក់ទងនិងការបំផ្លិចបំផ្លាញ ធនធានធម្មជាតិ និងបញ្ហាសង្គមមួយចំនួនដែលប្រជាជនចង់លើកយកមកពិភាក្សា។ អង្គការបង្កើនសម្បទានសហគមន៍ ដើម្បីអភិវឌ្ឍន៍ក៏កំពុងតែពង្រឹងបន្ថែមទៅលើចំណេះដឹងនៃការអនុវត្តច្បាប់ជាមួយសហគមន៍។

ការផ្តល់ភាពជាអ្នកដឹកនាំ និងជំនាញផ្នែកគ្រប់គ្រងទៅដល់សហគមន៍ ក៏ជាអាទិភាពចំបងរបស់អង្គការបង្កើនស ម្បទានសហគមន៍ដើម្បីអភិវឌ្ឍន៍ដែរ។ ពួកគេបានបើកវគ្គបំប៉នដល់សហគមន៍ទៅលើជំនាញភាពជាអ្នកដឹកនាំ និងជំនាញ ផ្នែកគ្រប់គ្រងទៅដល់សមាជិកសហគមន៍តាមរយៈអ្នកជំនាញ។

អង្គការបង្កើនសម្បទានសហគមន៍ដើម្បីអភិវឌ្ឍន៍ ជួយគាំទ្រគម្រោងរបស់សហគមន៍ដែលធ្វើការទៅលើបញ្ហាការ បញ្ឈប់ការនេសាទខុសច្បាប់ បង្កើនកន្លែងអភិរក្ស និងគាំទ្រសកម្មភាពដែលរៀបចំដោយក្រុមស្ត្រីឃុំ។ អង្គការនេះក៏បាន សហការយ៉ាងជិតស្និទ្ធជាមួយរដ្ឋបាលផលជលក្នុងតំបន់ អាជ្ញាធរដែនដី មន្ត្រីបរិស្ថាន និងអ្នកធ្វើការពាក់ព័ន្ធទាំងអស់ ដើម្បីប្រឆាំងនឹងការនេសាទខុសច្បាប់និងការបំផ្លិចបំផ្លាញតំបន់ព្រៃលិចទឹក។

ព័ត៌មានបន្ថែមទាក់ទងនឹងការងារនេះសូមទាក់ទងអ្នកស្រី សេង គីមស្រី ប្រធានគំរោងរបស់អង្គការ បង្កើនសម្បទានសហ គមន៍ដើម្បីអភិវឌ្ឍន៍ ឬតាមរយៈគេហទំព័រ <http://www.ccdcamboia.org>

## គំរោងឡូឌីស្ត្រីបណ្តែតទឹកបានជួយគាំទ្រដល់ជីវភាពប្រជាជននៅក្នុងសហគមន៍

អង្គការអប់រំស្តីពីការរស់នៅជាមួយបរិស្ថាន បានធ្វើការនៅក្នុងសហគមន៍បណ្តែតទឹក និងសហគមន៍ដែលរងឥទ្ធិពលពីទឹកជំនន់នៅជុំវិញបឹងទន្លេសាប។ អង្គការនេះបានផ្តោតទៅលើផ្នែកសំខាន់ៗដូចជា ផ្នែកគ្រប់គ្រងធនធានធម្មជាតិ ផ្នែកទ្រទ្រង់ជីវភាព ទឹកស្អាត និងអនាម័យ ក្រុមជួយខ្លួនឯង និងផ្នែកទេសចរណ៍ធម្មជាតិ។ បច្ចុប្បន្ន អង្គការអប់រំស្តីពីការរស់នៅជាមួយបរិស្ថានបានផ្តោតទៅលើសហគមន៍ចំនួនប្រាំនៅប៉ែកចុងខាងត្បូងបឹងទន្លេសាប រួមមាន ស្រុកបរិបូរណ៍ ស្រុកក្រគ និងស្រុកកំពង់ស្វាយ។

ដោយបានធ្វើការសហការជាមួយសកលវិទ្យាល័យភូមិន្ទកសិកម្ម អង្គការអប់រំស្តីពីការរស់នៅជាមួយបរិស្ថានបានបង្កើតគំរោងឡូឌីស្ត្រីបណ្តែតទឹក សំរាប់ធ្វើការពិសោធន៍ប្រព្រឹត្តិកម្មកាកសំណល់របស់មនុស្សនិងសត្វ។ បង្គន់ចំនួនប្រាំពីរត្រូវបានសាងសង់ហើយនឹងតម្លើងនៅក្នុងបន្ទប់ពិសោធន៍របស់សកលវិទ្យាល័យភូមិន្ទកសិកម្ម។ បន្ថែមពីនេះទៅទៀត បង្គន់អនាម័យត្រូវបានសង់ដោយភ្ជាប់ជាមួយនឹងឡូឌីស្ត្រី ដើម្បីប្រមូលកាកសំណល់មនុស្សដែលបម្លែង និងផលិតជាឧស្ម័នមេតាន។

និសិទ្ធិនៅសកលវិទ្យាល័យភូមិន្ទកសិកម្មបានចូលរួមយ៉ាងសកម្មក្នុងការសាងសង់និងតម្លើងឡូឌីស្ត្រីនេះ។ ហើយនិសិទ្ធិទាំងអស់នោះក៏ចូលរួមក្នុងដំណើរការពិនិត្យតាមដាន ដែលជាការចូលរួមដាក់បន្ថែមកាកសំណល់មនុស្សនិងសត្វជ្រូកជារៀងរាល់ថ្ងៃទៅក្នុងឡូឌីស្ត្រី ពិនិត្យតាមដានប្រព័ន្ធឡូឌីស្ត្រី និងវាស់ផលិតផលឧស្ម័ន។ ខណៈពេលដែលនិសិទ្ធិបានរៀនអំពីរបៀបសាងសង់និងតម្លើងឡូឌីស្ត្រី ពួកគេមានលទ្ធភាពជួយសាងសង់និងតម្លើងឡូឌីស្ត្រីនៅក្នុងសហគមន៍គោលដៅបាន។

ផលិតផលកាកសំណល់ផ្សេងៗគ្នា ត្រូវបានតាមដាននៅក្នុងឡូឌីស្ត្រី ហើយប្រសិទ្ធភាពនៃការផលិតឧស្ម័នមេតានក៏ត្រូវបានគេវាស់ស្ទង់។ ល្បាយដែលបានមកពីឡូឌីស្ត្រីនីមួយៗត្រូវបានសាកល្បងវាស់បរិមាណនៃការកាត់បន្ថយរបស់បាក់តេរី។ ល្បាយទាំងនេះអាចប្រើជាដីដាក់ដំណាំផ្សេងៗបាន។

បន្ទាប់ពីការសាកល្បងឡូឌីស្ត្រីបណ្តែតទឹកទទួលបានការរីកចម្រើនមក ឡូឌីស្ត្រីចំនួន២០ ត្រូវបានសាងសង់និងតម្លើងនៅក្នុងភូមិបណ្តែតទឹករួមមានឃុំដាត់សណ្តាយឃុំឆ្នុកទ្រូ តំបន់ទឹកលិច ដូចជាឃុំត្រពាំងចាន់ និងឃុំក្បាលត្រាច។

គុណប្រយោជន៍របស់ឡូឌីស្ត្រីបណ្តែតទឹកនៅសហគមន៍បណ្តែតទឹក បានរួមចំណែកក្នុងការធ្វើអោយអនាម័យនៅក្នុងសហគមន៍មានភាពប្រសើរឡើង ដោយជួយកាត់បន្ថយកាកសំណល់របស់មនុស្ស និងសត្វជ្រូកដែលបន្លាបង់ទៅក្នុងទឹកបឹង។ កាកសំណល់ទាំងនោះត្រូវបានបំបែកជាជីធម្មជាតិ និងឧស្ម័នមេតានសំរាប់ការប្រើប្រាស់ក្នុងការដាំស្ពានានាដែលនាំអោយមានការកាត់បន្ថយការកាប់ព្រៃលិចទឹក។

សំរាប់ព័ត៌មានបន្ថែមទាក់ទងនឹងការងារ ឡូឌីស្ត្រីបណ្តែតទឹកនិងបង្គន់អនាម័យសូមទាក់ទង លោក កែវ សារ៉េត ប្រធានគំរោងអនាម័យ-ទឹកស្អាត ឬតាមរយៈគេហទំព័រ <http://www.livelearn.org/locations/cambodia>



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# SUSTAINABLE FISHERIES IN TONLE SAP LAKE

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GLOBAL FISH ALLIANCE

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- ◆ Fisheries Administration's activities to Support Community Fisheries on the Tonle Sap Lake
- ◆ Old Age Miserable People (HOM) Activities
- ◆ Supporting Villagers to adapt to Climate Change

## Red Fish, Blue Fish, BIG Fish, LITTLE Fish

Together the Scientific Capacity Development Initiative (Sci-Cap) and the Inland Fisheries Research and Development Institute (IFReDI) are developing a community fisheries-based monitoring system for the Mekong and Tonle Sap.

Through Sci-Cap's ever expanding outreach to local CFi-based NGOs and International Freshwater Fisheries interested organizations, Sci-Cap has been developing a network of groups interested in supporting efforts to monitor community based fisheries harvest.

There has been a successful uptake of interest to join the network and to engage in local fishermen to support efforts to assess the fisheries and to develop 'best practices' for management of sustainable fisheries in Cambodia.

