Sustainable Coastal Communities and Ecosystems Program (SUCCESS)

A Component of the Integrated Management of Coastal and Freshwater Systems Program (IMCAFS)

Semi-Annual Report #4

July 1 - December 31, 2006

Integrated Management of Coastal and Freshwater Systems

Leader with Associates Cooperative Agreement for Sustainable Coastal Communities and Ecosystems (SUCCESS)

Semi-Annual Report
July 1 - December 31, 2006

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A partnership between:

Coastal Resources Center
University of Rhode Island
and
United States Agency for International Development
Bureau for Economic Growth, Agriculture and Trade
Office of Natural Resource Management

***in association with*:**

University of Hawaii Hilo, Pacific Aquaculture and Coastal Resources Center
Western Indian Ocean Marine Science Association (WIOMSA)
EcoCostas
Universidad Centro America
Conservation International
The Nature Conservancy
World Wildlife Fund
The Sea Grant Network

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INTRODUCTION

Program Background

On September 30, 2004, the University of Rhode Island (URI) was awarded a Leader with Associates (LWA) Cooperative Agreement in Coastal Management, Fisheries and Aquaculture for a five-year program with core annual funding of $750,000. This is *the Sustainable Coastal Communities and Ecosystems* (SUCCESS) Program.

The Coastal Resources Center (CRC) at the URI is the Leader of this Agreement. The Pacific Aquaculture and Coastal Resources Center at the University of Hawaii (PACRC/UHH) is the sub-recipient. The Program's strategic partners are the Sea Grant Association of Universities, through the Rhode Island Sea Grant College Program; the Nature Conservancy (TNC); World Wildlife Fund (WWF); and Conservation International (CI). Regionally, partners include the Western Indian Ocean Marine Science Association (WIOMSA) based in Zanzibar, Tanzania; the Center for Ecosystem Research (CIDEA) at the University of Central America (UCA) based in Nicaragua; and EcoCostas, a nongovernmental organization (NGO) based in Ecuador.

The Program's overarching goal is to help the people of a place improve both their quality of life and their physical environment through good governance. The Program has four major components.

1. Achieving Tangible On-the-Ground Results
2. Increasing Capacity through Training Linked to On-the-Ground Activities
3. Establishing Regional Learning Networks Supported by Effective Knowledge Management
4. Applying Science to Management and Good Governance

In each region where the LWA Program operates, these components come together to make a coherent, mutually re-enforcing set of strategies. These strategies ensure that community-based demonstrations of successful natural resources governance are connected to supporting actions and policies at the provincial, national and regional scales. This integrating, cross-sectoral and multi-scaled approach has proven to be adaptable to a wide range of settings.

In addition to these four primary program elements, the Program is working to promote U.S. global leadership in integrated coastal management (ICM) by advocating internationally for sound coastal governance and a stewardship ethic within coastal ecosystems. Further, the SUCCESS Program integrates across a number of cross-cutting themes including but not limited to gender mainstreaming, health and HIV/AIDS, and Volunteers for Prosperity.

Biodiversity Conservation and the Sustainable Coastal Communities and Ecosystems (SUCCESS) Program

Coastal ecosystems contain some of the planet's most biologically productive habitat, supporting a disproportional amount of economic output per unit of area, through fisheries and other productive activities.[1] Yet, today these biodiversity-rich ecosystems are under accelerated threat. Integrated coastal management (ICM) takes a long-term view to addressing many of the root

[1] USAID. 2005. Biodiversity Conservation: A Guide for USAID Staff and Partners.

causes behind these threats and as such, the ICM-based *Sustainable Coastal Communities and Ecosystems* (SUCCESS) Program contributes to USAID biodiversity conservation goals.

The SUCCESS Program emphasis on ICM takes a different approach to biodiversity conservation compared to most conservation oriented programs, but aims to achieve similar goals[2]. First, SUCCESS works both within and outside of formally designated marine and coastal conservation areas. While managing protected areas is an important approach to achieve biodiversity conservation, many scientists have pointed out that in and of itself, this is insufficient unless areas outside of as well as surrounding protected areas are also better managed[3]. Second, SUCCESS emphasizes conservation approaches recommended by the United States Agency for International Development (USAID)[1], including sustainable use, community based and cross-sectoral approaches, linking especially to the fisheries and mariculture sectors. Third, SUCCESS operates under the premise that stakeholders in sustainable use and conservation efforts must see tangible benefits if these programs are to be effective and sustainable beyond the life of the USAID investments[4]. Therefore, livelihood and enterprise development is a feature of all interventions of the SUCCESS Program and also helps address poverty issues[5]—a key feature of communities in most of the places where this Program works. Lastly, SUCCESS incorporates many of the principles identified by USAID for effective biodiversity conservation. The SUCCESS Program: 1) is adaptive and results-oriented, 2) is highly participatory, 3) fosters sustainability, 4) builds in-country capacity, 5) incorporates learning, and 6) complements other conservation initiatives.

Following are specific examples of how the SUCCESS Program contributes to biodiversity conservation in its primary field sites.

Tanzania

The waters around Fumba village, located within the Menai Bay conservation zone on Zanzibar Island of Tanzania, are rich with a biodiversity of fishes, coral reefs, and mollusks. Here, the SUCCESS Program and its partners—including local bivalve collectors (mostly women)—are addressing the accelerating threat of a depleted bivalve population due to over-harvesting. At the root of the problem is poverty (little income to purchase other food protein); inequality (females have fewer alternative employment options than males); and local market forces (with little market for other income-generating products from Fumba, pressure on this one resource for food and income remains constant).

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[2] For a discussion of ICM and conservation see: Best, B. 2003. Conservation and Integrated Coastal Management: Looking Beyond Marine Protected Areas. p. 325-342. In: Olsen, S.B. (ed.) Crafting coastal governance in a changing world. Coastal Resources Center, University of Rhode Island. p.376.

[3] For discussion of the need to look beyond protected areas to fully achieve marine biodiversity conservation see: Allison, G.A. J. Lubchenco, and M. Carr. 1998. Marine reserves are necessary but not sufficient for marine conservation. *Ecological Applications Supplement* 8(1) S79-S92. and; Jameson, S.J. M.H. Tupper, and J.M. Ridley. 2002. Three screen doors: can marine "protected" areas be effective? *Marine Pollution Bulletin* 44: 1177-1183.

[4] For a discussion of ICM sustainability factors see: Christie, P., K. Lowry, A.T. White, E.G. Oracion, L. Sievanen, R.S. Pomeroy, R.B. Pollnac, J.M. Patlis, R.V. Eisma. 2005. Key findings from a multidisciplinary examination of integrated coastal management process sustainability. Ocean & Coastal Management 48(3-6):468-483. and; Pollnac, R.B., and R.S. Pomeroy. 2005. Factors influencing the sustainability of integrated coastal management projects in the Philippines and Indonesia. Ocean & Coastal Management 48(3-6):233–251.

[5] For a discussion of the links between poverty and biodiversity conservation see: Adams, W.M., R. Aveling, D. Brockington, B. Dickson, J. Elliot, J. Mutton, D. Roe, B. Vira and W. Wolmer. 2004. Biodiversity conservation and the eradication of poverty. Science. 306(5699):1146-1149.

The fact that women need to venture farther and farther into the ocean to collect sufficient bivalves is testament to the overharvesting of this resource. Without intervention, the natural environment will be changed, and future generations will lose a valuable food and income source. The SUCCESS Program is working to change this by introducing a zoning scheme—e.g., designating selected areas as "no-take" zones during certain periods—and by introducing half-pearl aquaculture as a more eco-friendly alternative source of food protein (oyster) and income (sale of pearls). There is already strong local commitment to implementing the zoning strategy and half-pearl culture—two interventions, which combined may raise local quality of life and help protect the biodiversity of the Menai Bay/Fumba area.

Ecuador

In Ecuador, the SUCCESS Program and local partners are tackling accelerating threats to biodiversity of the Cojimies estuary. The estuary, islands within, and adjacent shoreline are nesting grounds for several species of marine turtles. The upper watershed, a designated protected area, comprises significant amounts of primary coastal forests. In spite of this richness, the estuary's overall health suffers from human-induced conditions: 1) the collapse of lagoon shellfisheries due to overfishing; 2) the exploitation of coastal timber resources from excessive cutting and the resultant sedimentation that changes the estuary's hydrology, pulsing, and water quality; and 3) conversion of mangroves to shrimp ponds.

Poverty and a lack of governance are at the root of this situation. In a vicious cycle, poverty and a lack of recognized alternative sources for food and income have lead to the estuary's decline. That reduction in goods and services from what had been an historically highly productive ecosystem has, in turn, created even greater poverty. Add to this an absence of a governance system—a lack of laws and/or enforcement, of government support or revenues, and long term planning—and the estuary and its biodiversity finds itself at great risk. The SUCCESS Program is working to change this by introducing eco-friendly livelihoods such as a revived culture of the native fish *chame*, home gardening, and beekeeping/honey production. Perhaps even more importantly, the Program and its partners are working with the local communities to create a longer term vision for the future of their place—one that includes conserving the estuary's remaining resources and biodiversity, restoring what is possible to restore, and helping ensure the Cojimies provides food, income and biodiversity for today and tomorrow.

Nicaragua

In Nicaragua, the Estero Real estuary, its watershed, and its mangrove forests are *the* most intact coastal ecosystem in the entire Gulf of Fonseca. It is a designated RAMSAR site and areas of the watershed are included within a Nicaraguan protected area. The Program is also working in the Padre Ramos Estuary, which is designated as a reserve area by the government and co-managed by a local nongovernmental organization (NGO) under agreement with the Nicaragua government. These biodiversity-rich areas are focus sites for the SUCCESS Nicaragua Program. Here, the Program team works with local and national partners to address a growing threat to this estuary's biodiversity from: 1) poor water circulation due to sediment inflows during Hurricane Mitch and the poorly-planned shrimp pond construction; 2) poor water quality due to inflows of sewage and agrochemicals; and 3) rapid deforestation of mangrove forests (left unchecked, the remaining stands are estimated to disappear within the next decade).

The Program team is addressing two root causes of these threats to the estuary's biodiversity: 1) extreme poverty (rivaled in the Americas only by that of Haiti), and 2) market forces that result in profits going to foreign-owned shrimp ponds while local farmers cannot compete at such a scale.

Solutions include introducing tilapia farming as an alternative source of food and income, and introducing niche marketing—nationally and internationally—for the sale of local natural products such as fruits, and organically grown shrimp. Already, partners are taking a new approach—linking issues of biodiversity protection, health, environmental quality, and good management and business practices in a way never previously attempted in this area and which just may help protect the biodiversity of the Estero Real for today and generations to come.

Semi-Annual Report Overview and Summary of Accomplishments

This Semi-Annual Report covers work activities implemented from July 1 to December 31, 2006. Below is a summary of some of the more significant achievements of the overall Program to date, as well as during this reporting period. This is followed by sections of the report that list, by SUCCESS Program element, the highlights, activities, and "success" stories from this period as well as priorities for the upcoming quarter. Subsequent sections describe key management issues, challenges and constraints, a summary of highlights from Associate Awards, and overviews of other USAID-supported activities being implemented by the Leader (CRC/URI) and which are relevant to the SUCCESS Program. Contacts with USAID Missions concerning Leader and Associate Program activities are summarized as well. A summary of the Performance Management Plan (PMP) report results for the same period as mentioned above is included as Annex A.

Cumulative Program Accomplishments to Date (October 1, 2004 – December 31, 2006)

- Over US $308,000 leveraged in support of program activities
- 446 persons and 200 enterprises benefiting from equitable and sustainable natural resource based enterprises
- Individual capacity built for 561 persons, through implementation of 25 training courses, that support better ICM enabling conditions and best practices
- Four US volunteer professionals fielded in support of Program activities, with a time commitment valued at over $17,000
- Over 1,400 individuals participated in coastal resources and conservation planning meetings—49% were female, achieving a more equitable participation for this traditionally disadvantaged group
- 69% of sustainable enterprise beneficiaries are female, achieving more equitable distribution of benefits for this traditionally disadvantaged group

Selected Program Highlights in the Current Reporting Period (July 1 – December 31, 2006)

- Over US $43,000 leveraged (e.g. PMRC, SIDA, JICA, OIKOS) for activities in Tanzania, Ecuador, and Nicaragua
- 656 persons (34% women) participated in ICM-related planning meetings in the field sites
- Sixty-one enterprises and 72 new full-time jobs in excess of two weeks were created—women hold 39% of these jobs
- Two training courses were held, attended by 162 persons (53% women)
- Three publications were finalized—family gardening, *chame* cultivation and the Cojimies governance baseline
- Baseline data for monitoring changes in resource conditions (PMP indicator 2) in the Menai Bay no-take zones conducted

- The Coastal Resources Center became a member of the Volunteers for Prosperity (VfP) on-line Giving Portal and is now accepting on-line donations thru the Giving Portal. A direct link to Volunteers for Prosperity, and The Giving Portal were added to the CRC web site.

On-The-Ground Results

Tanzania

Trials of half-pearl (*mabe*) farming techniques continued in the Menai Bay conservation area. After initial failures on piloting a cage method, the floating-line method was successfully deployed in Bweleo for both edible shellfish and half-pearl farming. The redesigning and construction of three pilot milkfish ponds was completed (two in Mkuranga, one in Bagamoyo). Disappointingly, in September and October, seawater flooded both ponds at Mkuranga sweeping away all the fish. However, the Bagamoyo pond, which was stocked with 4,500 fingerlings survived the tides and the fish that are at 400 grams are expected to be harvested shortly. Seaweed farming trials in Mlingotini and Pande—using the floating-line method—continued producing seaweed and there has been no report of die-offs with higher growth rates than off-bottom methods. This seaweed farming method is highly promising as it is allowing farmers to increase production, expand potential growing areas and increase income generation. It is nearing readiness for widespread dissemination and adoption. Kondo village also began farming seaweed as this method starts to expand in Bagamoyo as well as on the Fumba peninsula.

Fumba, Bweleo and Nyamanzi villages are preparing plans for cockle management—emphasizing no-take zones that have already been identified in each community. Several meetings were conducted in each village to draft village level ordinances. Once approved, the next step is endorsement by the Menai Bay Conservation Authority. Participatory community monitoring of the conservation and fishery recruitment effects of the no-take areas has also begun with communities being trained in monitoring and collection of baseline data. Baseline surveys provide size distribution and abundance of cockles in the no-take zones, in the harvested areas, and in control sites located on remote islets that are infrequently harvested.

Villagers in Bweleo and Fumba have elected leaders for the village groups that are working on shellcraft jewelry. The Bweleo group is one step ahead, in that they have already established a bank account for their business.

Nicaragua.

The tilapia culture in shrimp pond trials made significant progress. An environmental review was completed and submitted to USAID and approval to proceed with the tilapia trials received on October 9, 2006. A training course on tilapia farming was held at the UCA-AdPesca Demonstration and Training Center at Puerto Morazan with the assistance of a technical specialist. A training manual for tilapia culture in brackish water shrimp ponds also began preparation. The University of Central America (UCA) continues to support shrimp farmers in implementing best management practices designed to prevent environmental impacts and improve production of this important export commodity.

SUCCESS Nicaragua completed feasibility studies for three of the alternative livelihoods: tilapia, bread-making and tourism. For tilapia, economic data will be collected over the first culture cycle and used to complete an economic analysis. Efforts got underway to begin tourism using an aquatic tourist trail through the mangroves of Padre Ramos and a series of short events was held to strengthen community capacity for tourism as a livelihood activity. A Spanish volunteer, Dr.

Sariego, and a team of docents from the UCA tourism department are assisting FINCAMAR members with tourism development, which includes identification of these tourist trails.

SUCCESS Nicaragua Program information, including baseline results for Padre Ramos and Puerto Morazan, are now posted on the newly created CIDEA webpage. The Program's technical manuals will also soon be posted there.

A series of short extension events and trainings on a variety of environmental topics took place in conjunction with Peace Corps Volunteers.

The Program has provided technical assistance on alternative livelihoods and business management, including the second phases of the "Entrepreneurial Vision" workshop designed to improve the business management capacity of community members.