The fisheries monitoring scheme that was piloted during 2012 provides a standardized monitoring method for community-based fisheries assessment. It also provides a national database where standardized data can be stored and quality controlled data can be accessed and used to in-

form both management policy and identify 'best practices'. Over time the database will allow us to identify trends and the effect of changes in fisheries practices on the Cambodian fisheries.

During the first part of 2013, Sci-Cap will be engaging with CFi-based NGOs and community fisheries to discuss options for joining the network.

*If you are interested in finding out more or how to join the network and what it involves, please contact Dr. Vittoria Elliotton [Sci-Capd@gmail.com](mailto:Sci-Capd@gmail.com) or Laura Boon on [cambodianmoleculargenetics@gmail.com](mailto:cambodianmoleculargenetics@gmail.com).*

## Fisheries Administration’s Activities to Support Community Fisheries on the Tonle Sap Lake



*FiA works to crack down illegal fishing on the Lake.*

“Earth provides enough to satisfy every man’s needs, but not every man’s greed.”  
Mahatma Gandhi



*FiA collects illegal fishing equipment used on Tonle Sap Lake*

Community Fisheries (CFi) play an important role at the ground level of fisheries in Cambodia. They are working to protect the natural resources in their communities. At present, there are 516 fisheries communities in the country.

Currently, the Fisheries Administration (FiA) works closely with community and other development partners in order to enhance CFi’s capacity to protect natural resources. Some of these groups have already been registered with the FiA while others are still being processed. Development partners, FiA, and the Community Fishery Development Department,

are working to strengthen the management and development of the CFi with the following approaches:

- Dissemination of fisheries law and sub-degree information pertaining to CFi management;
- Conducting an election to select new CFi committee members;
- Boundary demarcation and CFi map preparation;
- Preparing a CFi agreement; and
- Conducting workshops on CFi development progress and measuring CFi performance.

To date, 226 Community Fisheries on the Tonle Sap Lake have been established since the Cambodian Government revoked all fishing lots in five provinces: Kampong Thom; Kampong Chhnang; Pursat; Battambang; and Siem Reap. Fishing lots areas have been broken up into conservation and family fishing areas.

CFi, with support from the FiA and development partners, are making an effort to work together in order to protect their natural resources and maintain sustainable fishing areas for communities.

*For further details, contact: Mr. LIENG Sopha, Deputy Director Community Fisheries Develop-*



## Old Age Miserable People (HOM) Activities

Old Age and Miserable People Help Organisation (HOM) is a local NGO based in Kampong Thom province. HOM exists to establish a Cambodian society where every man and woman enjoys equal rights, has adequate knowledge and understanding of their citizenry rights (law and policies) to meet their basic needs of food, shelter and health; and to lead a life with justice, dignity, self-confidence and high moral.

Today, HOM is working in three communes—Kampong Kor, Prey Kuy and Srour Yov commune.

Working closely in Kampong Kor community fish-

eries, HOM is focused on protecting natural resources by providing pa-



Re-planting flooded forest

trolling, demarcation poles for community borders and conservation areas, and providing capacity building training and in-

formation related to fisheries law.

HOM in collaboration

with the local FiA, Commune in Chief, and journalists are doing advocacy work to protect the conservation area from illegal fishing and the pumping

of water from these areas in the dry season to irrigate rice fields. HOM coordinated efforts for the replanting of a flooded forest area at Bung Real and has identified the fishery boundaries at Bung Real and Bung Sneng. A total of 15,000 trees were planted and HOM were joined by FiA, TSA, local monks, youths, the community fishery committee, and villagers. In addition, 50 demarcation poles have been put in place.

With the help of funding from the Strengthening Aquatic Resources Governance (STARGO) project, HOM is involving community participation in patrolling and managing the use of water for fresh and dry season rice farming.

*For further details, contact: Mr. KANG Sa Oum, Advisor HOM*

## Sustainable Fisheries Radio Discussion Highlighted for March and April

A Sustainable Fisheries Radio Discussion is broadcast and re-broadcasts every Saturday from 8:00 am –9:00 am on VAYOFM105.5MHz.

- Phnom Penh, Kampong Chhnang: FM105.5MHz
- Pursat, Battambang, Kampong Thom via FM88MHz

Experts from Fisheries Administration (FiA), Communities and NGOs will come on air to discuss issues related to various sustainable fisheries related topics.

### Upcoming topics:

- March 30, 2013: Conservation Areas on the Tonle Sap Lake (live show)
- April 6, 2013: Re-broadcast

### In April:

- April 20, 2013: Fisheries Reform (Live Show)
- April 27, 2013: Re-broadcast

**វិទ្យុខ្មែរអន្តរជាតិ**



**KHMER INTERNATIONAL RADIO**

*Sustainable Fisheries Radio Discussion broadcast every Saturday from 8:00-9:00 am on VAYOFM105.5MHz*

## Supporting Villagers to adapt to Climate Change



Chan Loum is a CCF member in Thnout Sambok village. She was a fisher and rice soup seller for more than ten years but now grows and sales vegetables.

As a woman responsible for seven family members, Mrs. Chan Loum, works hard for her children. In the past Chan Loum earned her income solely from fishing and selling rice soup. This did not generate enough income to adequately feed her family, “My family at that time was really poor” says Chan Loum.

In 2011, with support from ForumSyd, FACT commenced a pilot project on adaptation to climate change in Kampong Plouk District, Siem Reap Province. They worked closely with villagers and

CCF members to build capacity in the areas of eco-planting, handicrafts, livestock raising and fish farming. In 2012, FACT started to focus on encouraging more people to put these activities into practice. Villagers started to embark on careers in vegetable growing instead of fishing.

Since FACT’s pilot project in Kampong Plouk District, Chan Loum has become fully involved in the program. She has learned to plant vegetables using bottles and has begun to adapt to climate change. She works closely with FACT Officers, CCF, and the Commune Governor to develop methods to adapt to climate change in order to prevent and protect the community.

Chan Loum collects bottles that people throw away. She puts fertile soil in these bottles to grow vegetables. The income generated from selling these vegetables is around 20-30,000 Riel every 20 days. This career allows Chan Loum to earn a stable income to support her family.

Besides growing and selling, this enterprise is also good for tourism as visitors enjoy taking photos of her system enhancing the visitor’s eco-tourism experience in her area.

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# និរន្តរភាពវិស័យផលជលនៅក្នុងបឹងទន្លេសាប

## FHI 360/Global FISH Alliance

ព្រឹត្តិប័ត្រប្រចាំខែមិនា ឆ្នាំ២០១៣

### ត្រីក្រហម ត្រីខៀវ ត្រីធំ ត្រីតូច

គម្រោងដូចផ្ដើមអភិវឌ្ឍសមត្ថភាពវិទ្យាសាស្ត្រ (Sci-Cap) និងវិទ្យាស្ថានស្រាវជ្រាវនិងអភិវឌ្ឍផលជលទឹកសាប បានកំពុងរួមគ្នាបង្កើតនូវប្រព័ន្ធគ្រួតពិនិត្យមួយ ដែលផ្ដោតលើផលនេសាទរបស់សហគមន៍ សម្រាប់ទន្លេមេគង្គ និងទន្លេសាប ។

តាមរយៈការផ្សព្វផ្សាយកាន់តែទូលំទូលាយរបស់ Sci-Cap ទៅដល់អង្គការដែលផ្ដោតលើសហគមន៍នេសាទ និងអង្គការអន្តរជាតិផ្សេងៗដែលចាប់អារម្មណ៍នឹងផលនេសាទទឹកសាប Sci-Cap បានបង្កើត នូវបណ្តាញក្រុម ដែលចាប់អារម្មណ៍នឹងគាំទ្រដល់កិច្ចប្រឹងប្រែងក្នុងការគ្រួតពិនិត្យតាមដានការប្រមូលផលនេសាទ របស់សហគមន៍នេសាទ។

មានចំណាប់អារម្មណ៍ខ្លាំងក្នុងការចូលរួមបណ្តាញនិងប្រឡូកជាមួយប្រជានេសាទក្នុងស្រុកដើម្បី គាំទ្រដល់កិច្ចប្រឹងប្រែងក្នុងការវាយតម្លៃផលជល ដើម្បីបង្កើត «ការអនុវត្តន៍គំរូ» សម្រាប់ការគ្រប់គ្រង ផលជលនៅកម្ពុជាប្រកបដោយនិរន្តរភាព ។

ការរៀបចំផែនការគ្រួតពិនិត្យធនធានផលជលដែលបានសាកល្បងអំឡុងឆ្នាំ២០១២ ផ្តល់នូវវិធីសាស្ត្រគ្រួតពិនិត្យតាមបទដ្ឋានមួយសម្រាប់វាយតម្លៃផលនេសាទរបស់សហគមន៍ ។ ផែនការនេះក៏ផ្តល់នូវមូលដ្ឋានទិន្នន័យជាតិផងដែរដែលក្នុងនោះទិន្នន័យតាមបទដ្ឋានអាចរក្សាទុក ហើយទិន្នន័យគ្រួតពិនិត្យដែលមានគុណភាពអាចយកមកប្រើប្រាស់បានហើយក៏អាចប្រើដើម្បីណែនាំ ទាំងការគ្រប់គ្រងគោលនយោបាយគ្រប់គ្រងផង និងទាំងការកំណត់ «ការអនុវត្តន៍គំរូ» ផង ។ ឆ្លងតាមពេលវេលាមួយ មូលដ្ឋានទិន្នន័យនឹងអនុញ្ញាតឱ្យយើងកំណត់និន្នាការ និងផលនៃការផ្លាស់ប្តូរខាងការងារផលជលលើវិស័យផលជលរបស់កម្ពុជា ។

អំឡុងដើមឆ្នាំ២០១៣ Sci-Cap នឹងប្រឡូកជាមួយអង្គការដែលផ្ដោតលើសហគមន៍នេសាទ និងសហគមន៍នេសាទដើម្បីជជែកពីជម្រើសសម្រាប់ចូលរួមជាមួយបណ្តាញ ។

បើលោកអ្នកចាប់អារម្មណ៍នឹង ស្វែងយល់បន្ថែម ឬចង់ដឹងថាតើចូលរួមបណ្តាញដោយរបៀបណា សូមទាក់ទងបណ្ឌិត Vittoria Elliott

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## សកម្មភាពរដ្ឋបាលជលផលក្នុងការគាំទ្រសហគមន៍នេសាទនៅតំបន់បឹងទន្លេសាប

សហគមន៍នេសាទដើរតួនាទីយ៉ាងសំខាន់នៅក្នុងវិស័យជលផលក្នុងក្រោមនៃព្រះរាជាណាចក្រកម្ពុជា។ សហគមន៍នេសាទធ្វើការក្នុងការការពារធនធានធម្មជាតិនៅក្នុងសហគមន៍របស់ពួកគេ។ នៅក្នុងប្រទេសកម្ពុជាសព្វថ្ងៃនេះ មានសហគមន៍នេសាទចំនួន៥១៦ ។

នៅពេលបច្ចុប្បន្ននេះ រដ្ឋបាលជលផល បានធ្វើការយ៉ាងជិតស្និទ្ធជាមួយសហគមន៍ និងដៃគូអភិវឌ្ឍន៍ដើម្បីជំរុញឲ្យសមត្ថភាពរបស់សហគមន៍ ក្នុងការការពារធនធានធម្មជាតិ មានភាពប្រសើរឡើង ។ សហគមន៍មួយចំនួនបានចុះបញ្ជីជាមួយរដ្ឋបាលជលផលរួចរាល់ហើយ នៅខណៈពេលដែលក្រុមមួយចំនួនទៀតកំពុងតែធ្វើសំណុំឯកសារ ។ ដៃគូអភិវឌ្ឍន៍ទាំងអស់បានធ្វើការព្រមគ្នាក្នុងការពង្រឹងនៃការគ្រប់គ្រងនិងអភិវឌ្ឍសហគមន៍នេសាទទៅតាមទិសដៅមួយចំនួន៖

- ផ្សព្វផ្សាយច្បាប់ជលផល និងអនុក្រឹត្យដែលទាក់ទងនឹងការគ្រប់គ្រងសហគមន៍នេសាទ
- បង្កើតឲ្យមានការបោះឆ្នោតក្នុងការជ្រើសរើសសមាជិកសហគមន៍នេសាទ
- បោះបង្គោលព្រំដែនសហគមន៍ និងរៀបចំផែនទីសហគមន៍
- រៀបចំឯកសារកិច្ចព្រមព្រៀងសហគមន៍ និង
- ដឹកនាំធ្វើសិក្ខាសាលាទាក់ទងនឹងដំនើរការអភិវឌ្ឍ និងតាមដានការធ្វើការរបស់សហគមន៍ ។

ឥឡូវនេះ មានសហគមន៍នេសាទចំនួន២២៦ នៅតំបន់បឹងទន្លេសាប ត្រូវបានបង្កើត ចាប់តាំងពីរាជរដ្ឋាភិបាលបានលុបចោលនេសាទនៅក្នុងខេត្តចំនួនប្រាំបីបឹងទន្លេសាប រួមមាន ខេត្តកំពង់ធំ កំពង់ឆ្នាំង ពោធិសាត់ បាត់ដំបង និងខេត្តសៀមរាប ។ តំបន់ទ្វេដំណាក់កាល ត្រូវបានយកធ្វើជាតំបន់អភិរក្ស និងតំបន់នេសាទបែបលក្ខណៈគ្រួសារ ។

ដោយមានការគាំទ្រពីរដ្ឋបាលជលផលសហគមន៍នេសាទកំពុងតែតាំងចិត្តខិតខំធ្វើការសហការណ៍រួមគ្នាក្នុងការការពារធនធានធម្មជាតិ និងថែទាំការពារតំបន់នេសាទសំរាប់សហគមន៍ពួកគេ។

ព័ត៌មានបន្ថែមទាក់ទងនឹងការងារនេះសូមទាក់ទងលោក លាង សុផា អនុប្រធាននាយកដ្ឋានអភិវឌ្ឍន៍សហគមន៍នេសាទ រដ្ឋបាល ជលផល ។

## សកម្មភាពរបស់អង្គការសង្គ្រោះទុរគុណ និង ចាស់ជរា (HOM)

អង្គការសង្គ្រោះទុរគុណ និង ចាស់ជរា (HOM) គឺជាអង្គការក្នុងតំបន់ដែលធ្វើការនៅក្នុងខេត្តកំពង់ធំ ។ អង្គការសង្គ្រោះទុរគុណ និង ចាស់ជរា បានបង្កើតនូវសង្គមប្រជាជនកម្ពុជា ដែលជាកន្លែងគ្រប់បុរស និង ស្ត្រី មានសិទ្ធិស្មើគ្នា ទទួលបានចំណេះដឹងគ្រប់គ្រាន់ និងយល់ដឹងពីសិទ្ធិប្រជាពលរដ្ឋ (ច្បាប់ និង នយោបាយ) ដែលពួកគេជួបប្រទះ តម្រូវការចាំបាច់នៃ អាហារ, ជម្រក និង សុខភាព, នឹងដឹកនាំជីវិតជាមួយ ភាពយុត្តិធម៌ សេចក្តីថ្លៃថ្នូរ សេចក្តីទុកចិត្ត និងមាន សីលធម៌ខ្ពស់ ។

បច្ចុប្បន្នអង្គការសង្គ្រោះទុរគុណ និង ចាស់ជរា កំពុងធ្វើការក្នុងបីឃុំ ដូចជាឃុំ កំពង់គោ ព្រៃគុយ និងឃុំ ស្រែយូរ ។

អង្គការសង្គ្រោះទុរគុណ និង ចាស់ជរា ធ្វើការយ៉ាងជិតស្និទ្ធជាមួយសហគមន៍នេសាទ កំពង់គោ ដែលផ្តោតទៅលើការ ការពារធនធានធម្មជាតិ ដោយផ្តល់នូវការធ្វើល្អិត កំណត់ព្រំប្រទល់ដែនសហគមន៍ និងតំបន់អភិរក្ស ផ្តល់វគ្គបណ្តុះបណ្តាលផ្នែកពង្រឹងសមត្ថភាព និងព័ត៌មានដែលទាក់ទង និងច្បាប់ជលផល ។

អង្គការសង្គ្រោះទុរគុណ និងចាស់ជរា ដោយសហការជាមួយនឹង ខណ្ឌរដ្ឋបាលជលផល មេឃុំ និងអ្នកការសែត ជួយធ្វើការការពារតំបន់អភិរក្ស ពីបទល្មើសនេសាទ និងការប្រមូលទឹកពីតំបន់អភិរក្សចូលស្រែប្រាំង ។ អង្គការសង្គ្រោះទុរគុណ និង ចាស់ជរា គាំទ្រតាំងចិត្តធ្វើការសម្របសម្រួល ដើម្បីដាំព្រៃលិចទឹកនៅបឹងរៀលឡើងវិញ និងកំណត់ធ្វើដែននេសាទនៅបឹងរៀល និងស្ទឹងសែន ។ សរុបមកកូនឈើចំនួន ១៥០០០ដើមត្រូវបានដាំឡើងវិញ ហើយ សកម្មភាពនេះក៏បានអញ្ជើញចូលរួមពីសំណាក់ រដ្ឋបាលជលផល អាជ្ញាធរទន្លេសាប ព្រះសង្ឃ យុវជន គណៈកម្មការសហគមន៍នេសាទ និងអ្នកភូមិ ។ បន្ថែមពីនេះទៅទៀត បង្គោលព្រំដែនចំនួន ៥០ ដើមត្រូវបានដាំ ។

ដោយបានជំនួយរបស់គំរោង ស្តារហ្គោ (STARGO) អង្គការសង្គ្រោះទុរគុណ និង ចាស់ជរា បានចូលរួម ជាមួយ និងសហគមន៍ ក្នុងការធ្វើល្អិត និងការគ្រប់គ្រងលើការប្រើប្រាស់ទឹកស្អាត និងប្រើប្រាស់ទឹកសំរាប់ការ ធ្វើស្រែប្រាំង។

ព័ត៌មានបន្ថែមទាក់ទងនឹងការងារនេះសូមទាក់ទងលោក កង សាអ៊ី មន្ត្រីទីព្រឹក្សារបស់អង្គការ សង្គ្រោះទុរគុណ និង ចាស់ជរា ។