Efforts were begun to develop a program in Outreach for Coastal Management in collaboration with a Fulbright Volunteer, who will also assist with institutional strengthening for UCA. Efforts in developing a Master's degree in Coastal Management made progress this period with assistance from Lola Herrera (URI). This Masters degree program will be one of the few in Latin America and the only such program in Central America to train professionals in coastal management. This is the main effort for ICM practitioner certification for this region.

Ecuador

EcoCostas underwent several significant personnel changes this reporting period. More on this is reported under section II, "Management Issues", of this report.

During this reporting period, the first activities linked to the planning for an estuary-wide water quality monitoring initiative (with funding from the Programa de Manejo Recursos Costeros/PMRC, Ecuador's national coastal resources agency) got underway. As well, a study to conduct an inventory of native plants with medicinal uses was completed. And, in the area of livelihoods development, the emphasis was on development of *chame*, family gardens, honey production and tourism. On much of the Ecuador coast, the native fish *chame*—which plays a key ecological role in estuaries and wetlands—is threatened. However, with financing from USAID-Ecuador in 2005 ($5,000) and from PMRC ($4,000), a *chame* culture demonstration effort is taking place, and to date has realized three partial harvests. The honey production effort has also resulted in a first harvest. The family garden efforts were partially successful—individual family gardens resulted in some production, although a community-run commercial garden was dropped in favor of individual plots. An evaluation of local resources and development of human capacity for ecotourism got underway, with priority on a tourist corridor linking three coastal villages.

EcoCostas has also been evaluating the feasibility of, and has initiated an effort to use, multi-cropping of passion fruit and cacao along with soil conservation and organic methods to restore degraded lands that were previously heavily logged. In support of alternative livelihoods, the Program had conducted intensive training, provided regular extension support, and published two new extension manuals (*chame* and family gardening).

EcoCostas and the SUCCESS Ecuador Program have been using several strategies to build a local constituency for estuary management, community development and alternative livelihoods implementation. Agreements have been signed with four local Associations (Chamanga, Bolivar, Daule and *Neuvo Milenio*), good relationships exist with the local tourist industry leaders, the

Muisne Municipality, the presidents of the Parish committees, the School Network (an NGO), and other foundations (Bread and Smiles, Ethos, InWent and TNC).

The local Promoters Group has been formed and the support gained of leaders from several local organizations. The Promoters Group has been working in awareness-raising activities, including assisting EcoCostas in liaising with the communities and collaborating on alternative livelihoods implementation. The Promoters have been working to involve communities in workshops, such as one in which the "Vision for the Estuary" was developed, as a prelude to the eventual development of an estuary management plan.

Three international volunteers sourced through EcoCostas were hosted this reporting period and cooperation with Peace Corps volunteers in the region remains strong.

Since several of the current and planned activities are taking place with an agriculture group (*Neuvo Milenio*), it became necessary to better define the relationship of the *Neuvo Milenio* lands with that of the Mache-Chindul Ecological Reserve and clarify the issue of land tenure. EcoCostas was able to assist *Neuvo Milenio* in receiving a statement from the Environment Ministry that *Neuvo Milenio* is in no way affected by any issues related to the forest reserve.

As of September 2006, EcoCostas has leveraged an additional $33,000 for the SUCCESS Ecuador Program activities.

Training and Other Extension Activities

Training

All training conducted during this semi-annual period was in support of in-country field operations. *In Tanzania*, training was conducted on how to perform an assessment of size distribution of cockles in the no-take zones, collection zones and control sites. The training involved five selected core group members for monitoring from each of the villages of Bweleo, Nyamanzi, Fumba Bondeni and Fumba Chaleni, and in total included 145 participants (60% female). *In Nicaragua,* a training course in the culture of tilapia was conducted with fishers, small shrimp farmers, shrimp cooperatives and other community members (men and women), most from the lowest income levels from Padre Ramos and Puerto Morazan.

Other Extension Assistance

In December, the SUCCESS Nicaragua Program conducted a workshop in conjunction with the Students for Free Enterprise (SIFE) on the topic of Entrepreneurial Motivation and Follow-up. *Ecuador* SUCCESS conducted two trainings this reporting period: 1) a workshop with the local promoters group for workshop in leadership and facilitation skills; and 2) a workshop with local stakeholders for planning for a tourist corridor in the north part of the Estuary.

Regional Networks and Knowledge Management

The web-based Monitoring and Evaluation System was completed and is currently in use from remote SUCCESS Program field sites. The system is now allowing secure login from sites in Ecuador, Nicaragua and Tanzania. It has collected the performance monitoring data for this recent reporting period. The monitoring and evaluation reports are now generated through this online system.

Science for Management

In Tanzania, biodiversity assessments were conducted in eight villages in Bagamoyo, Mkuranga and Menai Bay with the purpose of gathering information on threats to biodiversity and their causes, identifying which threats are of greatest priority to address, and determining which SUCCESS activities should be revised in order to better address these priority threats. In the sites, biodiversity has been threatened by a variety of human activities and failures to effectively manage the resources, as well as from natural factors. In another science-for-management effort in Tanzania, the Program is conducting a before-after-control impact analysis, led by a graduate student from the Institute of Marine Science.

In Ecuador, background research indicated a pesticide used by the shrimp industry is unlikely— as originally believed— to cause die-offs of cockles. Scientists recommended cockle samples be collected and examined for pathology effects from pesticides to rule this out as a cause in a decline in abundance. The study, however, was delayed by changes in SUCCESS Ecuador Program personnel. Meanwhile, issues arose regarding the need to prepare slides of the tissue samples in-county before shipping to the U.S. for examination by a specialist. The Program is seeking a laboratory that can prepare the slides and is it expected that one will be identified soon so the study can be initiated in early 2007. An estuary-wide water quality monitoring program funded by the PMRC was also initiated this period with the beginning of field work and receipt of a donated water quality probe from a U.S. company.

Water quality probe donated to EcoCostas for monitoring Cojimies Estuary

In Nicaragua, in July, the microbiological study of water in shellfish extraction zones began in three estuaries: Padre Ramos, Aserradores and El Realejo. Sampling will be conducted on a monthly basis for a year and samples will be analyzed for E. coli, *Salmonella* spp., and *Vibrio parahaemolyticus*. In August, a study of the presence of Hepatitis A in cockle tissues was begun (cockles are sourced from commercial collection centers along the Pacific coast). Together, these studies are designed to allow CIDEA to assess the food safety aspects of the cockles, an important food source for coastal communities and the country overall. Determining which collection sites are contaminated or safe will help guide future collection and culture efforts, and identify areas which need attention for clean up efforts. If clean collection areas can be identified, this may help cockle collectors to sell their catch at higher prices, as consumers who are concerned about shellfish safety are likely to agree to pay more for a “safe”, “healthy” product.

I. PROGRESS IN MEETING PLANNED OUTCOMES OF WORKPLAN PROGRAM ELEMENTS

A. On-The-Ground Results

Tanzania

Background

The Program is assisting local communities to improve income earnings through mariculture and is promoting improved resource management and conservation through community-based management approaches. In Fumba, Bweleo and Unguja Ukuu in the Menai Bay Conservation area in Zanzibar, the Program is assisting women shellfish farmers with improved production techniques and with managing harvests of wild stocks. Trials of half-pearl production are also underway. In Mpafu village in Mkuranga and Changwahela village in Bagamoyo, milkfish production is being piloted. In Mlingotini, Changwahela, Pande and Kondo villages in Bagamoyo district, new seaweed farming practices are being developed and farming expanded to new beneficiaries and communities. In all the mariculture sites, the Program is supporting the development of zoning schemes and other policies to ensure that sustainable mariculture practices are followed and to show how national and district-level ICM and conservation plans and policies can be linked to and implemented at the village-scale.

Report Period Accomplishments (July 1 - December 31, 2006)

Activities in Tanzania are grouped into two main categories of activities: 1) promotion of mariculture as a diversified livelihood option and 2) community-based resources management and zoning initiatives. Activities are dispersed in three sites within Tanzania: the Menai Bay Conservation Area, Bagamoyo district, and Mkuraga district.

1. Promotion of Sustainable, Low-tech, Mariculture Practices Appropriate in the East Africa Region as Diversified Livelihood Options for Coastal Communities

In all sites, baseline records and data are collected on a continuous basis in order to monitor environmental changes. The SUCCESS Tanzania Program is taking action to ensure its activities comply with the integrated coastal management (ICM), mariculture development guidelines and other government policies aimed at safeguarding the environment. Parallel economic analyses are underway to evaluate the advantages of new versus traditional methods (e.g., off-bottom method versus floating seaweed farms) and to provide a comparative assessment of profitability of the mariculture systems being promoted. Cost benefit analyses on seaweed farming and milkfish farming were begun and are due for completion in January and February 2007 respectively.

1.1 Piloting sustainable low-cost techniques for milkfish farming in East Africa

Construction of pond dikes, canals and gates for three milkfish ponds (Mkuranga-Mkadam, Mkuranga-Kirago and Bagamoyo) was completed. The ponds were fertilized with chicken manure and stocked with fingerlings. Unfortunately, the high spring tides of September and October broke through the outer perimeter dikes and flooded the ponds in Mkuranga even though the farmers had been advised in advance to reinforce those dikes. Their failure to do as advised

contributed to the losses they now face (currently, there are no fish in the ponds). However, the farmers have been advised once again to reinforce the walls in preparation for another fingerling collection period expected between December 2006 – February 2007. Due to poor cooperation with these farmers, no further assistance will be provided until dikes are repaired and the program contacted by the farmers. However, two other farmer groups with existing pond sites for milkfish farming have been identified in this district and consideration of assistance to these new groups is under consideration. Fortunately, the ponds in Bagamoyo were not flooded. The farmer here stocked 4,500 fingerlings only (Bagamoyo has a reported scarcity of local fingerlings as compared to Mkuranga). However, the milkfish now average 400 grams each in size and a harvest is expected within the next few weeks. In spite of the difficulties with the current farmers in Mkuranga, another group with existing ponds in Kisiju village has repeatedly asked for technical assistance. An initial survey of these Kisiju ponds indicates they are good locations for milkfish farming, hence this group will receive SUCCESS Program assistance in the coming months.

1.2 Conduct regional and national outreach on milkfish farming

The extension manual on milkfish farming was revised in December 2006 during the visit of E. Requintina and the final text will be completed in January 2007—as soon as harvesting results from Bagamoyo and Biyuni are compiled. This extension manual will then be printed and serve as an excellent "how to" resource for individuals wishing to venture into this livelihood, and as the basis for the extension course on milkfish farming scheduled for later in the year. There are requests from several donor projects for technical assistance and advice on milkfish farming and these groups will be targeted for the planned training event later in Year 3. However, the SUCCESS Program will first review several policy issues with the Department of Fisheries prior to a campaign to disseminate this technology more widely.

1.3 Tilapia farming

In Mfurumwambao village in Mkuranga, approximately 10,000 tilapia fingerlings were brought in from Kingolwira hatchery center in Morogoro and stocked in nine ponds in the area (in two of the ponds, the fish were selected by sex to avoid overpopulation). Unfortunately, because of drought the water became too shallow and the fish were attacked by otters. During the rainy season, the fish were again attacked, this time by crocodiles. Currently, there are few fish remaining in the ponds. In response, the Program is terminating further activities in this site. However, in spite of the difficulties and the losses suffered to date, the farmers indicate that they expect to continue farming tilapia.

1.4 Seaweed farming

The floating-line method of seaweed farming has proved successful in Mlingotini and has also been re-introduced to Pande and Kondo villages—prior attempts at this livelihood in the latter two villages had been unsuccessful —possibly because they had been using off-bottom culture methods (see success story). Pande's two plots have been harvesting seaweed continuously since July 2006. Kondo's two plots have only recently been started, after the village was provided with a boat. To date, the seaweed farming is doing well. Changwahela village was unable to farm seaweed in the past due to strong winds from July though August. However, they have now perfected a system where they harvest their seaweed just before the winds are too strong. In the process, they leave behind only the very small seedlings, which can withstand the winds. As a result of this change in approach, the village also no longer needs to purchase new seedlings—a significant cost savings. The floating method also demonstrates higher growth rates than the off-

bottom method and results in less die-off problems. The use of *dema* traps to capture siganids that forage on floating seaweed farms in Pande has been successful with an average harvest of 40 fish per spring tide period (six days) each weighing between 200 to 500 grams. This innovation has the potential for widespread dissemination once the comparative economic analysis of the two farming methods is completed. It is already in trial in Zanzibar and showing similar results. Farmers are convinced the floating-line method of farming is better than and also a good complement to the off-bottom method. It allows farmers to grow more *K. Alvarezii* variety of seaweed, which commands a much higher price than the *E. spinosum* variety. There is high potential throughout the country for expanded seaweed production and higher income generation from this new farming method.

SUCCESS working with seaweed farmers on floating seaweed plot at Mlingotini, Bagamoyo, Tanzania
(Photo credit: Aviti J. Mmochi)

1.5 Shellfish farming in Menai Bay

The floating-line system for bivalves deployed in Bweleo in April 2006 proved a better method than the method of using enclosures. The number of line plots was increased from the initial five to ten. One plot each has been introduced to Fumba Bondeni and Fumba Chaleni. The floating-lines are being used for culturing *Pinctada* as well as pearl production. Eighty large bivalves were seeded for pearl production and, to date, the mortality rate is very low (only five seeded bivalves have died). Seaweed farming on the floating-lines is also progressing well with no die-offs and high growth rates in Bweleo, similar to the Bagamoyo results.

1.6 Developing capacity for entrepreneurship of women groups

Terms of reference for a local group to provide extension assistance to the women's groups involved in shellcraft manufacture and bivalve (including half-pearl) farming was completed. Potential training/workshop delivery organizations are being evaluated. The workshop/training is scheduled for later this Program year.

2. Promoting Community-based and District-scale Resource Management and Zoning Policies

2.1 Zoning plan for seaweed farming in Mlingotini Bay

Base maps for zoning are under development.

2.2 Establishment of improved harvest practices (no-take zones) for cockles in Menai Bay

After a number of meetings, villagers in the four villages of Bweleo, Fumba Bondeni, Fumba Chaleni and Nyamanzi identified no-take areas for improved cockle management. The process was participatory and the decisions concerning closed locations, rules, penalties and management committees were made by the villagers. The Menai Bay conservation authority attended the opening orientation for the communities and is fully supportive of this effort. A draft ordinance for the no-take zones has been produced and is under discussion with the villages. The ordinances will formalize the no-take areas at the village-scale before being forwarded to the Menai Bay Conservation Authority for final endorsement and inclusion in their management plan.

Five key individuals from each village were identified to lead community monitoring efforts. These and other villagers (145 individuals, 87 female) attended training events implemented in each village on how to monitor and conduct analysis of size distribution of the cockles. After the training, these individuals then conducted the baseline assessments in the designated no-take zones, the collected areas, and control sites far from the villages—where collection is minimal.

Community monitoring of cockles using 1 sq. meter quadrat sampling method

Analysis of data with the community

Anadara cockles harvested from reef flats

2.3 Development of a zoning plan for the mangrove estuary in Mkuranga to plan orderly and environmentally appropriate milkfish farming expansion

Base maps for zoning are in progress.

3. Science for Management

3.1 The Learning Agenda
(see Science for Management section for details)

3.2 Threats Assessment
(see Science for Management section for details)

4. Certification
(see Training section for detail of activities)

5. Knowledge Management
(see Knowledge Management section for detail of activities)

Branding Strategy

All Programmatic publications, training events, outreach materials, etc. are properly branded with the USAID identity. The Program is referred to by the English name—SUCCESS or Sustainable Coastal Communities and Ecosystems - in all written documentation. In July 2006, after establishment of no-take zones, the farmers were provided with T-shirts with the USAID identity.