## គាំទ្រប្រជាជនក្នុងការបន្តទៅនឹងបម្រែបម្រួលអាកាសធាតុ

អ្នកស្រី ចាន់ លួម គឺជាសមាជិករបស់សម្ព័ន្ធប្រជានេសាទកម្ពុជានៅភូមិភ្នំព្រៃសប្បុក ។ អស់រយៈពេលជាងដប់ឆ្នាំមកហើយ អ្នកស្រី ចាន់ លួម ធ្លាប់តែជាអ្នកនេសាទ និងជាអ្នកលក់បបរ បែរជាប្តូរមុខរបរមកដាំ និងលក់បន្លែបន្លែផ្សេងៗ ក្នុងនាមជាអ្នកទទួលបន្ទុករបស់សមាជិកគ្រួសារចំនួនប្រាំពីរនាក់ អ្នកស្រី ចាន់ លួម បានខិតខំប្រឹងប្រែងធ្វើការយ៉ាងលំបាកដើម្បីផ្គត់ផ្គង់កូនៗ ។ កាលពេលមុន អ្នកស្រី ចាន់ លួម អាចរកចំណូលបានតែពីការលក់បបរ និងលក់តែម្នាក់ឯង ។ ហើយចំណូលទាំងនេះពុំគ្រប់គ្រាន់សម្រាប់ផ្គត់ផ្គង់ជីវភាពគ្រួសាររបស់គាត់ទេ ។ គាត់និយាយថា “របស់ខ្ញុំពិតជាប្រយោជន៍យ៉ាងខ្លាំងពីមុនគ្រួសារ” ។

នៅក្នុងឆ្នាំ២០១១ ដោយបានជំនួយឧបត្ថម្ភពីអង្គការForumSyd តាមរយៈអង្គការសម្ព័ន្ធភាពដើម្បីអភិរក្សធនធានជលផល (FACT) ក្នុងការបង្កើតគម្រោងសាកល្បង លើផ្នែកបន្តទៅនឹង បម្រែបម្រួលអាកាសធាតុនៅក្នុងឃុំកំពង់ត្នក ខេត្តសៀមរាប ។ អង្គការសម្ព័ន្ធភាពដើម្បីអភិរក្សធនធានជលផល បានធ្វើការយ៉ាងជិតស្និទ្ធជាមួយប្រជាជន និងសមាជិកសម្ព័ន្ធប្រជានេសាទទាំងអស់ ក្នុងការកសាងសមត្ថភាព លើផ្នែកដំណាំធម្មជាតិ សិប្បកម្មកែច្នៃ ចិញ្ចឹមសត្វ និងចិញ្ចឹមត្រី ។

នៅក្នុងឆ្នាំ ២០១២ អង្គការសម្ព័ន្ធភាពដើម្បីអភិរក្សធនធានជលផល បានចាប់ផ្តើមផ្តោតសំខាន់ ទៅលើការលើកទឹកចិត្តប្រជាជនអោយអនុវត្តសកម្មភាពនេះ ។ អ្នកភូមិចាប់ផ្តើមបង្កើនមុខរបរដាំដំណាំជាងការរកត្រី ។

អ្នកស្រី ចាន់ លួម បានចាប់ផ្តើមចូលរួមយ៉ាងពេញទំហឹងជាមួយសកម្មភាពរបស់កម្មវិធី ចាប់តាំងពីគម្រោងសាកល្បង របស់អង្គការសម្ព័ន្ធភាពដើម្បីអភិរក្សធនធានជលផលនៅឃុំកំពង់ត្នក ។ គាត់បានរៀនពីវិធីដាំបន្លែដោយប្រើសម្បកដប ហើយបានចាប់ផ្តើមបន្តទៅនឹង បម្រែបម្រួលអាកាសធាតុ ។ អ្នកស្រី ចាន់ លួមបានធ្វើការយ៉ាងជិតស្និទ្ធជាមួយមន្ត្រីរបស់អង្គការសម្ព័ន្ធភាពដើម្បីអភិរក្សធនធានជលផល សម្ព័ន្ធប្រជានេសាទកម្ពុជា និងមន្ត្រីថ្នាក់ឃុំ ក្នុងការបង្កើតវិធីសាស្ត្រ ដើម្បីបន្តទៅ និងការប្រែប្រួលអាកាសធាតុដើម្បីបង្ការនិងការពារសហគមន៍ ។

អ្នកស្រី ចាន់ លួម បានប្រមូលសម្បកដបដែលគេបោះចោល ។ គាត់បានដាក់ដីដែលមានជីជាតិទៅក្នុងសម្បកដប ហើយក៏ចាប់ផ្តើមដាំបន្លែជាច្រើនប្រភេទ ។ ជារៀងរាល់២០ថ្ងៃម្តង គាត់អាចរកចំណូលបានពីការលក់បន្លែនេះពី២ម៉ឺន ទៅ៣ម៉ឺនរៀល ។ មុខរបរនេះអាចធ្វើអោយអ្នកស្រីមានចំណូលថែរមួយសម្រាប់ផ្គត់ផ្គង់គ្រួសារបន្ទាប់ពីការរកត្រីនិងលក់បបរ ។

ព័ត៌មានបន្ថែមទាក់ទងនឹងការងារនេះសូមទាក់ទងលោក ស្វង សុផាត មន្ត្រីកម្មវិធីរបស់អង្គការសម្ព័ន្ធភាពដើម្បីអភិរក្សធនធានជលផល(FACT)។



## Global FISH Alliance Annual Meeting Summary

*December 17, 2012 – Washington, D.C.*

The Global FISH Alliance (G-FISH) promotes sustainable fisheries and aquaculture reforms. This is done through the application of a system-wide approach that integrates **governance** (fisheries management policies and strategies), **civil society** (current knowledge, attitudes, and practices of fisheries, food security, livelihoods and biodiversity issues), **private sector** (businesses engaged in fisheries issues as well as tourism and agricultural/livelihood issues), and **environmental** considerations (the most appropriate biodiversity/natural resource friendly systems, technologies, and practices, services, or other kind of issue) which are all essential to sustaining and improving livelihoods and biodiversity.

On Monday, December 17, G-FISH held its fourth annual meeting at the FHI 360 offices in Washington DC. Members and friends of the Alliance were invited to participate in a one-day meeting to provide updates on their current work and to explore possible areas of collaboration for the Alliance's fourth and final year. The meeting was well attended with representatives from the following **twelve partner organizations**; Chemonics, Environmental Defense Fund (EDF), FHI 360, International Seafood Sustainability Foundation (ISSF), NOAA Fisheries, OSPESCA (Central American Regional Fisheries Agency), Sustainable Fisheries Partnership (SFP), the Good Foodie, the Nature Conservancy (TNC) - Honduras, University of Rhode Island (URI), USAID, Wildlife Conservation Society (WCS), and World Wildlife Fund (WWF). Please see the full participant list with contact information in Appendix 1.

Jennifer Barker, Director of the Global FISH Alliance, opened the meeting by welcoming all participants and expressing enthusiasm about hearing from the Alliance partners with updates of their work in the past year. Ms. Barker asked partners to provide a brief presentation on updates and highlights, and also to think about areas of possible collaboration going forward. Dr. Barbara Best, Coastal Resources and Policy Advisor for the Bureau for Economic Growth, Education and Environment at USAID, provided some background on the Alliance and structural changes happening within USAID to focus more on knowledge management and learning. Dr. Best asked partners around the table to think about collaboration among members in the final year for the development of a course on fisheries for USAID, as well as to reflect on the Alliance as a mechanism to engage partners to foster collaboration. Dr. Best also mentioned that a survey will be sent around after the meeting to collect feedback on the Alliance; what has worked and what could have been done better. The next session included updates from partners with a Global emphasis, followed by a regional focus on Africa, Asia and Latin America. The following people provide presentations:

### Global

- ISSF, Global Alliance of the tuna industry, by Mike Crispino and Katie Matthews
- FHI 360, Global FISH Alliance, by Jennifer Barker
- NOAA, Regional and Global Agreements, by Nancy Daves
- WCS, Field-based Conservation Programs around the World, by Liz Lauck

### Africa

- URI, SUCCESS program, by Brian Crawford
- FHI 360, Pemba Bay Initiative in Mozambique, by Roberto Martin

### Asia

- Bali Seafood, Lesser Sunda Initiative, presentation by Jerry Knecht shared with group
  - FHI360, Tonle Sap Initiative in Cambodia by Jennifer Barker

### Latin America

- EDF, Oceans Program, by Scott Edwards
- WCS, Field Based Partnership with EDF in Belize, by Liz Lauck
- Chemonics, MAREA Program, by Ann Spahr
- WWF, Fisheries Improvement Projects in Honduras, by Gina DeFerrari for Wendy Goyert
- TNC, Protected Areas in La Moskitia-Honduras, by Calina Zepeda
- NOAA, Fisheries Reform by Nancy Daves
- MASPLESCA, Regional Forum on Spiny Lobster in Latin America, by Bessy Aspra
- FHI 360, Spiny Lobster Initiative, by Jimmy Andino

In the afternoon, sessions were dedicated to areas of collaboration among the partners of the Alliance. The first session was led by Glenn Ricci from URI to discuss the development of a Fisheries Course at the request of USAID. Mr. Ricci shared with the partners a draft outline of the course concept and curriculum and asked partners to contribute their expertise to the different content areas.

First, there was some discussion about the audience of the one-day course and subsequent online course. Partners asked for clarification from USAID on the appropriate audience for the course and called for a focus on the major streams of work within USAID, such as Feed the Future. It was agreed that the audience should include USAID employees other than Natural Resource Management professionals and include other sectors such as Food Security, Economic Growth, Governance, Global Health, etc. The course will focus on how fisheries relates to different technical areas focusing on stories of what has worked and how better fisheries management can have positive impacts beyond the biodiversity conservation realm.

Mr. Ricci concluded the session by thanking the partners for their input and letting them know that he will be contacting them soon about their organization's role in the course and what needs to be produced prior to the presentation of the course. He called for flexibility from partners so the course can

be responsive to the participant needs. The goal is to have a draft course curriculum by mid-January in order to hold the one-day course on **Monday, February 11, 2012**. The online module will be based on the one-day course, but will make more resources available and use the feedback from the one-day course to improve and tailor content.