Tasks, Milestones, Dates, Status, Comments

Tasks still pending, completed during, or added as of December 31, 2006

Task and Milestones	Date Due	Status	Comments/Challenges/ Constraints
1. Promotion of Sustainable, Low-tech, Mariculture Practices Appropriate in the East Africa Region as Diversified Livelihood Options for Coastal Communities			
1.1 Piloting sustainable low-cost techniques for milkfish farming in East Africa			
Monitor and analyze harvest results from tilapia, milkfish, bivalves, and seaweed in all sites	Continuous	Ongoing	Floating seaweed farms show less die-off and higher growth rates; Department of Fisheries and other donor projects interested in these results; good probability for rapid diffusion of technology; need to disseminate results after economic analysis completed
In Mkuranga:			
Conduct monthly extension visits to two farmers at two pilot farms	On-going	On-going	Unfortunately ponds at Mkuranga flooded; farmers advised to reinforce walls and re-stock

Provide technical assistance on water management (visit by Edwin Requintina)	November 2006	Completed December 2006	Existing sites visited but no additional effort directed at these two farms until farmers repair dikes and restock; however, new and more promising site and group of farmers with existing ponds identified in Kisiju village; to be provided with technical assistance for revamping ponds for a "backyard style" and a "commercial" pond
In Bagamoyo:			
Conduct monthly extension visits to advise, document and assess farming practices	On-going	On-going	Currently, fish at 400 g size and ready for harvest late December 2006/early January 2007
Provide technical assistance in water management (Edwin Requintina)	November 2006	Completed December 2006	Assistance also provided to TCMP milkfish backyard ponds where fish are reaching harvestable size
Policy			
Conduct study on fry and fingerling abundance and seasonality (leveraged funds from MASMA)	On-going	On-going	Leveraged funds
Conduct assessment of fry and fingerling collection methods (Requintina TDY)	November 2006	Completed December 2006	More work needed in this area; continuing constraints in some pond production areas (Bagamoyo)
Prepare policy brief on milkfish farming (two-day working session at TCMP)	November December 2006	Delayed New completion date: March 2007	Awaiting initial trial results from pilot farms before developing policy brief for Department of Fisheries; tied to technical assistance visit of Crawford, March 2007
Produce milkfish farming economics and marketing report	April 2007		Information needed to complete seaweed economic feasibility analysis collected and report being finalized; in all cases, decision made that studies should be field-tested for production results, hence reports to be completed as production cycles for each system completed; completion of milkfish economic feasibility analysis awaiting harvesting in

			Bagamoyo (since stocking was not as anticipated, may not reflect optimum production)
1.2 Conduct regional and national outreach on milkfish farming			
Complete draft milkfish guide integrating results from the pilot fish ponds	February 2007	On-going	Nearing completion with additional editorial work in December through Requintina TDY; awaiting initial harvest results before completing
1.3 Tilapia farming			
In Mkuranga:			
Conduct meeting to decide marketing strategies	November 2006	Completed	Successful meeting on tilapia farming; plans made for this year including timeframes for preparing ponds, obtaining fingerlings, stocking, management, harvesting
Oversee harvesting and marketing	December 2006-January 2007	Terminated Loss of most crop from predation	Predation of fish by wildlife a continuing problem; activity terminated
1.4 Seaweed farming			
In Bagamoyo			
Complete comparative economic analysis of floating and off-bottom seaweed farming methods	January - February 2007	On target	Preliminary analysis promising; once analysis completed, design and implement technology dissemination strategy in collaboration with Department of Fisheries and other coastal/marine projects/donors and private sector buyers/extensionists
Produce 10 *dema* traps each for Pande, Changwahela and Kondo	Ongoing	On going	To date, traps provided only to Pande; traps for Kondo delayed to observe results at Pande; traps for Changwahela cancelled as do not practice floating-line farming method but rather the peg-and-line farming method
Assess *dema* traps to capture fish feeding on the floating-line system and conduct routine monitoring	From September 2006	On-going	Use of dema traps on fish foraging seaweed farms in Pande successful with average harvest of 40 fish per spring tide period (six days) of 200 to

			500 grams size each
In Fumba:			
Expand number of villages involved in bivalve culture in Fumba from one to four	September 2006	Completed	Three villages currently farming bivalves using floating-lines
Conduct extension visits for seaweed and shellfish farming respectively to monitor and provide technical assistance on floating-line system	On going	Ongoing	Seaweed results extremely promising; floating-line method may allow for significant increase in K. alvarezii cultivation over E. spinosum; former has much higher value and better price to farmers
1.5 Shellfish farming Menai Bay			
Pens			
Monitor mortality and growth (Nariman, Ngowo, assistant)	Ongoing	Ongoing	Mortality rate of seeded bivalves less than 7% of 80 seeded to date
Move additional pens to deeper water	October 2006	Completed	Farmers giving more time to floating-line method than pens method as former viewed as better farming method
Pearl, Shellfish, Floating Farms			
Monitor growth and mortality of edible shellfish and seaweed	On-going	On-going	
Monitor nacre production in pearl oysters	On-going	On-going	Seeded oysters showing good growth of nacre with initial harvests projected for March 2007
Conduct additional implants of pearl oysters	December 2006	Completed	80 oysters seeded; slightly below target number, but additional seeding to be continued
1.6 Developing capacity for entrepreneurship of women groups			
Develop terms of reference for entrepreneurship training/workshop (Haws)	October 2006	Completed	Training/workshop planned for later in the Year 3; several potential groups being evaluated for delivery capability
Produce and market shell handicrafts	Ongoing	On-going	Villagers currently accumulating polished shells, organizing groups and opening accounts; sales anticipated to start following completion of entrepreneurship training/extension technical assistance
Conduct extension visits	Ongoing	On-going	

2. Promoting Community-based and District-scale Resource Management and Zoning Policies			
2.1 Zoning plan for seaweed farming in Mlingotini Bay			
Complete existing use map with proposed use zones	November 2006	Delayed New completion date: January 2007	Draft base map completed; additional mapping of seaweed zones on-site needed before completion
2.2 Establishment of improved harvest practices (no-take zones) for cockles in Menai Bay			
Generate GIS map with no-take zones plotted	October 2006	Delayed New completion date: January 2007	GIS points taken; arrangements underway to input points into base maps at Institute of Marine Science (IMS)
Draft by-laws for three villages using Bagamoyo no-take by-laws as example	November 2006	Completed	
Submit by-laws and map to village councils for approval	December 2006	Delayed New completion date: January 2007	Graduate student working on activity sent abroad for one-month training course; returning December 2006, hence delay from original target completion date
2.3 Development of a zoning plan for the mangrove estuary in Mkuranga to plan orderly and environmentally appropriate milkfish farming expansion			
GIS map created	October 2006	Delayed New completion date: January 2007	Draft base map completed; additional mapping of seaweed zones on-site needed before completion
3. Science for Management			
3.1 Learning agenda			
Case studies completed for Tanzania	NA	NA	
3.2 Threats assessment			
Conduct Tanzania biodiversity threats assessment (J. Francis and A. Mmochi, with R. Volk and E. Torell)	November 2006	Completed December 2006	(see science for management section); completed pending approval of CTO

Supporting Biodiversity

The zoning plan at Fumba Peninsular is helping preserve biodiversity of shellfish despite heavy collection from the area. Zoning programs are being developed for milkfish and seaweed farming in Bagamoyo and Mkuranga. The zoning for milkfish fish farming at Mkuranga is aimed at optimum use of salt flat areas without disturbing adjacent and healthy mangrove stands. Continuous analysis of downstream effects of the fish farms will help safeguard the environment of the areas. Fish farmers have been asked to return by-catch to the ocean while collecting fingerlings. A survey was conducted in Bagamoyo, Mkuranga and Menai Bay to assess threats to biodiversity.

Priorities for Next Quarter (January 1 - March 31, 2007)

- Complete and launch policy for no-take zones in Menai Bay
- Develop zoning plans and policies for Mlingotini Bay
- Develop maps for saltpans in Mkuranga and Bagamoyo
- Improve and stock ponds in Mkuranga
- Complete economic feasibility study of seaweed farming
- Complete milkfish farming manual

Nicaragua

Background

The SUCCESS Nicaragua work is intended to benefit the communities surrounding two of the nation's major estuary systems—the Estero Real and the Padre Ramos. These communities live in extreme poverty and depend on natural resource extraction. Yet, there is a growing deterioration of these natural resources. SUCCESS Nicaragua is working with the communities to develop alternative livelihoods. The Program is also raising the communities' awareness of their environment and building their capacity to manage that environment and in the process conserve biodiversity.

Through voluntary adoption of good practices and the development of alternative livelihoods, the Program seeks to improve the community members' quality of life (i.e. food security, health, education), to diminish pressure on their natural resources, to promote economic independence through small business startups, and to create the ability to access markets. Many women in coastal communities play a leading or the sole role in providing for their families. Hence, gender equity is always a consideration in the SUCCESS Program.

1. Promotion of Sustainable, Low-tech, Mariculture Practices Appropriate in the Central American Region as Diversified Livelihood Options for Coastal Communities

1.1 Continue the implementation of best management practices (BMPs) to improve environmental sustainability, operational efficiency and to reduce production

Good Management Practices (GMPs)

The University of Central America's (UCA) extension services have been working with small-scale shrimp farmers at FINCAMAR and Agropesca for implementation of good practices in shrimp culture.

SUCCESS Nicaragua conducted eight technical assistance visits to two cooperatives (Granja Rosita and Granja Agropesca) located in Padre Ramos and which are involved with shrimp good management practices (GMPs). GMPs are designed to increase productivity of this important export commodity and lessen potential environmental impacts. Both farms/cooperative have, for some time now, been involved with CIDEA training in the Chinandega region for best management practices. In addition, the SUCCESS Program is providing regular technical assistance visits to help the cooperatives overcome *specific* issues affecting them. Most small-scale shrimp farms suffer from similar and very basic problems with production and management. For example, few maintain adequate records that allow farmers to track their production or the outcomes of changing practices. Thus, helping farmers devise record-keeping systems and organize what historic information they may have is one of the underpinnings of good management. Other topics that require attention include: changing pond construction and design details that affect the ability to manage the pond, maintaining water quality, feeding, stocking and other basic pond management practices. Farmers have been provided with water quality monitoring equipment and trained in its use. Water quality monitoring is now being implemented at the farms. This will aid farmers in overall efforts to implement best management practices.

Conducting shrimp sampling at Rosita Farm

Technical visit at the Agropesca shrimp farm

CIDEA laboratories for microbiology, water quality and pathology play a key role in assisting shrimp farmers and enabling the certification process. Dr. Robert Beine (Louisiana State University) sponsored by CLUSA visited the CIDEA laboratory to conduct an evaluation of the accredited labs in Nicaragua. CLUSA is the Cooperative League of the USA. It is is financed by USAID and is a program of the National Cooperative Business Association—the oldest national cooperative development and trade association in the United States. In partnership with Louisiana State University, CLUSA has a "training of trainers" project on food safety and thus is assisting CIDEA to build capacity for the Hazard Analysis and Critical Control Program (HACCP). HACCP is a key element of good practices for shrimp culture, certification of laboratories and farms, and for aquaculture and agricultural exports. Evaluation results indicated that the CIDEA laboratory is one of the few in the country qualified to be accredited by the National Office of Accreditation of the Ministry of Development, Industry and Commerce (MIFIC) and is the only laboratory that qualifies in the area of microbiology. The CIDEA laboratory is also used to conduct monthly monitoring of the farms and their effluents for shrimp farms certified by the GAA as part of the certification process.

Policy

UCA has been working with the Nicaraguan Association of Aquaculturists (ANDA) for many years and recently has supported its work with the government to develop a national code of practice. During the last reporting period, the code of practice was submitted to the government for its review and possible approval—which, as of this date, remains pending.

1.2 Demonstrate feasibility of growing tilapia in shrimp ponds as an alternative or supplemental crop for shrimp culture

An Environmental Review (ER) report was prepared and submitted to USAID. This ER was accepted and approval given by USAID to proceed with the work in October 2006. Steve Fondriest of USAID/Nicaragua is planning to visit the study site. The tilapia culture feasibility study was completed.

Trials were also begun during this period using six small demonstration ponds at the UCA-Adpesca facility in Puerto Morazan. Stocking at different densities has taken place. A training course was also given to 16 participants (14 men and 2 women).

1.3 Continue technical support to other forms of alternative livelihoods

1.3.1 Support the AltaGracia women's cooperative to produce and sell hammocks

As mentioned in the last report, the women's group that was assisted in making hammocks is the same group that is now making bread. The group decided to designate bread-making as the priority as it provides regular, daily income. Once this activity/livelihood is firmly established, the women plan to return to working on hammock-making—*if* the *final* version of the feasibility study, due for completion by end of December 2006, is positive.

1.3.2 Continue technical assistance to women's group producing bread

The *initial* feasibility study was completed and presented to the bread-making cooperative, Altagracia, in September 2006. Some, although not all, group members also participated in the business capacity-building events. Materials were purchased to build a covered workspace for the bread-making and transported to the community, “La Arenosa” and construction was completed prior to the start of extension visits to provide hands-on technical assistance in bread-making. CIDEA and a local expert in bread-making who runs a local bakery led the extension visits, which included five men and two women in the first visit and the two women only in the second.

1.3.3 Continue technical assistance to alternative tourism development in protected areas coastal areas

In collaboration with the UCA Tourism department and with Spanish volunteer Dr. Ignacio Sariego, CIDEA completed assessment studies on the tourism potential at FINCAMAR, market segmentation, and development of tourist products and services. As well, this team conducted a Strengths, Weaknesses, Threats, and Opportunities (SWOT) analysis.

The SUCCESS Nicaragua Program also designed a series of extension visits, which began in December 2006 and will focus on key themes such as client services, skills building of tourist

guides, food safety, language and communication, and other topics relevant to tourism development.

Other interventions related to developing tourism include: 1) developing trails and resource maps with the aid of aerial photographs—with a focus on developing the guided aquatic tourist trail through the mangroves; and 2) tourist guide training designed and delivered by trainers from the tourism school at UCA. Also, Jerry Bauer of the U.S. Forest Service and based in Puerto Rico will lead a study to identify the area's bird species as the basis for bird-watching tourism along the aquatic trail. Lastly, SUCCESS is continuing to coordinate with the National Agrarian University on identifying plant and tree species in the dry tropical forest of the Rosita Farm (part of FINCAMAR) for tourism interpretative purposes.

1.3.4 Rabbits and Iguanas

With community members, CIDEA is piloting iguana-rearing as a low-effort activity in order to assess its feasibility as an alternative livelihood and also as one way of restocking wild populations in the Padre Ramos area each May. At this time, 10 iguanas (*Ctenosaura similis*) are stocked in enclosures in ratios of five females to one male and reproduction has already occurred. However, an additional enclosure will be built in the next few months in order to separate the young and old iguanas. The Program will continue to observe this activity to assess its longer-term feasibility. The first releases of young iguanas will take place in 2007.

Rabbit is commonly hunted in the Padre Ramos area and is in demand as a food item. Three rabbit cages were built—one for holding breeders, one for holding the young, and a third one for fattening. Sources of breeder rabbits were located and quotations obtained and an initial supply of rabbits will be purchased in January 2007.

Enclosure for iguana rearing

Rabbit cages

1.4 Promoting community-based and municipality scale resource management and zoning policies

Monitoring of the Estero Real

Monthly water quality monitoring of the Estero Real continues with financing from the Association of Nicaraguan Aquaculturists (ANDA). The Program-produced GIS maps, which include physical-chemical and microbiological information from the 14 monitoring stations, and

which allow users to better understand relationships between parameters and activities such as aquaculture and agriculture.

In October 2006, the Management Plan for the Estero Real was approved by the government and put forth for public comment by the Central and Municipal Governments.

Environmental Education and Good Practices

Other extension activities that promote good practices and conservation have been coordinated with Peace Corps Volunteers. One of these volunteers, Kelly Broach, has been working with CIDEA on extension visits to El Manzano, Los Clavos and FINCAMAR. Six of these visits were to local schools and community groups on topics including: basic environmental awareness, planting trees, replanting mangroves, and managing solid wastes. Also during this reporting period, a small tree nursery was established and small mangrove areas replanted.

CIDEA also conducted 10 other outreach/extension visits to El Manzano and El Realejo—communities that depend on shrimp postlarvae fishing and shrimp farming. Because of this dependence, the visits targeted the shrimp postlarvae, shellfish and shrimp fishers**.** (El Realejo is also a site for cockle management activities). The visits addressed key environmental topics related to human activities and were designed to assist communities in implementing better practices. Visits were also made to the rural high schools—Alfonso Cortes in Puerto Morazan and Maria Auxiliadora in El Realejo—with a focus on the topics of: 1) the importance of the environment, 2) ecological and economic importance of mangroves, 3) basic shrimp biology, 4) bycatch issues and, 5) the importance of mollusks.

Technical visit to el Realejo to meet with shrimp postlarvae fishers

Environmental education at Alfonso Cortes High School. Puerto Morazán

Short events on topics such as planting mangroves held in communities of El Manzano y FINCAMAR

Institutional Agreements

CIDEA has been working to develop institutional agreements with a number of organizations to build joint institutional capacity to deliver technical assistance to SUCCESS Nicaragua Program sites. These organizations include:

SIFE (Students in Free Enterprise)

Collaboration continues with SIFE and beginning in December 2006, there will be two workshops—one on Entrepreneurial Motivation and one on Follow-up—that will be delivered in collaboration either with SIFE or another technical specialist. The target audiences will be bread-making and tourism groups.

Department of Economic and Business Sciences-Tourism Degree Program (FCYTA)

During this reporting period, the students and faculty of FCYTA presented results from the tourism studies to CIDEA personnel. In December 2006, a similar presentation will be made to members of FINCAMAR.

In October 2006, the Young Innovators Fair (INNOVA) was held during which the students involved in the tourism studies presented their work. CIDEA and the tourism faculty have had several planning meetings to develop a program for the extension visits, to define the tourist trails, and produce interpretative maps.

Municipal Government

A two-year written agreement was signed with the Municipal government to support social works in the community. Under this agreement, CIDEA will develop with the Mayor's office an area within the demonstration farm that can be used for community projects, with the objective that

Puerto Morazan fishers can become more involved with the alternative livelihoods. Also, CIDEA held several meetings with the Mayor's Office of Puerto Morazan to discuss the possibility of developing a children's food kitchen. CIDEA will work with the UCA administration to arrange for a donation of land for this purpose and to coordinate on fundraising for the effort.

*Alfonso Cortes High School (Puerto Morazan) and Maria Auxiliadora High School (El Realejo***)**
Two agreements were made with local high schools to raise awareness in coastal community youths on the topics of Creative Business, Environmental Education and Resource Management. This work is implemented with assistance from Peace Corps Volunteer Mike Miller.

Collaboration with Other Institutions

ANDA (Nicaraguan Association of Aquaculturists)
The Association provided information needed to complete the governance baseline for Puerto Morazan and its estuary.

MARENA
Communications were maintained with the Departments of Biodiversity and Protected Areas at MARENA to obtain permission for studies on cockles in the Padre Ramos protected area. MARENA requested information and coordinates for the study areas (no-take and permitted collection areas) so the Ministry could evaluate the study. In November 2006, permission was received to pursue the studies in Aserradores.

Lornica
With support from the French NGO Lornica, CIDEA was able to provide food relief to five families in Puerto Morazan. Together Lornica and CIDEA are also working to obtain medicines and a blood pressure monitor for the town's Health Clinic. At the end of November, Lornica made a donation to help fund a Christmas party for the children of Puerto Morazan, an event that has been sponsored for many years by CIDEA. The celebration will be expanded this year to include children in the communities of El Manzano and Asseradores. A second child is also being sponsored for an eye surgery in Chinandega.

1.5 Alternative forms of management for the cockle fishery in Aserradores and El Realejo

A major focus of the SUCCESS Program has been to conduct participatory research and improve management of the cockle fishery. Initially, two study sites were planned—one within and one outside of the protected area of Puerto Morazan. Permission to work within the protected area, however, was denied. Hence, this work is being conducted instead with the cockle-collecting communities in Aserradores and El Realejo in Chinandega, both of which lie outside the protected area. It is important to note, however, that community members from the protected area continue to be included in this work.

In order to have cockle collectors accept and understand the new management regime being tested, it is important that these collectors become involved in the community-based work. After initial contact with the community and the initial enthusiasm, interest began to wane. In response, the Program developed a strategy to encourage participation. This included conducting non-research activities in the community—e.g., hosting children's holiday parties, establishing a closer relationship between the extension agents and the residents, collecting data on the socioeconomic status of local families to develop a baseline study, holding community

meetings and making visits to the extraction areas, and demarcating the experimental fishing and no-take areas with the community.

The community has responded well to this strategy and its activities and has formed its own management committee and chosen the areas to be designated as "no-take" areas and cockle collecting areas.

Field work with Aserradores community members to establish alternative cockle management regime

1.5.1 Other activities related to cockle management

UCA scientists have been working to determine the minimum size at which the two commercial species of cockles should be harvested—every month since October 2005, UCA and community members have been sampling the cockles at Ballona (Padre Ramos). Additionally, work is being conducted with cockle collection centers to quantify the volumes of cockles collected, and raise awareness among collectors and buyers of the need to avoid using under-sized cockles. This work has also entailed obtaining permission from MARENA, working with the municipalities, organizations and other projects that are linked or can influence the results of the participatory research. Initial results were submitted in a report to URI in December.

1.6 Science for Management: Water quality of shellfish collection areas and microbial analysis of shellfish meats to improve public health and decision-making for cockle fisheries management

In July 2006, the microbiological study of water in shellfish extraction zones began in three estuaries: Padre Ramos, Aserradores and El Realejo. Monthly sampling will be conducted for a

year and samples analyzed for E. coli, *Salmonella* spp., and *Vibrio parahaemolyticus*—major pathogens found in contaminated waters and which can cause serious human illness or death. Their presence in water also indicates environmental degradation is occurring due to contamination with human or animal wastes.

In August 2006, the study of the presence of *Hepatitis A* in cockle tissues was begun, with cockles sourced from commercial collection centers along the Pacific coast. Together these studies allow CIDEA to assess the food safety aspects of the cockles, an important food source for coastal communities and throughout the country. Determining which collection sites are contaminated or safe, will help guide future collection and culture efforts, and identify areas which need clean-up efforts. If clean collection areas can be found, this may also help cockle collectors charge a higher price for their product as consumers are concerned about shellfish safety.

Tasks, Milestones, Dates, Status, Comments

Tasks still pending, completed during, or added as of December 31, 2006

Task	**Date Due**	**Status**	**Comments/Challenges/Constraints**
1. Promotion of sustainable, low-tech, mariculture practices appropriate in the Central American Region as diversified livelihood options for coastal communities			
1.1 Continue the implementation of best management practices (BMPs) to improve environmental sustainability, operational efficiency and to reduce production			
Continue to conduct applied research and work with communities to select bivalve species and culture systems	Continuous through January 2008	On track	First research findings submitted in June 2006 report
Best/Good Management Practices			
Conduct series of one-day, mini-extension workshops	NA	Ongoing Initially, October-December 2005 Reinitiated in April 2006, now on-track	Workshops re-initiated in April 2006 and continue on twice monthly basis
Design and implement pilot tilapia trials in shrimp ponds	September 2005	Delayed (Now on track)	Tilapia stocked in experimental ponds; trials underway
Conduct training in tilapia culture	September 2005-October 2006	Delayed Now completed	Training course delivered in July 2006

Provide technical assistance extension visits to continue implementation of BMPs (as possible within economic constraints of farms) at Rosita farm and Cristo Rey in Fincamar and Agropesca	On-going through Year 3	On-track	Extension visits made twice monthly
Provide water quality monitoring equipment and other items to shrimp farmers working to implement BMPs (costs partially supported by OIKOS)	October 2006: equipment purchase August 2007: final report	On-going	Water quality equipment (salinity, pH, dissolved oxygen and HACH kit) purchased for Rosita and Mario Carrillo farms (both in FINCAMAR) and Agropesca farm; monitoring in progress and report due August 2007
Provide technical assistance and extension support to monitor and track key parameters over the culture cycle, including production and environmental data	October 2006-onwards	On-track	Monitoring underway, final report to be submitted August 2007 with technical, economic and environmental data from the farms
Provide support to farms in securing financial support for implementation of other BMPs through meetings with donors, government agencies and financial institutions	On-going during Year 3	On-track	Profile of proposed project developed and submitted to Millennium Challenge Account representative Arlene deFranco
Policy			
Provide support to Nicaraguan government on outreach for adoption of BMPs once Code of Conduct approved at national level; hold joint meetings with other institutions promoting BMPs for awareness-raising and dissemination of BMPs to ANDA members, unions of cooperatives, and independent shrimp farmers	On-going once Code of Conduct approved by government	On-going	Code of Practice remains under review by government; once approved, summary of activities conducted in support of government and ANDA to be distributed with Code of Practice
Develop and distribute instructive calendar with information on BMPs for shrimp culture	December 2006	New date: December 2007	Code of Practice remains under review by government; calendar to be developed once code approved; hence too late for 2007 calendars; likely 2008 calendars for distribution end 2007
Print and distribute BMPs once approved by government	On-going once Code of Conduct approved by government	TBD: to be determined once Code of Practice approved by government	Code of Practice remains under review by government

Publication and distribution of the mangrove manual	October 2006	Delayed: new date for publication January 2007	Mangrove manual completed, forwarded to CRC and UHH for final review; distribution thereafter
1.2 Demonstrate feasibility of growing tilapia in shrimp ponds as an alternative or supplemental crop for shrimp culture			
Demonstrate culture of tilapia in small shrimp ponds	August 2006 - July 2007	On-track	Tilapia trials underway
Monitor critical parameters such as water quality (temperature, salinity, dissolved oxygen, pH, etc), growth rates, survival and food conversion rates	August 2006 - July 2007	On-track	Monitoring underway
Publish tilapia manual (with financial support from Japan)	December 2006	Delayed: new date January 2007	Tilapia culture manual in final draft stages; to be published January 2007; delay due to need for multiple reviews and initiation of tilapia trials
Conduct educational visits by stakeholders to learn from the demonstration and discuss options for replication	Continuous	On-track	Stakeholders visited demonstration project site
1.3 Continue technical support to other forms of alternative livelihoods			
Continue extension to support Best Management Practice efforts by FINCAMAR and Agropesca	Continuous	On-track	Extension visits conducted twice monthly, details presented in this report; technical assistance visits conducted in El Manzano, Los Clavos, Agropesca and FINCAMAR
1.3.1 Support AltaGracia women's cooperative to produce and sell hammocks			
Finalize feasibility study for hammocks and present to Altagracia Cooperative	October 2006	New date for hammocks: January 2007	Hammock-making postponed by group decision to make bread-making the priority; hammocks report delayed as result
Continue technical assistance to women's group producing bread			
Develop documentation, evaluations and business plans for alternative livelihoods and diversification of aquaculture	January 2006	Completed	Study for bread-making completed
Conduct second phase of small business workshop in coordination with SIFE	November - December 2006	Schedule based on participant progress/readiness	The third workshop held December 2006; fourth workshop slated early 2007
Conduct extension workshops and follow up to commercial bread-making	November 2006 - February 2007	On-track	Follow up workshop scheduled early 2007

Document the experience	November 2006 - March 2007	On-track	Documentation on-going
Provide assistance in record-keeping of costs and sales	On-going	On-track	Assistance being provided during extension visits
Continue technical assistance to alternative tourism development in protected areas coastal areas			
Deliver extension support services to/for development of alternative livelihoods and natural resources management		Completed	Tourism feasibility study completed by Spanish volunteer and faculty/students of the UCA tourism department; study results presented at UCA and presented December 2006 to communities
1.4 Promoting community-based and municipality-scale resource management and zoning policies			
Monitoring of Estero Real			
Conduct monthly water quality monitoring of Estero Real	On-going	On-going	GIS maps produced containing physical-chemical and microbiological information from the 14 monitoring stations; October 2006 Management Plan for the Estero Real approved by government; put forth for public comment by Central and Municipal Governments
Environmental Education and Good Practices	On-going	On Track On-going	Conducted extension visits to El Manzano, Los Clavos and FINCAMAR to local schools and community groups on basic environmental awareness, how to plant trees, how to replant mangroves, and managing solid wastes; also extension visits to communities dependent on shrimp postlarvae fishing and shrimp farming
Institutional Agreements and Collaboration	On-going	On-going	Institutional agreements and/or collaboration with *SIFE* (Students in Free Enterprise), Department of Economic and Business Sciences-Tourism Degree Program (FCYTA), students and faculty in UCA tourism department, Municipal Government, local high schools, Peace Corps, ANDA (Nicaraguan Association of Aquaculturists), MARENA, and Lornica (French NGO) – see body of report for details on each
1.5 Alternative forms of management for the cockle fishery in Aserradores and El Realejo			
Implement activities related to cockles to increase revenues	On-going	On Track	Direct work in Padre Ramos delayed pending authorization from SELVA;

		Work in Asseradores started and on-track Work in Padre Ramos suspended awaiting approval to work there	activities now initiated instead in Asseradores community with inclusion of Padre Ramos community members for learning Permission not yet granted to work in Padre Ramos; work in Aserradores on-track
Conduct capacity-building workshops to support implementation of cockle management in Padre Ramos	December 2005 - January 2006	Delayed In March 2006, activity put on indefinite hold (see right)	Direct implementation of cockle culture and management in Padre Ramos suspended until SELVA grants permission; meanwhile work re-programmed for execution in Asseradores
Map the Aserradores area showing general management area and no-take zones	October 2006	Completed	Maps sent to URI and UHH
Supply MARENA with maps of the study area to comply with prerequisites for obtaining the research permit	October 30, 2006	Completed	Map and study plan submitted to MARENA
Meet with community to establish Management Committee and agreements on the voluntary measures for management	September 2006	First meetings completed; to be continued through end of management effort	Multiple meetings held with community
Conduct sampling to determine population density in all study zones (baseline)	September 2006	Completed	Sampling completed
Conduct extension visits to the trial areas to work with the community to ensure continuation of management regime in no-take and fishing areas	December 2006 - June 2007	On-track	Extension visits conducted on regular basis
Work with cockle buyers (consolidators) to develop record- keeping system to estimate collection volumes in study area	October 2006	Delayed New date: January 2007	Visits and discussions with cockle collectors conducted; collectors agreed to work with UCA; sampling to start January 2007; delay due to long period to obtain permission from MARENA and gain acceptance from cockle consolidators
Visit cockle collectors in Maderas Negras area in Aserradores estuary to disseminate results of study	November 2006	Delayed	Delayed due to need to build community consensus; study results to be disseminated January 2007
Meet with community to evaluate results of research including discussion of results	May 2007 and September	Delayed	See above; work to be conducted in January 2007

of sampling and compliance with commitment (verbal) to adopt management system	2007		
Install sign in Aserradores that includes name of research project, its participants and its management guidelines	December 2006	Delayed: new date January 2007	Delay due to lengthy consultation period required to garner initial community acceptance of new system
Continue and finalize governance baseline for Aserradores	December 2006-February 2007	On-track	Data collection initiated
Map the Aserradores area showing general management area and no-take zones	October 2006	Completed	Submitted to UHH and URI
Other activities related to cockle management			
Continue collection of growth rate data for cockles in the established trial in Padre Ramos	October-December 2006	Completed	Final report on one-year study of growth rates for cockles submitted to UHH and URI, December 2006
Science for Management: Water quality of shellfish collection areas and microbial analysis of shellfish meats to improve public health and decision-making for cockle fisheries management			
Conduct monthly water quality monitoring	June 2006 - May 2007	On-track Re-initiated in June 2006; monitoring to be conducted for one year until July 2007	Water quality being monitored in shellfish growing areas to assess potential for future bivalve culture and evaluate sanitation of collected bivalves; microbiology of water at shellfish extraction sites and cockle tissue samples begun in three sites (Aserradores, El Realejo, and Padre Ramos)
Conduct laboratory analysis of water samples	June 2006 - May 2007	On track	PCR techniques being applied to detect the presence of Hepatitis A; next report with study results to be submitted April 2007

Priorities for Next Quarter (January 1, 2007 - March 31, 2007)

- Support tourism development with FINCAR, emphasizing aquatic tourist trail through mangrove areas
- Conduct series of extension visits to strengthen FINCAMAR's capacity to provide tourist services
- Conduct exchange visits with similar groups for breakmaking and ecotourism
- Complete hammock feasibility study
- Complete and distribute mangrove management manual to communities, government institutions and other stakeholders
- Continue tilapia trials with collection of management and growth data
- Continue work on testing alternative cockle fisheries management with Aserradores

A SUCCESS Nicaragua Story

"Overcoming Obstacles to Improving theCockle Fishery"

The Padre Ramos Estuary is one of the most important coastal areas in Nicaragua, in part due to the abundance and diversity of mollusks—specifically the two species of black cockle of economic and ecological importance. Yet, abundance of these species has declined drastically in the last few years. Hence, CIDEA looked to work with the La Bayona community to develop a better management system for the cockle. La Bayona was chosen because of its location in the Padre Ramos Protected Area, its dependence on cockles for food and income, and its record of collaborating well with CIDEA on basic and applied research for cockle biology and culture.