The last session of the meeting focused on the common ground goals of the Alliance agreed to at the last annual meeting, as well as areas of possible collaboration for the final year of the Alliance. Partners around the table identified major areas of research and how these could fit within the USAID learning agenda. Like the previous year, it was agreed that improved knowledge sharing could benefit all members of the Alliance and collaborating on the Fisheries Course and exchanging training materials for in-person and/or online trainings could be beneficial. Collaboration on programs at the local level was highlighted as an ongoing goal and these opportunities will continue to be explored as appropriate.

After the session, Jennifer Barker summarized the next steps; providing a synopsis of the meeting and highlighting key issues discussed. It was agreed that FHI 360 would keep everyone informed on major learning and agenda goals and to send around a request for evaluation and feedback on the Alliance mechanism. In addition, it was agreed that G-FISH will organize a monthly call related to the Central American spiny lobster fishery.

**Action Points and Next steps:**

- Annual Meeting Presentations and Materials will be made available on the G-FISH website.
- Glenn Ricci from URI will be in touch with partners regarding USAID Fisheries Course contributions.
- Host monthly global conference call on Central American spiny lobster fishery.
- Survey for evaluation and feedback on the Alliance mechanism.

In closing, Dr. Best said she appreciated the opportunity for partners to come together and share ideas, and that she welcomed additional thoughts on collaboration beyond the fisheries course. Bessy Aspra from OSPESCA in Honduras then emphasized that this will be a critical year in Honduras and Nicaragua with the closure of the diving activity for lobster and the need to keep the momentum going through the continued collaboration between TNC, MAREA, SLI, and OSPESCA. Ms. Aspra emphasized that now more than ever, champions were needed to complete the work. It was agreed to re-instate a monthly conference call for all of those working on the lobster fishery in Central America starting early in 2013.

If you have any additional comments or questions, please contact Jenny Barker at [jbarker@fhi360.org](mailto:jbarker@fhi360.org). Please visit [www.globalfishalliance.org](http://www.globalfishalliance.org) for more information.

## Appendix 1: Participant List

First Name	Last Name	Organization	City, State	Country	Email
Diane	Adams	US Agency for International Development (USAID)	Washington, DC	USA	diadams@usaid.gov
Jimmy	Andino	FHI 360, Spiny Lobster Initiative	La Ceiba	Honduras	jandino@fhi360.org
Bessy	Aspra	OSPESCA	Tegucigalpa	Honduras	baspra@gmail.com
Jenny	Barker	FHI 360	Washington, DC	USA	jbarker@fhi360.org
Nadine	Bartholomew	The Good Foodie	Washington, DC	USA	nadine@thegoodfoodie.org
Barbara	Best	US Agency for International Development (USAID)	Washington, DC	USA	bbest@usaid.gov
Chuck	Burg	Sustainable Fisheries Partnership (SFP)	Washington, DC	USA	chuck.burg@sustainablefish.org
Ana	Coelho	FHI 360	Washington, DC	USA	acoelho@fhi360.org
Brian	Crawford	Coastal Resource Center, University of Rhode Island (URI)	Narragansett, RI	USA	brian@crc.uri.edu
Mike	Crispino	International Seafood Sustainability Foundation (ISSF)	Washington, DC	USA	mcrispino@iss-foundation.org
Nancy	Daves	NOAA Fisheries	Silver Spring, MD	USA	nancy.daves@noaa.gov
Gina	DeFerrari	World Wildlife Fund (WWF)	Washington, DC	USA	gina.deferrari@wwfus.org
Scott	Edwards	Environmental Defense Fund (EDF)	Washington, DC	USA	sedwards@edf.org
Liz	Lauck	Wildlife Conservation Society (WWF)	Washington, DC	USA	lauck@wcs.org
Roberto	Martin	FHI 360	Washington, DC	USA	rmartin@fhi360.org
Cathryn	Matthews	International Seafood Sustainability Foundation (ISSF)	Washington, DC	USA	kmatthews@iss-foundation.org
Mark	Newton	US Agency for International Development (USAID)	Washington, DC	USA	mnewton@usaid.gov
Glenn	Ricci	Coastal Resource Center, University of Rhode Island (URI)	Narragansett, RI	USA	gricci@crc.uri.edu
Anne	Spahr	Chemonics International Inc., MAREA Program	Washington, DC	USA	aspahr@chemonics.com
Richard	Volk	US Agency for International Development (USAID)	Washington, DC	USA	rvolk@usaid.gov
Calina	Zepeda	The Nature Conservancy (TNC)	La Ceiba	Honduras	czepeda@tnc.org



**USAID**  
FROM THE AMERICAN PEOPLE

## Fisheries Matter: Introduction to Fisheries and Development

### Summary

The one day introductory fisheries course was held on February 11<sup>th</sup>, 2013. A total of 6 participants attended the full day course.

The overall **Course Goal** was to: Raise awareness of the importance of capture fisheries to development and how they can be integrated into initiatives and program areas.

The **Learning Objectives** for this course were for participants to be able to:

- A) Understand the importance of capture fisheries and its contribution to different development sectors
- B) Explain the challenges of managing capture fisheries and potential strategies
- C) Articulate the opportunity for capture fisheries to contribute to USAID goals, initiatives and portfolios
- D) Identify key approaches and tools for capture fisheries
- E) Access key resources and people on fisheries

At the end of the course, participants were asked to evaluate the course by rating if the course met the objectives and if the sessions of the day were useful. Of the 6 participants, 4 evaluations were returned.

The results of the evaluations are as follows:

Did we meet our Objectives?	Definitely	To Some Degree	Neutral	Some what	Not at all
Understand the importance of capture fisheries and its contribution to different development sectors	2	2			
Explain the challenges of managing capture fisheries and potential strategies	3	1			
Articulate the opportunity for capture fisheries to contribute to USAID goals, initiatives and portfolios	1	2	1		
Identify key approaches and tools for capture fisheries	2	1		1	
Access key resources and people on fisheries	2	1	1		

Were the sessions useful to you?	Definitely	To Some Degree	Neutral	Some what	Not at all
Importance of Fisheries Presentation	2	0	1	0	1*
Tragedy of the Commons Game	2	1	1	0	0
Review of Cases linking to Development Objectives (Philippines, Belize, Gender, FAO)	2	2	0	0	0
Exercise to link your program objectives to fisheries (done in the morning)	2	1	0	1	0
Fishery Approaches and Tools Presentation	0	4	0	0	0
Panel Discussions on Approaches and tools in afternoon	3	0	0	1	0
Exercise to recommend tools for Belize and Philippines Cases	1	2	0	0	1

\*(already knew most of that)

The overall rating of the course (1-10) ranged from a 10 (being awesome) to a 6-7. All participants would recommend the course to their USAID colleagues; one had a caveat that they would recommend it “if it was tightened up.” Most would also recommend their USAID partners who are considering or already engaged in fisheries work to also take the course. The one participant who would not recommend partners taking the course pointed out that they thought there were too many partners in the training as it was.

This one-day course was designed to aid in the development of the online course that will be up and running in late April/early May. All participants would like to preview the online course and provide feedback.

All participants responded that they were confident in their role to champion fisheries activities in their Bureau/Office and some cases said they already do. As a doable action to integrate capture fisheries in their work, participants replied:

- Look for more champions and money
- Raise awareness of issues related to fisheries and understand that there are fisheries resources in USAID
- Already include it as a focus in assessments when I can and would like to do programming for this
- TBD

Additional comments included ways to improve the course in the future. Participants would like to have had more examples of best practices as well as failures. They would like to see if it could be expanded with a focus on programming possibilities. Another participant agreed and would also like to see practical aspects of USAID programming included, specifically budget/allocation – where/how/who to reach out to as well as interested in developing fisheries work. Final words included: Interesting and Thanks!



# USAID Course

## Fisheries Matter: Introduction to Fisheries and Development

February 11, 2013

Washington, DC

### Background

The goal of the USAID Capture Fisheries courses is to inform USAID staff of the importance of wild fisheries to development (including food security and nutrition; livelihoods; economic development and trade; democracy, governance, rule of law and maritime security; health and family planning; and biodiversity conservation) and how capture fisheries initiatives can be programed into the USAID portfolio. Participants need to be made aware of the importance of capture fisheries, key issues that need to be addressed to improve fisheries management, and how sustainable fisheries fits within the various initiatives and funding areas of USAID.

To achieve this goal, USAID is offering a 1-day course in Washington, DC for Headquarter and Mission staff that may be located in Washington DC at the time of the course offering. This course will be evaluated and modified to develop an interactive online course that will be accessible to all USAID staff and implementing partners, as a means of reaching a larger audience than can be achieved via an in person course offered occasionally in Washington DC and at lower cost.

USAID has a significant capture fisheries portfolio and there is a potential for expanding these activities across many program areas. There is a small group of fisheries experts within USAID that would like to expand this knowledge across USAID staff in both mid-career and the new cohort of staff coming into the agency, to ensure staff is cognizant of the importance of fisheries to many facets of development and how fisheries can be integrated into various sectors.

This course will address the following issues identified by the development team:

- Capture fisheries are not fully mainstreamed in existing USAID programming and global initiatives.
- USAID staff is not fully aware of fisheries issues, their importance to food security, nutrition, economic development, jobs/livelihoods, governance, and maritime security, and how to move forward in programming initiatives in capture fisheries as few have technical specialized expertise in this sector.
- Many USAID staff members are uncomfortable and/or unclear about how to talk or advocate for fisheries efforts within the agency and how fisheries can be integrated into different initiatives and funding streams.