Unfortunately, it proved impossible to research new management methods for cockles since the Padre Ramos Protected Area is under control of a non-profit organization (NGO) subcontracted by the Ministry for the Environment and Natural Resources and this NGO has not *(yet)* granted permission for the SUCCESS Program to work in the Protected Area. Therefore, efforts were redirected to another community (Aserradores), located just outside of the Protected Area and which also depends on the extraction and sale of cockles for their sole source of livelihood.

The University approached Aserradores and presented the idea of working together to develop a better management regime for cockles. The proposed regime is based on the concept of designated areas where shellfish extraction is either 1) not allowed or 2) is allowed, but *only* with ongoing monitoring to determine if no-take zones do, in fact, enhance cockle populations. The idea was positively received and efforts were begun to build linkages with the community by conducting a baseline assessment of the social and economic structure of the community. This built the confidence and trust between the community and the extension agents.

A study was conducted to determine whether residents fully understood and accepted the concept to be tested. A number of educational and awareness-raising events also served to reinforce community support. The community now fully understands the management regime, and has even selected the no-take areas. The community has also convened a committee to oversee activities within this regime and to actively participate in meetings and extension visits. The community has even gone one step further and determined which areas will be used for re-stocking purposes and where mangroves will be protected. While final outcomes of the new management regime are not yet known, efforts to raise awareness about the need to protect the cockle populations and their habitat—mangroves—are already bearing fruit.

Ecuador

Background

The Cojimies estuary was once rich in mangrove forests. Since the mid 1980s, when the shrimp farming first arrived, however, the estuary has lost the vast majority of its mangrove forests. The traditional livelihoods of the local people center around products harvested from the estuary (e.g., bivalves and fish) that, in turn, rely heavily on the mangrove ecosystem. With the loss of mangroves and the increasing human population, the harvests of these products have declined sharply. Meanwhile, community needs have increased. SUCCESS Ecuador is working to find alternative livelihoods for these communities while creating a base of scientific information about the estuary in hopes that the problems there can be alleviated. The Program is also building the capacity of local community organizations and government to better manage their natural resources.

1. Promotion of Diversified Livelihood Options for Coastal Communities in the Cojimies Estuary to Raise Incomes and Promote More Conservation-Oriented Practices

1.1 Develop diversified mariculture technologies using indigenous species *(chame)*

Chame is a fish species that was extremely abundant in the extensive coastal wetlands that form during the rainy season. The little that is known about the ecology and biology of this species suggests that *chame* play a key role in estuarine and wetlands ecology—as it is a detritivore and plays an important function in the cleaning of the benthic habitats of wetlands and shrimp ponds. However, this species has nearly disappeared in most regions of Ecuador along with the seasonal wetlands which have been greatly reduced in size due to development and reduction in freshwater flows. Currently, an abundance of *chame* is found only in the few coastal estuaries that still have sufficient freshwater flows, such as the inland areas of the Cojimies Estuary. In such areas, *chame* are still found in the remaining freshwater wetland areas and shrimp ponds. In the case of shrimp ponds in low salinity areas, *chame* is almost always present and this has resulted in the development of a natural form of polyculture.

EcoCostas chose to work with the *Association Agroartesanal El Carmen*/AAEC (the producers of *Neuvo Milenio*), a group of local farmers living near the town of Mache, about 30 minutes south of San José de Chamanga. In November 2005, they stocked 36,000 *chame* fingerlings in their 2.6 ha converted shrimp pond. After feeding and tending their *chame* for several months, they had their first harvest on the 27th of May, 2006—a total of 1,086 pounds of *chame*, which sold for a total of US $775. The second harvest, in early August 2006, realized 1,390 pounds of *chame* and sol1,305 pounds sold for a total of US $975. The rest were distributed among the members for food. A third and final harvest at the end of November 2006 had a projected harvest of 1,000 pounds. Once the final harvest is completed, *Neuvo Milenio* will restock the ponds with *chame* and shrimp, as this is expected to be a good year for shrimp culture. The polyculture will be carefully monitored and data collected. It is thought that polyculture of the two species is advantageous as *chame* appear to help maintain water and soil quality within shrimp ponds.

Fifteen local community members—many who are involved in managing the *chame* pond at *Neuvo Milenio* or have their own individual *chame* ponds—conducted a one-day visit to La Segua near Chone. La Segua is a Ramsar site and a center of the Ecuadorian *chame* industry. Locals in

La Segua have vast experience in both farming *chame* in ponds and managing the wild *chame* stocks. So, during this visit, these members of the Cojimies communities observed several forms of *chame* culture while discussing experiences and methods used for *chame* cultivation in the La Segua area.

In mid-August, Walter Peña, the technical advisor from *Neuvo Milenio* and a member of the local promoters group, was invited to Guayaquil to share his experiences with *chame* with the EcoCostas team in greater detail. This resulted in a report entitled "*Chame* culture trials in shrimp ponds at *Neuvo Milenio*". This work is now being combined with the economic study of the *chame* trials into a comprehensive report. EcoCostas is now working to visit other *chame* culture ponds in the northern area to collect information to supplement the experiences gathered in the demonstration project. The Program has also identified a number of producers who are growing *chame* using a variety of methods and pond types and who are interested in receiving technical assistance.

This activity has caught the attention of the Program for the Management of Coastal Resources (PMRC), which has given EcoCostas $4,000 in supporting funds to finance a study to assess the viability of creating a *chame* training program at the site. The agreement specifies that EcoCostas will collect information on *chame* culture and the availability of fingerlings and adults (availability of fingerlings is recognized as a problem), and the existing conditions for culture emphasis on Muisne and Cojimies. EcoCostas is also evaluating the need for and possibility of establishing a *chame* culture training center near Cojimies. Visits were made in late November to Cojimies, Muisen, Atacames, Chone, Tosagua and San Antonio.The *chame* manual was completed, published and 250 copies distributed.

Chame from the Nuevo Milenio pond

1.2 Expand beekeeping livelihood to additional women beneficiaries

Beekeeping

Santiago Yin, a member of the Chamanga group of local cockle collectors, captured 10 wild hives near Chamanga and since June 2006 has been moving his hives between various sites within a radius of 20 kilometers around Chamanga to test how well the hives do in each site. Yin has since had the first harvest of six liters of honey. In August, the SUCCESS Program brought in a beekeeping expert (Alfredo Lajones from the Universidad Técnica Luis Vargas Torres de

Esmeraldas) to show Santiago improved methods of keeping his bees and the Program invested in improved beekeeping technology. There are three women currently working with Mr. Yin who will begin beekeeping and other interested stakeholders who have been in contact with EcoCostas as an expansion of beekeeping is being prepared for and is expected to occur in early 2007.

The beekeeping manual has been completed and the draft shared with individuals keeping bees. Final publication will be postponed until there is increased need/request for printed manuals.

Bee hives located in a forest near Chamanga

In addition to providing local small business opportunities, the beekeeping activity encourages the conservation of local forests. Bees require flowers to produce honey and Santiago and other interested stakeholders have been educated on and now understand the importance of preserving the local forests, which provide bees with the very nectar needed to produce their honey. This is especially true for the local mangrove forests, which contain some of the few trees in the area that flower throughout the year. Three women from the community group in Chamanga now assist Santiago, who is passing on to them his skills in beekeeping with the hope that these women too will soon begin keeping their own bees. There are stakeholders from the communities of Salima and *Neuvo Milenio* that have also expressed interest in honey production. This will require further training, and options for a beekeeping workshop/training in early 2007 are being evaluated.

1.3 Document impacts of backyard gardening activities and preparation of medicinal plant gardens

Gardening

Family gardening was first started in late 2005, when the winter rains started. There was mixed success in the first community where this was tried (Bolivar). Individual gardens, which were intended to produce vegetables for family consumption, did much better than a community garden that was intended to produce vegetables for sale. This was in part due simply to internal problems within the gardening group. However, the feasibility of continuing family gardens will be

Member of an EcoClub working in the garden

discussed with the communities in anticipation of the seasonal rains which arrive in December-January and are the appropriate months in which to replant.

Between July and October, the EcoClub "Guayacanes" at the Technical Agricultural High School at Chamanga, which has 20 students participating (5 males and 15 females), planted a garden, which largely produced peppers and tomatoes. The initial investment in the garden was $7 used to buy seed and fertilizer. Four thousand peppers were harvested from an area of 320 m^2. Three thousand peppers were sold for a total of $155, and the rest were consumed by the students, families and neighbors. The club then invested $6 in buying tomato seed which was planted in an area of 400 m^2. A total of 1,575 pounds of tomatoes were harvested, of which 900 were sold for $132 and the rest consumed locally. All gardening was pesticides-free. With the money earned from the gardening, the EcoClub then bought broiler chicks, chicken food, vaccines and vitamins. They were then able to produce 1,105 pounds of chicken, some of which was then sold for $995.

In total, the group has earned $783—while also producing a significant amount of vegetables and chicken for family consumption. Of these revenues, they have budgeted $85 to help a sick community member, designated $275 for graduation costs for five of the students, and allotted $150 to reinvest in the garden's continued production in 2007.

Medicinal Plants

With the help of experts Alfredo Lajones and local herbalist, Rosa America Castillo Gracia and local experts, 112 commonly used medicinal plants in the area have been identified and listed on a register. The register also records the ways in which these plants may be used to treat specific illnesses. It is important to note that the knowledge of the indigenous people who live in the Mache-Chindul Ecological Reserve is being captured as part of the process.

Two medicinal plants catalogued in the inventory study conducted: Left: *Spigelia multispica*, used as a deparasitizer, Right: *Costus* sp.

The rainy season begins in December and hopefully the family gardens will be replanted and the medicinal plants will either be integrated into the family gardens, or at least two gardens dedicated to medicinal plants are planted. The success of the Chamanga EcoClub, indicates this is a good site for working with the medicinal plants, particularly since the students are generally destined for technical jobs in agriculture.

1.4 Establish low impact eco-tourism enterprises as an income generator and to promote improved conservation ethics among local residents

Work conducted during the last period indicated the best potential for eco-tourism lies in the coastal area on the northern border of the estuary and that linking three of the coastal towns, Mompiche, Portete and Bolivar with the tourist trail offers opportunities for the three communities to derive benefits from tourism. While Mompiche already attracts surfing tourism, few other activities are offered—despite the various natural attraction in the area. This area also includes several recently formed barrier islands including Jupiter Islands, which locals wish to utilize as a tourist site. First however, land tenure issues associated with the islands must be clarified. A two-day workshop was conducted to support local promoters and other stakeholders interested in developing a tourist corridor running between the three villages. The workshop, attended by 30 individuals, helped clarify and focus some of the potential tourism activities and taught skills in group leadership and facilitation. Forthcoming may be another training/extension workshop on the skills needed to serve as a tourism guide.

Leadership Workshop with Local Promoters
A two-day workshop in leadership and facilitation skills was held for the benefit of the local promoters in the town of Mompiche. The methodology is based on the process of action-reflection in groups, with the focus on attitudinal changes and definition of individual and group commitments to on-the-ground efforts. Eighteen people participated (17% women).

Leadership workshop with local promoters

The instructor was Dr. Ana Llanos, a educational psychologist with expertise in leadership and facilitation. Observational visits were also included in the workshop—one of the sites visited was the Ramsar site in La Segua, an estuary of the Chone river in Manabi.

Workshop with Stakeholders for Development of a Tourist Corridor
On October 21, 2006, thirty individuals from the three communities that will eventually be linked by the tourist corridor (Mompiche-Portete-Bolivar) participated in a workshop held in Bolivar. A Strengths-Weaknesses-Opportunities-Threats (SWOT) analysis was conducted using rural participatory assessment techniques. The facilitator was Cesar Santana, National Coordinator of the Alumni Network of InWent.

1.5 Shrimp Best Management Practices

Shrimp culture is a major economic activity in the Cojimies area and has also had a perturbing influence on the estuary ecology and communities. Although EcoCostas is not yet formally working with shrimp best management practices, efforts are underway to liaise with the shrimp farmers to determine if an effort similar to that of CIDEA-UCA to develop and assist shrimp farmers to implement best management practices would be feasible. This is of particular importance this year as nearly 100% of the area's shrimp ponds, many of which had been previously abandoned, have been restocked in anticipation of good production due to the

influence of El Niño. EcoCostas made contact with shrimp sellers in the area—Jóse Garcia (an aquaculturalist with a degree from ESPOL) and his uncle Mr. D´Mera—who together sell about 50% of the shrimp produced in the area. Mr. Garcia was contacted through one of the promoters and participated as an instructor in one of the SUCCESS Ecuador trainings.

Meanwhile, URI specialists are scheduled to visit the Cojimies area in early 2007 to conduct a governance baseline study on shrimp culture.

2. Reforestation Strategies Using High Value Crops

2.1 *Neuvo Milenio* land issues and environmental screening and review

Passion fruit fields at Nuevo Milenio where cacao will eventually be planted as well

In Year 2 of the SUCCESS Ecuador Program, the multi-cropping of passion fruit and cacao emerged as an exciting opportunity to both improve land use and as a strategy to provide short-term and long-term livelihoods. This effort will continue it Year 3. Passion fruit is increasingly in demand in Ecuador, is easy and inexpensive to grow, and produces continuously for 36 months after the first eight months of growth. Cacao, another high value crop with consistent demand, begins to produce just at the time passion fruit production begins to decline as the vines age. Thus multi-cropping of the two is a strategy to assure both rapid and long-term economic benefits for local families. Additionally, the establishment of cacao trees in an area which was heavily logged for over 20 years is one of several measures that will be taken to restore a forest habitat. Combined with methods such as planting of ground cover crops, this will help maintain the integrity of the watershed area of the river Mache, which is a principal tributary of the Cojimies Estuary.

Initiation of this work was delayed pending resolution of issues around the *Neuvo Milenio* lands. EcoCostas helped the group obtain an official statement from the Ministry of Environment that these lands do not lie within the boundaries of the Mache-Chindul Ecological Reserve, nor are they affected by forestry laws. Other land tenure issues were also resolved, so that work with reforestation can now proceed.

3. Natural Resource Management

3.1 Build skills and capacity of local promoters

The local Promoters Group has been formed along with leaders from several local organizations. The Promoters Group has been working in awareness-raising activities, assisting EcoCostas to liaise with the communities and collaborating on the alternative livelihood implementation. The Promoters have also been working with the communities to involve them in workshops—for example, one in which the Vision for the Estuary was developed—as a prelude to the eventual development of an estuary management plan.

3.2 Environmental awareness-raising and constituency-building

EcoCostas has worked to build a local constituency for estuary management, community development and alternative livelihoods implementation using several strategies. Agreements were signed with four local Associations (Chamanga, Bolivar, Daule and *Neuvo Milenio*); and good relationships were built with local tourist industry leaders, the Muisne Municipality, the presidents of the Parish committees, the School Network (an NGO), and other foundations (Bread and Smiles, Ethos, InWent and TNC); and a group of water quality experts was formed to advise on the water quality monitoring efforts.

EcoCostas continues to support school-based EcoClubs as a means to raise awareness and impart practical skills among local youth. Eight EcoClubs have been formed in schools in Chamanga. A competition was held for the best conservation activity and the three winning schools were given maps, environmental posters, t-shirts and hats. EcoCostas, through SUCCESS and in partnership with InWent (German donor), will continue working with the EcoClubs throughout Year 3. One EcoClub was particularly successful at gardening and chicken rearing (see section 1.3 above).

3.3 Study to determine effects of pesticides on bivalves in the estuary

The cockle and other bivalve fisheries have been an economic mainstay for the fishing communities of the Cojimies Estuary. Women fishers are particularly dependent upon these species. Research in the early stages of SUCCESS indicated that bivalve populations have suffered severe declines over most of the estuary. The area near the mouth of the estuary is the only place remaining where they can be found in numbers that can justify fishing. The cause(s) of this decline are likely overfishing and habitat change, but study on these issues has been stymied due to popular belief that pesticides used by shrimp farmers are the principal culprit. Yet, background research indicates this is unlikely to be the cause. Scientists recommended that cockle samples be collected and examined for pathology effects from pesticide to prove or rule out pesticides out as a cause in a decline in abundance. This study has been further delayed by changes in SUCCESS Ecuador Program personnel. Some issues had also arisen in regards to the need to prepare slides of the tissue samples in-county before shipping to the U.S. for examination by a specialist. A laboratory is now being sought which can prepare the slides and is it expected that one will be identified by the end of the period so the study can be initiated in early 2007.

3.4 Water quality monitoring for Cojimies Estuary

An estuary-wide water quality monitoring program funded by the PMRC was initiated this period with receipt of a donated water quality probe from a U.S. company. The first field work was also conducted during which the sampling stations were chosen, marked and the first samples taken. Water quality specialist Environmental Engineer Jorge Espinoz of ESPOL is leading this work. The first samples have been analyzed for phytoplankton and zooplankton by INP (National Fisheries Institute) and the first data submitted to the PMRC. Sampling will continue on a monthly basis.

Water quality probe donated to EcoCostas for water quality monitoring of Cojimies Estuary

Branding strategy

The Program office in Chamanga has a sign with the USAID and EcoCostas logos. In the interior of the office, there are maps and educational posters displayed with SUCCESS Program logos. Two hundred and fifty copies of each of the "*Chame* Culture and Family Gardening Manuals" (with institutional logos) have been distributed to the local promoters, NGOs, Municipal governments, Parrish Committees, high schools, the School Network and local leaders. In cooperation with InWent, branded materials such as maps of the estuary and educational materials on solid waste management and climate change have been prepared and distributed in the School Network.

Branding guidelines will be adhered to for upcoming publications and materials for Year 3: water quality study, *chame* feasibility study, report on medicinal plants, report on organic agriculture for passion fruit and cacao, governance study on shrimp and maps.

Tasks, Milestones, Dates, Status, Comments

Tasks still pending, completed during, or added as of December 31, 2006

Task and Milestones	Date Due	Status	Comments/Challenges/ Constraints
Promotion of diversified livelihood options for coastal communities in the Cojimies estuary to raise incomes and promote more conservation oriented practices			
Establish Livelihood Diversification Fund for sustainability of local economic development	November 2005	Delayed	Small grants for beekeeping and *chame* production provided; establishment of wider funding base delayed due to personnel transition; new efforts targeted to start January 2007
Produce extension manuals	December 2005	Completed	*Chame* culture and gardening manuals completed; 250 copies of each distributed to stakeholders; beekeeping manual draft completed and used for training, but final publication postponed until more people are in training
1.1 Develop diversified mariculture technologies using indigenous species (*chame*)			
Livelihood diversification pilot projects	Ongoing	Ongoing	*Chame* production had three harvests; restocking, training and data collection continue
Prepare business plans with stakeholders for various livelihood alternatives	Ongoing	On-going	First phases of studies for *chame*, completed; data collection continues and each report to be updated as needed
Integrate information obtained from *Neuvo Milenio* trials into single document with economic	December 2006	Completed	Report submitted end of 2006

analysis, adding a revised business plan; post to Internet and distribute to stakeholders			
Continue to monitor and document *chame* development; evaluate production economics and price variations during the year in wetlands and ponds stocked with *chame* and shrimp	On going	On track	Data continues to be collected on *chame* production and economics
Research and document marketing channels for *chame*	On going	On track	Data continues to be collected
1.2 Expand beekeeping livelihood to additional women beneficiaries			
Livelihood diversification pilot projects	Ongoing	Ongoing	Beekeeping continues; equipment for improved processing purchased; plans underway for additional training and expansion in early 2007
Prepare business plans with stakeholders for the various livelihood alternatives	Ongoing	On-going	First phases of studies for bees completed; data collection continues and each report to be updated as needed
Improve product quality through technical assistance to use centrifuge/filters for processing	On going	Delayed	Centrifuge purchased; first use awaiting next honey harvest
1.3 Document impacts of backyard gardening activities and preparation of medicinal plant gardens			
Livelihood diversification pilot projects	Ongoing	Ongoing	Re-initiation of family gardens postponed pending rainy season (December-January) and completion of feasibility study; medicinal plant study completed; discussing introduction of plants for gardening/sales; work initiated for multi-cropping of passion fruit and cacao to generate income and reforest
Prepare business plans with stakeholders for the various livelihood alternatives	Ongoing	On-going	First phase studies of gardening and ecotourism completed; data collection continues; each report to be updated
1.4 Establish low impact eco-tourism enterprises as an income generator and to promote			

improved conservation ethics among local residents			
Prepare business plans with stakeholders for the various livelihood alternatives	December 2005 for initial projects; continuous for new participants)	On-going	First phases of studies and ecotourism completed; data collection continues and each report to be updated as needed
Conduct Participatory Rapid Appraisal (PRA) to identify SWOT for the Mompiche-Portete-Bolivar corridor	October 2006	Completed	EcoCostas ecotourism volunteer completed preliminary report; tourism specialist conducted workshop in Mompiche to complete SWOT and develop plan
Map newly formed islands and define their legal status	December 2006	Delayed	Mapping conducted in December; defining legal status to take place after holiday break at government offices
2. Reforestation strategies using high value crops **2.1 *Neuvo Milenio* land issues and environmental screening and review**			
Livelihood diversification pilot projects	Ongoing	Ongoing	Work initiated for multi-cropping of passion fruit and cacao to generate income and reforest
Prepare business plans with stakeholders for the various livelihood alternatives	Ongoing	On-going	New work initiated with passion fruit/cacao and preliminary report issued
Obtain verification from the Ministry of the Environment that *Neuvo Milenio* not part of Mache-Chindul Ecological Reserve	November 2006	Completed	Written verification obtained from Environment Ministry that *Nuevo Milenium* lands lie outside Reserve boundaries
Investigate issues of land tenure for *Neuvo Milenio*	November 2006	Completed	Land tenure issues investigated and route to complete land ownership legal process clarified
If land issues positively resolved, determine whether environmental screening needed; if so, conduct	December 2006	Completed	Activity does not involve risky activities; suggest no ER required
3. Natural Resource Management **3.1 Build skills and capacity of local promoters**			
Conduct ICM workshop to kick-off natural resources initiatives and present alternative management practices	February 2007	On-track	In planning stages
Ensure attendance for one member of local promoters group at Permaculture course	May 2007	On track	In planning stages

Black cockle management	On-going	On-going Now on-track	Preliminary report on bivalve populations and fishery completed in October 2006; to be updated and supplemented as new information collected
3.2 Environmental awareness-raising and constituency-building			
Provide continued support to EcoClubs	Through September 2007	On-track	Support continues; Clubs successful in outreach and gardening activities
Disseminate and diffuse materials produced during year	On going	On-track	Maps, posters, other outreach materials produced and distributed
Prepare a governance baseline of the site in the context of recent governance efforts at larger scales	February 2005	Completed	Completed August 2006
Secure collaborative agreements with institutions and groups	Continuous	On going	New partnerships include INIAP for cacao planting; agreements signed with four community associations; third Peace Corps application to place volunteer in SUCCESS work area
Begin development of an ICM network for coast of Ecuador	July 2006	Delayed New date: May 2007	This activity to bring together ICM and alternative livelihood practitioners funded by AVINA, but supported by SUCCESS personnel; decision to execute this activity awaiting authorization by AVINA of new funding; expect by January 2007
3.3 Study to determine the effects of pesticides on the bivalves in the estuary			
No activities scheduled for this reporting period			Planning for this activity started in first quarter Year 3 with leveraged technical, long distance support from URI bivalve pathologist; currently seeking laboratory capable of preparing tissue slides
3.4 Water quality monitoring for Cojimies Estuary			
Conduct water sampling in Cojimies Estuary	November 2006 and February 2007	Ongoing and on-track	Water quality field work initiated in November with sampling station selection, addition of personnel and procurement of equipment; first samples taken and analyzed

Priorities for Next Quarter (January 1 – March 31, 2006)

The priority activities for the third trimester are:

- Continue to monitor and document *chame* development including: production economics, variations in price during the year, various culture methods such as stocking in wetlands and polyculture with shrimp
- Research and document marketing channels for *chame*
- Support Yin and two others in internship at beekeeping facility and visit other honey projects to strengthen Yin and others' technical capacity in honey production and processing
- Award small grants to women and others who successfully complete beekeeping training to establish hives (with bees contributed by Mr. Yin)
- Conduct follow-up assessment of Year 2 gardening efforts to determine if further efforts warranted
- Prepare gardens in at least two communities with the medicinal plants
- Publish on web the register of medicinal plants
- Map newly formed islands and define legal status of these islands to determine if communities can use islands for tourism
- Form local group to work on development of ecotourism options
- Identify and describe nature trails
- Develop passion fruit and cacao cultivation areas and monitor results
- Support two visits by agriculture specialist to teach and monitor use of organic cultivation methods
- Support two visits by agriculture specialist to teach and monitor use of soil conservation practices
- Conduct ICM workshop to kick-off natural resources initiatives and present alternative management practices; complete biodiversity threats assessment
- Visit of URI team to complete governance case study for the shrimp industry
- Conduct initial workshop for shrimp farmers on good management practices
- Conduct study on pesticides effects on bivalves in estuary
- Conduct analysis of samples
- Conduct water sampling in Cojimies Estuary, begin data analysis and draft preliminary report

A SUCCESS Ecuador Story

"EcoClub of Chamanga High School Achievements"

In April 15, 2005, Alfredo Plaza, a graduate in forestry from the Technical University "Luis Vargas Torres" in Esmeraldas, arrived to work as a teacher at the Agricultural High School of Chamanga. He made contact with the EcoCostas Program office in Chamanga with the idea of forming an EcoClub at the school. This club now has twenty student members (5 males and 15 females) and focuses on conservation and development. The club is called the "Guayacanes"—taking its name from the beautiful, flowering Golden Trumpet tree.

The first activity was to organize a clean-up campaign for the town in coordination with the Parish Committee. The clean-up took place every 15 days for the following three months. The second activity was to start a very small garden at the school with medicinal plants and vegetables. The group enthusiastically planted tomatoes and peppers, made a small nursery for ornamental plants and forest trees, and learned to grow broiler chickens.

The garden measures 16 x 20 meters, and cost US $13 to plant with pepper and tomato seeds. The harvest was abundant and the club harvested 20 sacks of peppers—distributing five sacks locally and selling 15 sacks for US $155. The club also harvested 35 sacks of tomatoes—distributing 15 sacks locally and selling 15 for US $132.50. With the profits from these harvests, the club bought broiler chicks, feed, vaccines and vitamins. Their production costs for the chickens was US $511.50. They sold 197 chickens each weighing approximately 5.5 pounds each for $0.90 per pound for total sales revenues of US $ $995.15. The chickens were distributed or sold in Chamanga to stores, restaurants and at the college snack bar.

Not only was this a good learning experience for the students, it also served to demonstrate to the community that with few resources and a little land, a significant income could be produced through gardening and chicken-rearing. The vegetables and chickens also provided local residents with some healthy, locally produced food.

B. Training

Task B.1 Development of a capacity-building strategy and implementation of courses prioritizing needs of on-the-ground field site participants

In -Country Training

All training this in this reporting period was targeted at participants from SUCCESS on-the-ground field sites and supporting institutions. These events are summarized below:

Tanzania

One training only was completed in Tanzania during this reporting period. Its focus was on how to conduct assessments of size distribution of cockles in the no-take zones, collection zones and control sites. The training involved five selected villagers from Bweleo, Nyamanzi, Fumba Bondeni and Fumba Chaleni plus many others for a total of 145 participants (87 female).

Nicaragua

In Puerto Morazan, SUCCESS Nicaragua conducted a training course on the "Management of Tilapia Culture" from July 31- August 4, 2006. The audience was fishers, small shrimp farmers, cooperatives and other stakeholder from varying socioeconomic and educational backgrounds. Sixteen participants attended (two women and 14 men).

The course curriculum included:

- Tilapia biology
- Production infrastructure
- Different production levels
- Management of tilapia culture
- Integration of tilapia culture in shrimp ponds

It was expected this course would help participants understand alternatives to traditional forms of shrimp culture. These are alternatives that can be conducted with the same infrastructure as already is in place for shrimp, that have low production costs, that involve a hardy and readily reared species (tilapia), and that have high consumer demand. Hands-on experience during the course included stocking methods, fingerling sexing and species identification. As follow-up, monthly meetings are scheduled to be held on the UCA-AdPesca farm over the course of the first production cycle.

Certification

Latin America

In Nicaragua, the CIDEA team in coordination with the UCA School of Sciences, Technology and Environment has been working to develop a Masters Degree program in Coastal Management. Stephen Olsen and Lola Herrera of the CRC/URI team have also been providing technical assistance, with Ms. Herrera visiting UCA in November. At this time, the first curriculum for the program has been drafted and submitted to the Dean of the Department of Sciences, Technology, and Environment (FCYTA) for review and discussion with the UCA

administrative authorities. The final version curriculum is scheduled for completion in early 2007. At that time, efforts to raise the funds necessary to implement the degree program will be initiated. The strategy is that while this curriculum could be part of a broader masters degree, core elements of it would also serve as modules within a series that would lead to a certificate/certification program for non-matriculating individuals.

East Africa

Under the leadership of WIOMSA, the SUCCESS Leader Award's program partner in Tanzania, and in collaboration with the CRC/UHH SUCCESS team, the concept of a coastal management-related certification is taking a slightly different tact in East Africa than in Latin America. Based on potential practitioner, client, and donor input, it became evident the interest/need is in a program that is less broadly and more narrowly defined. That is, it should be focused on certifying those who wish to enter or remain in a specific professional position within the broader coastal management arena. In this case, the decision was on developing a certification program for Marine Protected Area managers, of which there are already many in the region but for which there are neither established professional standards nor recognition of when/if an individual has/can successfully met those standards.

As such, during this reporting period the SUCCESS Deputy Director for Capacity Building, Communications and Administration has worked closely with WIOMSA on a revised framework for such a program and its curriculum. Dr. Francis, WIOMSA's Executive Secretary has shared the rationale and early framework for this program with a number of potentially interested clients, supporters, and donors in the region and has received good feedback, comments, and questions. Based on this positive reception, WIOMSA will host a two-day workshop in Mombasa, Kenya in late February 2007 to which decision makers and donors from around region will be invited to discuss in further detail and to help refine the concept, the proposed mechanism, and curriculum and to possibly commit to supporting programmatically and/or financially such a program.