## Audience

The 1-day course on Capture Fisheries is designed for entry level and mid-career USAID staff at the home office or missions (based on their presence in DC during the course dates). Expected participants will be staff with mid-level positions and who have some influence or responsibility or advisory role for programming of funds and will not include any senior level staff within the agency. This is a voluntary course. The course is open to approximately 20-24 participants to ensure high levels of interaction. Participants are expected to have varied professional and educational backgrounds and roles within the agency.

**COURSE GOAL: Raise awareness of the importance of capture fisheries to development and how they can be integrated into initiatives and program areas**

## Learning Objectives

By the end of the course, participants will be able to:

- A) Understand the importance of capture fisheries and its contribution to different development sectors
- B) Explain the challenges of managing capture fisheries and potential strategies
- C) Articulate the opportunity for capture fisheries to contribute to USAID goals, initiatives and portfolios
- D) Identify key approaches and tools for capture fisheries
- E) Access key resources and people on fisheries

**AUDIENCE:** USAID Staff - Entry and Mid-level Officials at home office and possibly some Mission Staff if they are in DC at the time the course is offered

**TIMING:** 6 hours 45 minutes of contact-time plus breaks - 1 Day in DC (at fhi360 Offices)

**FACILITATION:** URI will facilitate all sessions, with USAID technical team from EEE and G-Fish partners joining to share experiences and deliver selected sessions.

## KEY REFERENCES:

A Key References Sheet will be handed out at the course. References will include USAID Capture Fisheries and Aquaculture Programming Guide, Global Fish Alliance Brochures, USAID Fisheries Portfolio Brief, FAO Code of Conduct, and The Sunken Billions: The Economic Justification for Fisheries Reform. Additional online resources will be included.

## Agenda

Time	Activity	Resources
8:00	<b>Registration</b> (Coffee and snacks)	fhi360 Logistics
8:30a	<b>Welcome and Introduction</b>	
10 min	<b>Highlight</b> course goal, objectives and value of course	USAID
10 min	<b>Map</b> out where people are from across the Agency	URI
15 min	<b>Asking Qs</b> - Why are you here and how can it be applied in your work?	URI (Use Pre-course Needs Assessment)
20 min	<b>Fishing Culture Energizer:</b> Appreciating culture and its impact on success of interventions	Partners
9:25a	<b>A. Importance of Fisheries</b>	
20 min	<b>Presentation</b> –Why fisheries are important to development	USAID
40 min	<b>Game - Tragedy of the Commons</b> – the challenge of open access	EDF
30 min	<b>BREAK 10:30a</b>	
11:00a	<b>B. Opportunity for capture fisheries to contribute to AID goals, initiatives &amp; portfolios</b>	
45 min	<p><b>Cases</b> – How fisheries contribute to different development program areas such as food security, biodiversity, family planning, maritime security and economic growth.</p> <ol style="list-style-type: none"> <li>1. Philippines Evolution from Apo Island to FISH 1 to BALANCED Health – USAID/URI -10 min</li> <li>2. Belize Catch Shares Program – EDF – 10 min</li> <li>3. FAO Code of Conduct – WWF – 5 min</li> <li>4. Gender Dimensions of Fisheries – WCS – 5min</li> </ol>	WCS, EDF, WWF, URI
45 min	<b>Activity - Value of Fisheries to You:</b> Identify how fisheries can integrate with USAID goals/objectives.	URI (partners join small groups)
60 min	<b>LUNCH 12:30-1:30</b>	

1:30 p	<b>C. Key Approaches and Tools</b>	
10 min	<b>Fishing Culture Energizer:</b> Appreciating culture and its impact on success of interventions	Partners
20 min	<b>Presentation:</b> The Big Picture on Fishery Approaches and Tools	URI
40 min	<p><b>Panel Discussion on Approaches &amp; Tools:</b>            Panel summarizes major approaches and tools to fisheries and provide pre-conditions for success.            Key Approaches to cover include:</p> <ul style="list-style-type: none"> <li>• Ecosystem-Based Fisheries Management for systems approach</li> <li>• Co-Management works for fisheries</li> <li>• Social Capital/Participatory Approach</li> <li>• Voluntary/Market Based Approaches</li> <li>• Integrating across sectors</li> </ul> <p>Tools to cover include:</p> <ul style="list-style-type: none"> <li>• Networks of Marine Reserves/Seascapes</li> <li>• Input vs. Output Controls</li> <li>• Managed Access: Rights-based</li> <li>• Compliance and Enforcement Tools</li> <li>• Small-scale and Industrial Tools</li> <li>• Certification</li> </ul>	<p>Panel 1 Members:</p> <ul style="list-style-type: none"> <li>• fhi360 – Social Capital/ Participation</li> <li>• WCS – Co-Management</li> </ul> <p>Panel 2 Members:</p> <ul style="list-style-type: none"> <li>• EDF – Rights-based Mgmt</li> <li>• WWF – Market Incentives/ Certification</li> </ul>
20 min	<p><b>Activity: Applying Approaches and Tools to Places</b></p> <ul style="list-style-type: none"> <li>• Philippines</li> <li>• Ghana</li> </ul>	URI
15 min	<b>Break 3:00p</b>	
40 min	<p><b>Group Work: Designing Interventions</b>            Groups are given cases to identify approaches and tools which could be recommended. What are the Pros/Cons of recommendations?</p> <ul style="list-style-type: none"> <li>• <b>Cases = FISH 2 and Belize</b></li> </ul>	Partners join groups to foster discussion
20 min	<p><b>Report Outs</b>            Groups share their analysis then hear what happened in the project and lessons going forward. Link back to Program Areas and key messages.</p>	URI
4:10p	<b>D. Evaluation and Next Steps</b>	
15 min	Course Evaluation	URI
20 min	Next Steps for Online Course and Participant Learning, highlight key resources, ask about topics they want to learn more about	USAID
5 min	Closing @ 5:00pm	USAID



**CAMBODIA - G-FISH DEMONSTRATION INITIATIVE  
PERFORMANCE MONITORING REPORT / FY2011-2013 DRAFT SUMMARY TABLE**

	INDICATOR DESCRIPTION	FY 2012	FY2013 (Q1 and Q2)	TOTALS TO DATE
<b>Indicator #1</b>	Number of organizations engaging in collaborative action	118	53	118*
<b>Indicator #2</b>	Percentage increase in collaborative attitude among fishery stakeholders			
<b>Indicator #3</b>	Number of items published or broadcast in print, radio, TV and the internet dealing with issues relevant to G-FISH Program objectives.	36	56	92
<b>Indicator #4</b>	Number of hectares of biological significance under improved management as a result of USG assistance	20		
<b>Indicator #5</b>	Number of people receiving USG supported training in natural resources management and/or biodiversity conservation	55	0	55
<b>Indicator #5a</b>	Number of person hours of training in natural resources management and/or biodiversity conservation supported by USG assistance	774	0	774
<b>Indicator #6</b>	Number of participants in USG-funded programs supporting	2160	208	2368
<b>Indicator #7</b>	Number of G-FISH-led stakeholder collaborative actions addressing fisheries issues in the Tonle Sap	53	7	60

\* The number of organizations for FY2013 is being cross-referenced with those from FY2012 to ensure that there are no duplicates. The total to date will be updated once this cross-check is completed.



HONDURAS - SPINY LOBSTER INITIATIVE

**PERFORMANCE MONITORING REPORT / SLI FY2009-2013 DRAFT SUMMARY TABLE**

	INDICATOR DESCRIPTION	FY 2009	FY 2010	FY 2011	FY 2012	FY2013 (Q1 and Q2)	TOTALS TO DATE*
<b>Indicator #1 - SLI IR 1.1</b>	Number of organizations engaging in collaborative action	60	83	81	74	0	123
<b>Indicator #2 - SLI IR 1.1</b>	Percentage increase in collaborative attitude among members of spiny lobster fishery	Time 1 SNA data and Symposium Survey	Time 2 SNA data and Symposium Survey		Time 3 SNA data, qualitative interviews and Symposium Survey	Social Network Data and Key Informant Interview information will be collected at IV Lobster Symposium May 2013 and reported in final	
<b>Indicator #3 - SLI IR 1.2</b>	Number of policies, laws, agreements or regulations promoting sustainable natural resource management and conservation that are implemented as a result of USG assistance	6	9	6	3	1	21*
<b>Indicator #4 - SLI IR 1.2</b>	Number of items published or broadcast in print, radio, TV and the internet dealing with issues relevant to G-FISH Program objectives.	-	7	17	27	2	53
<b>Indicator #5 - SLI IR 2.1</b>	Number of hectares of biological significance under improved management as a result of USG assistance	-	80,000	80,000	311,000	311,000	311,000
<b>Indicator #6 - SLI IR 2.1</b>	Number of people receiving USG supported training in natural resources management and/or biodiversity conservation	27	313	415	599	2	1356
<b>Indicator #6a</b>	Number of person hours of training in natural resources management and/or biodiversity conservation supported by USG assistance *	108	6,675	1,548.5	8,457.5	48.0	16,837
<b>Indicator #7 - SLI IR 2.1</b>	Number of exposure visit to other areas (USAID Agriculture Sector Productivity Program Element)	-	2	2	4	1	9
<b>Indicator #8 - SLI IR 3</b>	Number of participants in USG-funded programs supporting participation and inclusion of traditionally marginalized ethnic minority and/or religious minority groups (Strengthen Democratic Civic Participation)	7	136	108	69	0	320
<b>Indicator #9 - SLI IR 3</b>	Number of consultative processes with the private sector as a result of USG assistance (USAID trade and invest enabling environment)	4	14	11	13	4	46