Tasks, Milestones, Dates, Status, Comments

Tasks still pending, completed during, or added as of December 31, 2006

Task and Milestones	Date Due	Status	Comments/Challenges/ Constraints
Task B.1: Capacity Building/National and Regional Training			
Ecuador			
No regional courses planned Year 3			
Nicaragua			
No regional courses planned for Year 3			
Tanzania			
No activities this quarter			
Elsewhere			
Conduct module as part of Organization for Tropical Studies (OTS) course on watershed management	February 2007	Newly added activity On Target	Agreement signed with OTS; Olsen providing one-day module on SUCCESS and Fresh Water to

			Estuary work; two scholarships open to SUCCESS or other project partners
Task B.2 Certification			
East Africa			
Contact potential partners to socialize certification concept	October 2006-February 2007	On Target	Drafts of concept and curriculum for MPA Manager certification circulated in region; verbal discussions on same indicate serious interest
Develop February 2007 meeting agenda and planning for	January 2007	On Target	Preliminary communications between WIOMSA and CRC and draft agenda underway
Develop an implementation plan prior to meeting for certification	December 2007	Delayed: New date January 2007	
Implement meeting with partners and participants from Mozambique Kenya, Tanzania and South Africa, Madagascar, Seychelles	February 2007	On Target	Invitation letter and list drafted, mailing early January 2007
Start initial implementation activities	March 2007		
Finalize concept paper for certification with the East Africa strategy included	June 2007		
Latin America			
Assemble and organize curriculum materials for both certification courses and the ICM Masters degree to be offered by the University of Central America.	October 2006	On-going	Draft curriculum awaiting approval from Dean of Dept of Sciences, Technology and Environment
Develop at least one module for the UCA Masters program	November 2006	Completed	Also awaiting above approval
Continue working with members of CRC/EcoCostas regional network to assess interest in the certification program and strengthening of related university curricula	On-going		
Finalize certification concept paper including the full description of standards and requirements	March 2007		
B.3 Dissemination of Extension Materials			
With partners, develop overarching communications and dissemination strategy for SUCCESS materials	February 2007	On Target	First draft next quarter

Identify listserves and other distribution lists to which SUCCESS can announce availability of these documents	December 2006 then on-going	On Target, on-going	First such vehicles made public in December 2006 through IMCAFS, SUCCESS websites and *Basins and Coasts* Newsletter
Post selected training materials on CRC theme-based knowledge management web system	December 2006 then on-going	Delayed	Pending appropriate development of KM system; selected sessions/modules may, however, now be posted on SUCCESS website
Distribute at Summer Institute and other SUCCESS and non-SUCCESS partner training courses	March 2007 then on-going	On Target	Being shared/disseminated as appropriate at field-based and CRC/UHH based training courses

Priorities for Next Quarter (January 1 – March 31, 2007)

- Coordinate overall activities and progress made by region-specific teams working on certification as outlined in above table*
- Continue to refine and update mechanisms for SUCCESS communications products *(this priority spans Training, KM, and overall Project Management)*
  - SUCCESS website
  - Elements to SUCCESS portion of IMCAFS website
  - Electronic IMCAFS newsletter
  - Project briefs, case studies, success stories
- Ensure OTS course module well represents the SUCCESS Program and FW2E approaches to encourage further collaboration with OTS and others

* Note: The Thailand Associate Award Program is also interested in a masters/certification program in coastal management. Hence, the SUCCESS Leader Award Program is working closely with this program as well to ensure the wealth of knowledge, successes, and challenges in developing such an initiative are shared across all players and each effort learns from the others.

C. Regional Networks and Knowledge Management

Background

The CRC SUCCESS Program is partnering with EcoCostas to assemble a Knowledge Management System (KMS) that will serve a network of Latin American projects from the Gulf of California in Mexico to Patagonia in Argentina. This network, the EcoCostas-CRC Network (ECCNet), has been funded through a grant from the AVINA Foundation. There is a geographical overlap in the region with the SUCCESS field sites in Ecuador and Nicaragua and this overlap allows significant room for cross-portfolio development of an information system and KMS. Development of the ECCNet KMS focused on gathering a set of information on the people, places, projects (and generations of governance initiatives) in Latin America. While place and project profile information is collected and stored in the data system and designs have been completed for storing information about the trajectory of change in ecosystem governance at these sites, that portion of the KMS has not been completed.

Report Period Accomplishments

Task C.1 Development of a web-based knowledge management system Latin America

The AVINA Foundation funding to construct and implement a regional KMS was not continued during this reporting period. A meeting between Avina and EcoCostas partners in September 2006 expressed a desire to continue the ECCNET through a series of regional meetings and workshops. A follow-on proposal to Avina is pending which would allow the KMS to "go live" in order for members of the ECCNET to input data on the place and project profiles where they are working. This proposal, if funded, will allow engineering of the web-based data system to collect this information remotely from sites throughout the ECCNET and store the information at CRC. Simultaneously, this information would be collected for the SUCCESS field sites in Ecuador and Nicaragua. Additional engineering on the governance baselining modules would not be funded through this proposal and will require additional external funding.

Task C.2 Development of a web-based knowledge management system, East Africa

WIOMSA is considering hosting an effort to build a web forum for mariculture activities in the East Africa region. It would provide for a moderated discussion on mariculture and would be organized around specific topics relevant to the CRC and SUCCESS approach. CRC will assist with this system as it develops and work to integrate the system into CRC initiatives on the mariculture theme.

A large collection of the existing CRC repertoire on mariculture efforts has been gathered and can contribute to both the WIOMSA site and the CRC theme-based site. CRC has developed a section of its website as a KMS for delivery of Cross-portfolio Learning Topics (CPLT). This system has been used currently to contain information linking coastal and freshwater resource management. Information supporting the East Africa (EA) mariculture KMS development has been gathered at CRC on three topics of interest to this effort. The three CPLT sections that will be developed at CRC are: General Approaches to Addressing Mariculture as an Element of Integrated Coastal Management Programs, Managing Pond-Based Mariculture Systems in the Coast (Shrimp and Fish), and Managing Open-Water Mariculture Systems in the Coast and Oceans (Seaweed and Mollusks). The structure of these three CPLTs has been worked through and content has been collated for entry into the KMS at CRC supporting the EA mariculture efforts.

Task C.3 KM Support to other SUCCESS Activities

The SUCCESS Monitoring and Evaluation System (MandE) has been completed and is now implemented for the reporting of monitoring and evaluation data from all the SUCCESS Program field sites. Field partners can now securely login to the MandE system from their sites and enter data into forms for indicators spanning the complete range of intermediate results (IRs) in the Program's performance monitoring plan (PMP). Information within the system is backed up with evidence files submitted remotely by the field sites to provide an auditable collection of information. Reports from the system can now be generated as needed for any location, person submitting data, or reporting period.

Task C.4 Disseminating the SUCCESS Experience

SUCCESS has partnered with the Global Water for Sustainability Program (GLOWS) to produce and distribute a periodic newsletter containing articles of interest to the broader realm of the Integrated Management of Coastal and Freshwater Systems (IMCAFS). As the 'umbrella' program encompassing both SUCCESS and GLOWS, IMCAFS will host the newsletter on a new website at http://www.imcafs.org/ that contains descriptive information on the Program and pointers to the GLOWS website, a new SUCCESS website and the IMCAFS Program newsletter *Basins and Coasts.*

Construction of the first edition of the Basins and Coasts newsletter has been completed with five articles written by SUCCESS and GLOWS team members on the theme topic of Environmental Flows. This first issue was launched in December 2006. The newsletter will be issued three times annually, with each issue focused on a different theme of import to the practice of coastal management and ecosystem governance. While the inaugural issue featured largely GLOWS and SUCCESS experience and cases, future issues will include a good balance of articles by/about others/other projects and non-IMCAFS initiatives focused on the theme of that newsletter. The platform for delivery of this newsletter is the newly constructed website for IMCAFS which also was launched in December 2006. The IMCAFS website contains information on the IMCAFS Program's project sites, training initiatives and contact information.

Tasks, Milestones, Dates, Status, Comments

Tasks still pending, completed during, or added as of December 30, 2006

Task and Milestones	Date Due	Status	Comments/Challenges/ Constraints
Task C.1: Development of a web-based knowledge management system (in LA)			
Expand the KM system to include monitoring of selected on-going activities conducted by network members as a common monitoring and evaluation process	April - September 2006	Indefinitely postponed awaiting final decision from Avina re leveraged funding	Activity was predicated on funding from Avina which to date has not been forthcoming
Task C.2: Preparation for development of web-based knowledge management system (EA)			
Prepare templates for assembling data and conducting analysis of mariculture initiatives region	September 2006	Delayed to second half 2007	Delayed as priority provided for threats assessment work

Produce theme-based KM section on Mariculture	December 2006	Delayed New target May 2007	Additional effort devoted to *Basins and Coasts* newsletter delayed launch of web-based content site; information structure completed but content pending
Task C.3: KM support to other SUCCESS activities			
Complete PMP web-based database system	December 2005	Completed	Completed and operational, now being used remotely with secure access enabled
Task C.4 Disseminating the SUCCESS Experience			
SUCCESS and IMCAFS Websites	November 2006	Completed	Websites for both IMCAFS and SUCCESS built and launched
IMCAFS Electronic Newsletter	December 2006	Completed	Issue #1 of IMCAFS newsletter, *Basins and Coasts* launched

Priorities for Next Quarter (January 1 to Jun 30, 2007)

- Build additional reporting capabilities into Monitoring and Evaluation online reporting system
- Collaborate with WIOMSA on development of online systems to track mariculture activities in the Western Indian Ocean region
- Complete content evaluation and load information on mariculture cross-portfolio learning topics into the theme-based KMS at CRC
- Launch a second issue of the IMCAFS *Basins and Coasts* newsletter
- Continue refinement and updating of SUCCESS and IMCAFS websites
- Provide training to SUCCESS staff in 508 compliance

D. Science for Management

Background

SUCCESS science for management includes two sub-components: 1) cross-project learning and, 2) site-level science for management. This work is linked closely to the knowledge management activities and the monitoring and evaluation components. The cross-portfolio learning component has two tracks. There is the Integrated Management of Coastal and Fresh Water Systems (IMCAFS) learning component, which involves both the SUCCESS and Global Water for Sustainability (GLOWS) Programs. Also, there is the SUCCESS learning component. In December 2005, it was decided that the SUCCESS-specific learning components would continue to focus on a microenterprise learning agenda. The goal is to measure, understand, and analyze what leads to successful livelihoods in different contexts. Two general research questions form the basis of an impact assessment that will be conducted in each of the SUCCESS field sites, including Thailand:

1. "To what extent have microenterprises produced tangible benefits that contribute to improved ICM?"

2. "What are the attributes of support efforts (service delivery type, type of enterprise and entrepreneurs, local contextual factors) that influence successful microenterprise activities?"

Cross-Cutting

From a list of potential themes and questions that lay in the nexus between ICM and integrated water resources management (IWRM), the CRC SUCCESS team volunteered to explore the question: "*How is valuation of coastal, marine, estuarine systems being used to influence upstream management decisions?"* During this reporting period, CRC presented a study on this topic at the July 2006 partners' meeting in Miami. At this meeting, the IMCAFS partners agreed not to continue pursuing this question, but instead to focus on trying to find a field site where both SUCCESS and GLOWS can collaborate on these cross-cutting topics. Although this topic/question had not been a specific element of either the SUCCESS or GLOWS Programs, it is now a timely question to be researching as CRC and Florida International University (FIU) are establishing a Global Development Alliance-funded project that lies in the nexus between ICM and IWRM. The new project will support Tanzania's new water governance strategy and will improve community access to sustainable safe water, provide sanitation services to local communities in need, and promote sustainable management of watershed and water resources in the country's two most important basins—the Wami-Ruvi and Pangani River Basins.

A research concept paper for the microenterprise learning agenda was drafted during the second half of 2006. This paper provided a basis for developing a qualitative case study of the current microenterprise and microcredit initiatives that are managed through the SUCCESS, SUCCESS Tanzania, and PEACE projects in Tanzania. Field interviews with beneficiaries and the microcredit institution, FINCA, were undertaken in October 2006 and a case study is being drafted. The study will provide a basis for a more thorough quantitative survey of the microenterprise impacts, which will be undertaken in Thailand and Tanzania during the first half of 2007. In Latin America, where the microenterprise components are less far along, efforts will be limited to conducting qualitative cases studies only. A research plan for the quantitative component of the microenterprise learning agenda was also drafted and field work in Tanzania and Thailand will commence in the first half of 2007.

A second component of the SUCCESS learning agenda is to conduct biodiversity threats assessments for each of the SUCCESS field sites. Working with partners in the field, the assessments will identify existing and anticipated direct and indirect threats to biodiversity in each site and current biodiversity conservation efforts that are addressing these threats. This information will be used to recommend conservation goals and targets related to the priority threats, suggest investments/activities to fill gaps, and address the priority threats, and if necessary, recommend adaptations to the current SUCCESS goals and activities in each site.

During this reporting period, a draft biodiversity threats assessment for Tanzania was completed. The assessment was based on a literature review of existing articles and reports as well as interviews conducted with district extension staff, village environmental committees, and other resource user groups in Bagamoyo, Fumba, and Mkuranga. The study was conducted in eight villages in Bagamoyo, Mkuranga and Menai Bay with the goal of gathering information on threats to biodiversity and their causes, and identifying the threats of greatest priority. The results of that assessment would inform the SUCCESS Program on if/how its activities might need to be revised in order to better address these priority threats. The assessment also helped identify key players and projects in biodiversity conservation that are active in the study areas. The methods used in the assessment were focus group discussions, key informant interviews and a literature review of the legal aspects of marine and coastal biodiversity management. In the study sites, biodiversity has been reported to be threatened by a variety of human activities and failures to effectively manage the resources as well as some natural factors. Fumba was found to be the least threatened, probably because it is in the Menai Bay conservation area. The main threats were trawling (Bagamoyo and Mkuranga), mangrove cutting (Bagamoyo), destructive fishing practices (Bagamoyo, Mkuranga and Fumba) and crown of thorns infestation (Fumba). In Bagamoyo one key threat is the continued selling of beach areas to hoteliers and other investors who frequently clear mangroves in front of the hotel shorefront, often leading to increased erosion as well as loss of mangrove habitat. The study also revealed that the SUCCESS Program activities address many of these threats and contribute to conserving biological diversity in the sites.

A third SUCCESS learning component is to revisit the governance baselines for Ecuador and Nicaragua. Although the baselines were completed for all sites in Year 2, these baselines fall short of serving as models. For the purpose of advancing the SUCCESS Program's governance learning agenda and creating model baselines that could be used to showcase the method, the decision was made to revise the Ecuador baseline and one of the Nicaragua baselines (Estero Real). The Estero Real baseline is completed and the Cojimies baseline is planned for the first quarter of 2007.

Site-Specific

Ecuador. In the Cojimies estuary of Ecuador, cockle gatherers complain that pesticides used by shrimp farmers have resulted in die-offs and low abundance of cockles. Alternative hypotheses have been that El Nino is changing substrate conditions, and/or that the decline is due to over-harvesting. To rule out pesticides as the culprit and convince harvesters to take more responsibility for declining harvests, discussions are underway with scientists concerning applied research to answer this question. The pesticide in question (Lambda cyhalotrin) could be a possible cause of mortality of adults in the substrate and/or of larvae residing temporarily in the water column. Rather than sampling for the chemical itself in the substrate or water column, experts have advised taking samples of cockles from suspect areas and looking for pathological signs in the organisms themselves. Although some delay was encountered in initiating the work due to the transition of EcoCostas SUCCESS Program personnel, the team is now working to determine how best to prepare the moll scan tissue slide in-country since whole tissues are

problematic to ship to the U.S. Once a laboratory is found that can process the tissues, sampling will begin.

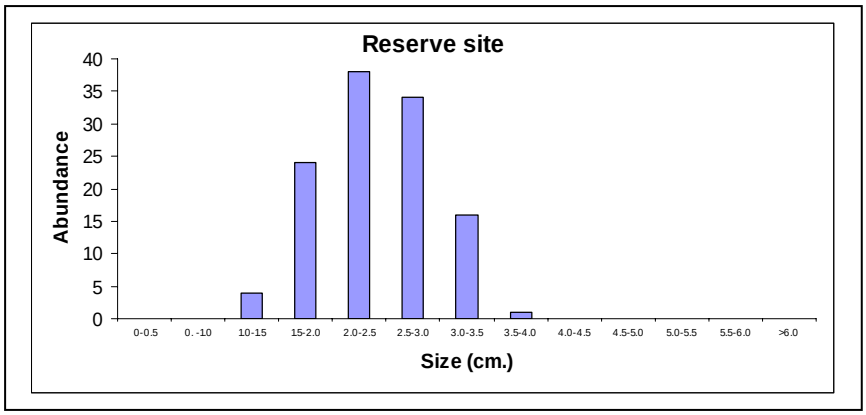
EcoCostas also initiated a estuary-wide water quality monitoring effort to establish a baseline. This work is being funded by the PMRC, representing leveraged resources of $30,500 for the Ecuador SUCCESS Program. A water quality probe was donated by an U.S. company and a scientist from ESPOL is leading the effort. The first field work to identify and locate sampling stations took place in November.