**\* NOTES ON DATA TABLE**

**Indicator #1** 123 organizations are broken down by sector: 14 Civil society, 12 Donor, 20 Environment, 35 Government, 5 Media, 37 Private sector.  
 The 2009, 2010 and 2011 numbers have been revised in accordance with the change in Indicator definition to reference only organizations, not individuals  
 The totals do not add up because some we are recording total number of organizations that are actively engaged, and many organizations are included in multiple years

**Indicator #3** Yearly numbers do not add up to total because some key initiatives are being pursued in multiple years

**Indicator #5** The 311,000 hectares includes the previously identified 80,000 hectares from FY2010 and FY2011

**Indicator #6a** This indicator includes estimates of individuals who received technical information about the G-FISH SLI Initiative while attending the Meso-American Congress and the 2012

<b>MOZAMBIQUE - G-FISH DEMONSTRATION INITIATIVE</b>
<b>PERFORMANCE MONITORING REPORT / FY2012 AND FY2013 DRAFT SUMMARY TABLE</b>

INDICATOR	INDICATOR DESCRIPTION	FY 2012	FY 2013 (Q1 and Q2)	TOTALS TO DATE
<b>Indicator #1</b>	Number of organizations engaging in collaborative action	50	0	50
<b>Indicator #2</b>	Increase in collaborative attitude among fishery stakeholders in Pemba Bay	See quantitative and qualitative data in "perceptions_attitudes" tab		
<b>Indicator #3</b>	Number of items published or broadcast in print, radio, TV and the internet dealing with issues relevant to G-FISH Program objectives.	3	2	5
<b>Indicator #4</b>	Number of hectares of biological significance under improved management as a result of USG assistance	18,630	0	18,630
<b>Indicator #5</b>	Number of people receiving USG supported training in natural resources management and/or biodiversity conservation	220	0	220
<b>Indicator #5a</b>	Number of person hours of training in natural resources management and/or biodiversity conservation supported by USG assistance*	996	0	996
<b>Indicator #6</b>	Number of exposure visit to other areas	1	0	1
<b>Indicator #7</b>	Number of collaborative actions in support of G-FISH Program objectives	50	51	101



## **Spiny Lobster Fishery (LAC) Call #1** **January 16, 2013**

The Global FISH Alliance (G-FISH) promotes sustainable fisheries and aquaculture reforms through the application of a system-wide approach that integrates governance, civil society, private sector, and environmental issues which are all essential to sustaining and improving livelihoods and biodiversity. At the 2013 Annual Meeting, G-FISH agreed to organize a monthly call for partners to update each other on activities related to the spiny lobster fishery in Latin America/Caribbean on the third Wednesday of every month at 11amEST/10amCST. Partners volunteer to provide in-depth updates each month while all partners are encouraged to share updates.

### **January 16, 2013 Participants**

<b>Name</b>	<b>Organization</b>
Jimmy Andino	FHI 360, Spiny Lobster Initiative
Jenny Barker	FHI 360, G-FISH
Nadine Bartholomew	The Good Foodie
Barbara Best	USAID
Ana Coelho	FHI 360 G-FISH
Nancy Daves	NOAA
Wendy Goyert	WWF
Meghan Jeans	New England Aquarium
Mike Powers	Darden Restaurants, Inc.

#### **Agenda:**

1. Introductions
2. WWF FIP Update – Honduras & Nicaragua (Q&A)
3. Updates from G-FISH SLI (Q&A)
4. Partner/Group Updates

#### **1. Update from Wendy Goyert - WWF Fishery Improvement Project**

The Nicaragua spiny lobster FIP process began in June 2011 with the completion of a Marine Stewardship Council (MSC) pre-assessment. WWF developed a scoping document with stakeholders, and held a FIP stakeholder meeting in November 2011 in Managua, Nicaragua. The goal of the meeting was to bring together fishery stakeholders to develop a FIP Action Plan that will be implemented over the next several years to bring the fisheries up to a level consistent with the MSC standard. The FIP Action Plan was finalized in June 2012, some of these activities include:

- Developing a long-term IUU monitoring plan;
- Undertaking an evaluation of habitat and ecosystem impacts from similar fisheries;
- Developing a fishery management plan;
- Improving the monitoring, control, and surveillance (MCS) system; and

- Establishing a multi-stakeholder FIP management committee.

The government of Nicaragua recently provided feedback on the action plan and implementation will continue in 2013.

A similar timeline was applied in Honduras; the pre-assessment was completed in June 2011 and WWF held a FIP stakeholder meeting in December 2011 in Roatán, Honduras to develop a FIP Action Plan that will be implemented over the next several years. In Honduras, the FIP Action Plan was finalized in July 2012. Some of these activities include:

- Developing a comprehensive monitoring program;
- Developing a long-term IUU monitoring plan;
- Standardizing data collection
- Developing a stock assessment model and conducting a stock assessment;
- Developing harvest control rules and integrating them into the harvest strategy;
- Developing an observer program for long-term monitoring of non-target species;
- Conducting a study to evaluate habitat impacts of lobster traps in Honduras; and

#### *Q&A*

A question about the FIP is whether there was a provision for traceability and sourcing and work being done with suppliers to differentiate between the trap and dive caught lobster. The point was made that several U.S. buyers were calling suppliers to ask about traceability. The dive caught lobster fishery is scheduled to be banned as of June 2013. WWF suggested that a supply chain analysis could be performed at a later stage once the ban is implemented. This issue was also brought up in terms of the conch and sea cucumber industry.

Another issue raised was the issue of poor data collection, especially in Honduras and transparency within the government about licensing. It was suggested to include provisions to improve these challenges. NOAA mentioned that the FAO is conducting a Caribbean-wide lobster assessment in the next 1.5 years to obtain adequate stock assessment information.

## ***2. Update from Jimmy Andino, Spiny Lobster Initiative in Honduras***

**Fisheries Law:** According to the DIGEPESCA and OPESCA, the bill is to be presented in Congress in early 2013 for debate and approval. Mr. Andino encouraged partners to advocate for the passage of the bill.

**Diving Injuries:** Tragically two divers have died from decompression sickness in the last month. In addition, the hyperbaric chamber operated by Dr. Elmer Mejía has been permanently closed as of December 31<sup>st</sup>, 2012 due a lack of funding. Dr. Mejía had announced the closing in late September and the government requested that he continue until the end of the year.

**Transition Plan:** Central American Markets for Biodiversity (CAMBio) is developing a trust fund mechanism for the conversion of the dive fishery. Management of Aquatic Resources and Economic Alternatives (MAREA) and SLI are developing guidelines to find alternative livelihoods for boat owners and divers. A meeting with industry will be held in May in Roatan, Bay Islands, Honduras to discuss the guidelines and explain the program.



## **Spiny Lobster Fishery (LAC) Call #2**

**February 20, 2013**

The Global FISH Alliance (G-FISH) promotes sustainable fisheries and aquaculture reforms through the application of a system-wide approach that integrates governance, civil society, private sector, and environmental issues which are all essential to sustaining and improving livelihoods and biodiversity. At the 2013 Annual Meeting, G-FISH agreed to organize a monthly call for partners to update each other on activities related to the spiny lobster fishery in Latin America/Caribbean on the third Wednesday of every month at 11amEST. Partners volunteer to provide in-depth updates each month while all partners are encouraged to share updates.

### **Participants**

<b>Name</b>	<b>Organization</b>
Diane Adams	USAID
Jimmy Andino	FHI 360/G-FISH SLI
Jenny Barker	FHI 360/G-FISH
Barbara Best	USAID
Kevin Blythe	FHI 360/G-FISH
Adoni Cubas	MAREA
Larry Epstein	EDF
Wendy Goyert	WWF
Carlos Hasbun	USAID
Meghan Jeans	New England Aquarium
Mike Powers	Darden Restaurants, Inc.
Sergio Ramirez	MAREA
Augusto Rosales	MAREA
Brandon Tidwell	Darden Restaurants, Inc.
Nestor Windevoxhel	MAREA

### **Agenda:**

- Introductions
- WWF FIP Update
- Updates from G-FISH SLI
- Partner/Group Updates

#### **1. Update from Wendy Goyert - WWF Fishery Improvement Project**

The FIP Action Plan is moving ahead. The first phase of the project was completed in November. WWF has sponsored workshops to train fishermen in best practices. Additionally, WWF is working with companies to develop MOUs with industry concerning:

- Improved traps
- Number of traps deployed
- Where traps are deployed (no protected areas)
- Recording by-catch

The goal is to have MOUs signed and issued in March.

Following up on last month's question about traceability, the next step will be to begin a pilot traceability project that will distinguish between dive-caught and trap-caught lobsters. Although this is not part of the FIP, it is an effort WWF is taking on and if all goes well, the hope is to implement traceability in the next fishing season.

## ***2. Participation in International Boston Seafood Show, March 10-12, 2013***

G-FISH inquired if people are attending the Boston Seafood Show and if there are meetings to attend. In particular, G-FISH/SLI will be sponsoring industry participation from Honduras to look at sourcing and sustainability issues. Darden and New England Aquarium will be attending and NEAq could offer a space if people would like to meet.

## ***3. Update on issues from the Spiny Lobster Initiative***

Jimmy Andino reported several events happening in Honduras related to fisheries:

- The government of Honduras through Rene Gutierrez, Director of Fisheries (DIGEPESCA), issued the official government statement on the closed season for 2013 and guidelines for the commercial fisheries starting March 1, 2013 :
  - Spiny Lobster (*Panulirus argus*). March 1st -June 30, 2013. The statement only referenced the trap industry and does not mention diving caught lobster for 2013. Perception is that this is because the fishery will close although industry would still like an official statement from the government.
  - Conch (*Strombus gigas*): There is still a moratorium on the commercial fishery until the results of the research project and CITES lifts the commercial moratorium.
  - Shrimp: Closed season start March 1st for three commercial species
  - Sharks: Permanent ban doesn't allow shark to be fished in Honduras. \
  - Sea cucumber (pepino): This fishery is still under review and is part of a research project to determine the viability of the fishery.
  - Grouper, 1 species (*Ephinephelus stri*): Closed season from December 1<sup>st</sup>, 2013 - March 30, 2014.
- Industry met with the government of Honduras (Minister Regalado) where the Minister committed to supporting the closure moving forward. Industry also asked the government for more support with:
  - Reduction of the fleet
  - Better management of licenses (some boats with licenses are no longer active)
  - Better surveillance on the border with Nicaragua

Industry would also like an official government statement to industry stakeholders on the specific time for closing the fishery in 2013.

- One of the advocates in the Honduran Fisheries Department, Gabriela Pineda (former Director of Fisheries for Honduras now employed by OSPESCA for Honduras), will no longer be working with the government. That point was made to highlight that some of our biggest advocates are not working closely with the government anymore so we need to keep in close contact to make sure things stay on course in these next few months.
- SLI, MAREA, and other partners continue to work with CAMBIO on the trust fund for the transition.
- The Fourth Annual Spiny Lobster Symposium will be held in La Ceiba, Honduras in mid-May, most likely on May 16-17, 2013. It will bring together more than 100 stakeholders for training and discussion of transitioning the lobster fishery. **Partners are invited to participate and contribute to developing the agenda.**

#### **4. Activities Matrix**

MAREA convened partners to compile an activities matrix showing all of the fisheries related activities currently being conducted in Honduras. The matrix is attached to the email (in Spanish).

#### **5. Other Updates & Questions**

- G-FISH noted that they are no updates regarding the fisheries law in Honduras and requested insights from participants on the status of the fisheries law.
- MAREA (Sergio) mentioned that in the Honduras industry meeting with the government, the sea cucumber fishery research project is seen as an alternative for some boats with possibly 10 of 20 boats moving from lobster to sea cucumber.
- Barbara Best asked about the atmosphere among fishermen about the ban? MAREA (Sergio) noted that the Honduran Minister remains supportive of the ban. There has been some opposition in Nicaragua raising the question of whether Nicaragua will request an extension. However, the Nicaraguan fisheries law has passed and includes a closure of the dive fishery which will make it more difficult to request an extension or overturn the law. G-FISH/SLI noted that OSPESCA has not received an official request from either government for an extension.
- MAREA (Nestor) offered an update on their activities in Honduras including:
  - Work with CAMBIO on the trust fund and ensuring industry buy-in
  - Work with artisanal fishers group for use of improved fishing tools, etc. on the Miskito Coast
  - Work with lagoon fisheries (shrimp and snook)
  - Work with PRONEGOSIOS for financing buyers & packers

For additional information on MAREA activities reported, please contact Nestor Windevoxhel at [nwindevoxhel@mareaprogram.org](mailto:nwindevoxhel@mareaprogram.org).

- Carlos raised the question of how best to respond to social unrest and how to best support the transition process. It was agreed that any inquiries should be referred to local governments.

#### **6. The next call will be March 20<sup>th</sup> at the same time and call-in numbers.**

Please note, with daylight savings time in the U.S., some Central American participants will have the start time of 9am.



## **Spiny Lobster Fishery (LAC) Call #3**

**March 20, 2013**

The Global FISH Alliance (G-FISH) promotes sustainable fisheries and aquaculture reforms through the application of a system-wide approach that integrates governance, civil society, private sector, and environmental issues which are all essential to sustaining and improving livelihoods and biodiversity. At the 2013 Annual Meeting, G-FISH agreed to organize a monthly call for partners to update each other on activities related to the spiny lobster fishery in Latin America/Caribbean on the third Wednesday of every month at 11amEST. Partners are encouraged to share updates.

### **Participants**

<b>Name</b>	<b>Organization</b>
Diane Adams	USAID
Jimmy Andino	FHI 360/G-FISH SLI
Jenny Barker	FHI 360/G-FISH
Nadine Bartholomew	The Good Foodie
Barbara Best	USAID
Kevin Blythe	FHI 360/G-FISH
Steve Box	Center for Marine Ecology
Nancy Daves	NOAA
Carlos Hasbun	USAID
Meghan Jeans	New England Aquarium
Diana Kramer	U.S. Dept. of State
Sergio Ramirez	MAREA
Brandon Tidwell	Darden Restaurants, Inc.

### **Agenda:**

- Introductions
- CME Update
- USAID Updates on Diving Extension/ Partner/Group Reactions

#### **1. Update from Steve Box – Center for Marine Ecology**

The Center for Marine Ecology (CME), established in 2006, is assisting artisanal fishermen in their transition away from dive-caught lobster. One initiative with which they are assisting is the establishment of an exclusive use area in La Mosquitia. This would set aside 1.45 million hectares of marine areas to be locally managed, similar to the model that has been established in Belize. Thus far, a draft bill has been written with legal and technical input from several local organizations and associations and a meeting has been set for a congressional review. The pilot activities are being replicated with Garifuna communities on the Bay Islands as well.

CME also completed a census of 82 indigenous communities in La Mosquitia, which found that 3,500 people are directly employed by the lobster fishery. The average income is \$300 a month.

Additionally, CME signed an agreement to serve as technical advisors for CAMBIO to assess their investments from an environmental perspective. CAMBIO is promoting the adoption of better fisheries management through loans to fishing cooperatives. CME is looking at which metrics can be used to determine whether new methods have had an impact on the fisheries and what are achievable goals for the fisheries. The metrics will ensure loans create a sustainable environment.

Q&A Discussion:

- The census report has been well received by the government and the Ministries of Labor and Health have both expressed interest in the survey results, wanting to learn more about the socioeconomic make-up of the Miskito communities.
- Products from the exclusive use areas artisanal fishery pilot will get to the market through boats in the region that will take the product to processing plants farther north or on the islands.

## **2. *USAID Updates/Reaction to Diving Extension, Barbara Best***

Nicaragua amended its national fisheries law to allow for a two-year extension for dive-caught lobster. The Honduran government, although the SAG Minister Regalado wants to close the fishery, is finding it difficult not to go along with the extension. Neither government has made a public announcement. Mario Gonzales from OSPESCA has requested that FAO/USAID work to develop a new transition plan for the dive fishery with more concrete actions than the previous version with the creation of a technical team to develop the more practical strategy.

Carlos Hasbun had a meeting with Honduran and Nicaraguan representatives and FAO to clarify the request. The transition plan would not replace what has already been developed, but serve more as a specific timeline for phasing out diving. He also stated that due to the timing, the transition plan will necessarily mean that there is an extension of diving beyond the set date of July 1<sup>st</sup> as the plan will have a phased approach. He said it does not have to be two years to close diving but most likely would be late in 2013 or 2014 before a close. The representatives from Honduras in that meeting were Alicia Medina (WWF) and Manuel Suazo (Artisanal Fisheries Department).

Q&A Discussion:

- Concerns were expressed by several that the extension would jeopardize efforts-to-date, particularly given that a new government will likely be in place by the time the extension were to end. What reason is there to have faith now that the government will see it through? It was suggested that there needs to be a clear commitment from key government authorities in both countries before any development of an action plan. Others agreed that requesting another action plan will not necessarily address the issues and it shouldn't be seen as the "savior". Jimmy Andino restated that there is already a transition plan developed by WWF with FAO funding.
- Steve Box suggested that the issue is bigger than SAG and DIGIPESCA and that the Honduran government as a whole has the will to move ahead with the ban. He pointed to recent international meetings with CITES on the shark sanctuary/ban as proof that that

government supports conservation. Also, Nicaragua refused to participate when others in the region endorsed the shark ban at the meeting and was isolated proving that Honduras could move ahead without Nicaragua and this could be an opportunity to show leadership and be rewarded for it. Furthermore, this should not be an enormous challenge for Honduras—there are only 35 boats and 20 owners. The owners are putting pressure on SAG to continue but there is plenty of outside funding and technical assistance to support the ban and the transition. Partners could act as a support to the Honduran government and OSPESCA by helping them maintain their commitment and the regional authority's regulation to end scuba dive fishing for lobster. G-FISH/SLI added that the Miskito communities do not object to that ban, that they are ready for the transition and the opportunity is now but the lack of information and transparency from the government is difficult for communities. People are not clear on how to move forward and their future.

- Sergio Ramirez suggested that there might be a need for more data collection given the lack of historical data regarding stock assessments in Honduras.
- The point was made that market pressure can play a big role in how the government proceeds. Brandon Tidwell from Darden Restaurants indicated that they are still gathering information and examining several options but want to see the dive fishery close.

Barbara Best asked the group to consider a series of questions:

1. Should we separate Honduras and Nicaragua and what are the ramifications if we do?
2. What are the commitments necessary from Honduras?
3. Do partners have the leverage to move the process forward? What carrots or sticks can we bring?

Please feel free to send any feedback on those questions to me and/or Barbara to feed into future discussions about how to approach the extension of diving.

- 3. *The next call will be sooner depending on when we receive new information, likely in one to two weeks. The call will be at the same time and call-in numbers. An e-mail message will be sent out with the exact date.***