Nicaragua. In Nicaragua, the black cockle is a species with great economic and ecological value, but also one that is threatened by fishing and habitat loss. Unfortunately, there is little scientific information for MARENA to use in formulating management regimes or for purposes of guaranteeing that this widely consumed shellfish is safe for consumption.

Currently CIDEA is working on two aspects of cockle management: 1) cockle fisheries management; 2) researching the microbiological aspects of food safety for cockles; and 3) researching growth rates to determine optimal minimum harvest size. The latter involves working with commercial collection centers where fishers sell their cockles and where these are consolidated for local and national sale. Data on the number and size of cockles is collected in coordination with other institutions and stakeholders, thus helping to raise awareness about fisheries issues.

Tanzania. In Tanzania, the use of Fiji-style no-take areas is being developed in the Menai Bay conservation area as an approach to address declining harvests of cockles. An Institute of Marine Science (IMS) graduate student is assisting with the community development process and will also undertake a thesis research project linked to bio-physical monitoring of cockle abundance both inside and outside the no-take areas designated. The student is using a before-after -control impact(BACI) analysis to assess conservation performance of the no-take areas. This is participatory action research linked to the community-based monitoring.

Furthermore, a separate study that is not funded by SUCCESS is also assessing the environmental quality of the bivalve culture sites.



Example of length frequency data of cockle abundance collected for participatory action research in Menai Bay Conservation Area

Environmental quality of the milkfish pond sites is being monitored on an on-going basis. Samples are being collected quarterly in the ponds and the downstream of the ponds and analyzed for nutrients and organic matter content, oxygen, salinity, temperature and pH.

A separate study funded by SIDA ($6,000) is evaluating milkfish fry and fingerling seasonality and abundance in several mainland areas where milkfish farming is viable. This study is also investigating the best gears for collection of fingerlings with least disturbance to the environment and catch composition of milkfish as well as other species caught by these gears.

Tasks, Milestones, Dates, Status, Comments

Tasks still pending, completed during, or added as of December 31st, 2006

Task and Milestones	Date Due	Status	Comments/Challenges/ Constraints
Refined learning agenda complete	November 2005	Completed (But, ongoing)	Two learning agendas—one for IMCAFS, one for SUCCESS listed as complete because topics and questions have been selected; however, this is on-going task as efforts continue with designing data collection instruments, etc.
Tanzania biodiversity threats assessment conducted	November 2006	Completed	Field work undertaken in October 2006, draft report completed December
Tanzania microenterprise case study completed	December 2006	In Progress: New completion date: January 2007	Case study drafted, near final form

Priorities for Next Quarter (January 1 - March 31, 2007)

- Complete Tanzania microenterprise case study
- Prepare for microenterprise surveys in Tanzania and Thailand
- Complete Nicaragua and Ecuador threats assessments
- Revise Ecuador governance baseline

E. Global Leadership

Global Leadership activities in ICM are conducted by senior staff at the Coastal Resources Center (CRC) and are largely matching contributions to the SUCCESS Program. Activities this reporting period are described below.

Conferences and Committees

The CRC's Director, Stephen Olsen, contributes substantial match time to the SUCCESS Program for global leadership activities. During this period he attended three meetings of the National Academies of Science (NAS) Committee on International Capacity-building for the Protection and Sustainable Use of Oceans and Coasts. Olsen is the lead author of two chapters of the report, a complete draft of which should be compiled in early 2007. This NAS committee is developing findings and recommendations that draw from, and will enrich, the SUCCESS and GLOWS efforts in training, education and certification of professionals.

In his capacity as leader of the Land Ocean Interface in the Coastal Zone (LOICZ) working group on Topic 3, Olsen organized an initial workshop in November 30 through December 2 to address the Topic 3 question: "*How can comparative analysis inform the improvement of the governance of human activities in changing coastal ecosystems?"* The workshop produced a draft for a five-year program that will result in the preparation and analysis of case studies of coastal ecosystem governance in all world regions. This work complements the regional networks of practitioners that are an important element of the SUCCESS Program.

Olsen also participated in the Ministerial session hosted by the Global Program of Action (GPA) in Beijing, China in October 2006. He also contributed to a presentation on the USAID-TNC-CRC work on freshwater flows to estuaries at the Woodrow Wilson Center Held on December 7, 2006 which was also web cast. The SUCCESS Program Director, Brian Crawford, attended the 3rd International Symposium on Marine Ecosystem Management held in Cozumel, Mexico on November 16-20, 2006. Crawford co-chaired the enforcement and investigation session and co-drafted the enforcement sections of the final Action Statement.

Publications

During this past six-month period three important and mutually supporting publications were printed and distributed in hard copy and electronic form. They are:

- *Managing Freshwater Inflows to Estuaries: A Methods Guide* (Olsen, Venkatraman and Richter). This 42 page document was produced by CRC and The Nature Conservancy (TNC) with USAID sponsorship.

- *A Handbook on the Governance and Socioeconomics of Large Marine Ecosystems* (Olsen, Sutinen, Hennessey, Juda and Grigalunas). This 96 page document was sponsored and is distributed by the Global Environmental Facility and the IW LEARN Program.

- *Ecosystem-based Management: Markers for Assessing Progress* (Olsen, Ipsen and Adriaanse). This 49 page document was sponsored by the Global Program of Action of the United Nations Environment Program and was distributed at the GPA Conference held in Beijing, China in October 2006.

The SUCCESS Program Director and Deputy Director spent significant time this reporting period on a global Fisheries Opportunities Assessment and recommendations report prepared for USAID/EGAT/NRM. This work was undertaken in partnership with the GLOWS Program, as part of the overarching IMCAFS activities. Initial findings and recommendations were presented by two of the lead consultants on the team, Dr. Robert Pomeroy and Dr. Patrick Christie, at a seminar at the Woodrow Wilson Center in Washington D.C. in December 2006. The presentation was also web cast. A final draft report was submitted to USAID in December 2006 pending final comments before it is finalized and disseminated.

Priorities for Next Quarter (January 1 – June 30, 2007)

- Dissemination of the Fisheries Opportunities Assessment report
- Completion of the NAS report on International Capacity-building
- Follow-up to the LOICZ Topic 3 meeting

F. Cross-Cutting Elements

Gender Mainstreaming

Gender mainstreaming is a priority cross-cutting theme within SUCCESS as well as within CRC's overall program portfolio. For example, in on-the-ground activities in Tanzania, the Program is working with women to pilot bivalve grow-outs and half-pearl farming in Fumba. In Bagamoyo, sixty-one percent of the seaweed farmers are women. All in all, 78% of the 297 microenterprise beneficiaries in Tanzania are women. In both Ecuador and Nicaragua, women comprise the majority of the cockle harvesters in the Program sites and, therefore, women make up a large share of key stakeholder groups and targeted program beneficiaries—for example, in Nicaragua, 82% of the beneficiaries of livelihood projects are women.

The SUCCESS Program expects to see improved gender equity through livelihood development as the Program's microenterprise activities focus on—although are not limited to—women and vulnerable groups. Equity is an important principle and enabling condition of integrated coastal management (ICM). Therefore, the expectation is that this support for livelihoods for women and vulnerable groups will not only build their income and their sense of empowerment, but will also improve their overall awareness of ICM and increase their willingness and interest in participating more fully in other aspects of the Program's ICM planning and implementation activities. In this reporting period, women comprised 34% of those individuals participating in coastal resources and conservation planning initiatives and 53% of those individuals who were trained.

Health: HIV/AIDS

Health is an emerging issue within the CRC portfolio. In this reporting period, the former Population, Equity, AIDS, and Coastal Environment (PEACE) project merged with the SUCCESS Tanzania project, which is funded by USAID/Tanzania. Negotiations are currently underway with the USAID/Tanzania Mission's Presidents Emergency Plan for AIDS Relief (PEPFAR) Program to potentially increase the funding for HIV/AIDS communication.

While the PEACE project is neither a part of the SUCCESS Leader Award nor an Associate Award, it works in one of the same districts and is part of the wider CRC portfolio of related USAID-supported work in Tanzania. Like SUCCESS, the PEACE project is implementing livelihoods suitable for vulnerable groups. Developing small-scale ponds for HIV/AIDS-affected households and other vulnerable groups, the project has drawn upon the SUCCESS Program's expertise and experience from Mkuranga and Bagamoyo. The merger of PEACE and SUCCESS Tanzania is expected to create new opportunities for collaboration between SUCCESS Tanzania and SUCCESS Global—for example, looking at impacts of the "backyard" milkfish farming for HIV/AIDS vulnerable households. These and other microenterprises targeting HIV-vulnerable households are part of the ongoing microenterprise impact assessment, described under the science for management section of this report.

In Nicaragua, hepatitis is a common—often epidemic—illness. Red tide is also an occasional problem. SUCCESS is helping provide better information to cockle sellers and buyers on how contaminated shellfish can cause health problems and on what practices can help avoid such contamination. Studies have been started to assess water quality in cockle growing areas for *E. coli* contamination. Tissues of cockles in several harvest areas are also being examined for presence of hepatitus. This information will help in setting the stage for further discussions concerning management of shellfish beds to ensure safe and sanitary harvests.

Priorities for Next Quarter (January 1 – March 31, 2007)

- Prepare for microenterprise surveys in Tanzania and Thailand: these will include questions to determine if ongoing microenterprise activities are increasing the assets of women and if they are helping relieve the burdens of HIV-vulnerable households

G. Volunteers

Background

The Coastal Resources Center has a long history of using volunteers in its international work. To date, the SUCCESS Program has assigned Volunteers for Prosperity (VfP) to Tanzania and Ecuador. Field Program sites have also been successful in recruiting other volunteers who do not necessarily qualify under the VfP program, but who add great value in helping SUCCESS reach its goals.

Report Period Accomplishments

New assignment opportunities were developed by the SUCCESS Tanzania and SUCCESS Nicaragua SUCCESS Programs. The Giving Portal went 'live' and CRC's Volunteer program can now receive donations on-line for the costs associated with sending volunteers on assignment to assist the SUCCESS Program in Tanzania. To date, one small contribution has been received. CRC submitted volunteer information to VfP for their annual report. In Nicaragua, volunteer Mary Ellen Bell was invited to work with CIDEA starting in January 2007 to develop a promotion and marketing campaign for the alternative tourism work with FINCAMAR with an emphasis on the aquatic tourist trail in the mangrove areas. Unfortunately family issues now prevent her from assuming this assignment.

In Ecuador, EcoCostas hosted three volunteers from the EcoCostas volunteer program (i.e., non-VfP) who worked with the ecotourism efforts and *chame* culture trials. In August 2006, the Assistant Peace Corps Director for Habitat Conservation asked EcoCostas to formally apply for a volunteer who could potentially be placed in the SUCCESS Program area in the upcoming months. Two Peace Corps Volunteers (PCVs) placed in the zone will be incorporated into Program activities as soon as is possible.

Tasks still pending, completed during, or added as of December 31, 2006

Task and Milestones	Date Due	Status	Comments/Challenges/ Constraints
Task F.1: Volunteers			
Recruit and screen volunteers	April 2007	On-going	Recruiting volunteers for Tanzania and Nicaragua
Orient and assign volunteers	June 2007	On-going	
Evaluate and make recommendations for volunteer program	July 2007		Originally scheduled for 2005; because program is new without enough of a track record, this is rescheduled for September 2007
Engage CRC, WIOMSA, EcoCostas and UCA in the volunteer program by identifying detailed volunteer job descriptions for posting on the CRC website	January 2007	On-going Completed first batch of new volunteer assignment descriptions	Receive new volunteer descriptions from SUCCESS partners for Year 3 assignments; posted on CRC and other web sites

Volunteer for Prosperity Giving Portal	December 2006	Ongoing	Participating in on-line giving portal; added a link from CRC's web site to portal
CRC volunteer web site	October 2006	On-going	Update new opportunities, volunteer stories and products as available
FRB Federal Credit Union Volunteer to Nicaragua	December 2006	Cancelled	After discussions w/Nicaragua, position did not meet current needs

Priorities for Next Quarter (January 1 – March 31, 2007)

- Advertise for volunteers for Nicaragua and Tanzania
- Orient and dispatch two volunteers
- Complete six-month membership with on-line Giving Portal

H. Monitoring, Evaluation and Reporting

Background

The SUCCESS monitoring and evaluation (M&E) activity includes two components: 1) Performance Management and 2) Learning. The background to and accomplishments of the second component are described in the science for management section of this report. The SUCCESS Performance Management Plan (PMP) was approved in January 2006. A summary of the SUCCESS Program PMP indicators and results for July 1 - December 31, 2006 is attached in Annex A. It includes fifteen indicators collected quarterly that feed into the indicators and strategic objectives of the USAID/EGAT NRM team. In the first year an a half of the SUCCESS Program, the field teams sent their PMP data via email to the PMP coordinator at CRC. However, during this reporting period, a web-based database system was launched that allows field site personnel to directly input their PMP data. Partners were introduced to and trained in the system during the SUCCESS Annual Partners meeting in July 2006. In the next quarter the web-based system will be reviewed to determine any need to make any changes to its lay-out and functions.

The partners meeting also included discussion of revising the Program's indicators and targets. The process of revising the indicators of targets began during the first quarter of Year 3, when the first indicator *"Number of hectares with improved natural resource management, including biologically significant areas, watersheds, forest areas, and sustainable agricultural lands"* was revised. At the same time, the field partners updated the baseline and target hectares reported. A complete revision of indicators and targets in expected to take place during the next quarter and be presented in the next quarterly report (January - March 2007).

Under the learning component, activities are underway to promote applied research and adaptive management. The four major elements, described in the science for management section, are:

- Development of a SUCCESS learning agenda
- Development of an IMCAFS learning agenda
- Governance baselining
- Biodiversity threats assessments (new element in third quarter)

Selected Program Highlights in Current Reporting Period (July 1 - December 31, 2006)

- Web-based PMP monitoring system that is fully functioning and being used by field partners
- Microenterprise case study drafted for Tanzania
- Drafted research plan for the quantitative component of the microenterprise impact assessment that will be conducted in Tanzania and Thailand
- IMCAFS learning agenda re-defined to focus on field-based work as well as a joint website and newsletter

Tasks still pending, completed during, or added as of December 31st, 2006

Task and Milestones	Date Due	Status	Comments/Challenges/ Constraints
Monitoring and Evaluation			
Web-based monitoring system developed	June 2006	Completed	
PMP indicators and targets revised based on USAID feedback	April 15, 2007	Ongoing	The PMP indicators and targets will be revised based on a biodiversity

			mid-term review, which includes the threats assessments that will be completed in each field site
Biodiversity threats assessments completed for each field site	February 2007	On target	Tanzania assessment drafted, Ecuador and Nicaragua assessments planned for January and February 2007
Ecuador and Nicaragua governance baselines revised	September 2007	Ongoing	The Nicaragua revision underway; Ecuador revision to begin in 2007
Tanzania microenterprise case study completed	December 2006	Completed	Draft case study completed by December 31, 2006
Microenterprise surveys conducted in Tanzania and Thailand	April 2007	On target	Preparations for these surveys currently being undertaken
Report on microenterprise impact assessment completed	August 2007	On target	

Priorities for Next Quarter (January 1 – March 31, 2006)

- Revise PMP indicators and targets
- Review web-based PMP data entry and reporting system
- Prepare for microenterprise surveys in Tanzania and Thailand
- Complete Nicaragua and Ecuador threats assessments
- Revise Ecuador governance baseline

II. Management Issues

With the Program into its third year, most management issues have been addressed. A few persist, however, and a few new challenges have been added as well.

- One of the new issues is that there has been a critical personnel change in the EcoCostas/SUCCESS Ecuador office during this reporting period. Lugarda Redfisch and Derek Simmons, who were largely responsible for project management, left EcoCostas in October. Jhoyzett Mendoza will assume many of their roles and responsibilities for administration and management as well as continue in supporting the Program's geographic information systems (GIS) needs. Rafael Elao, a biologist with extensive coastal management and aquaculture experience, now serves as the overall SUCCESS Ecuador Program coordinator. Emilio Ochoa, the current EcoCostas Director, leaves EcoCostas and the SUCCESS Ecuador Program in January 2007 to work with one of the Program's partners, the AVINA Foundation. Although a search is underway for his replacement, Ochoa will continue to serve on the EcoCostas Board of Directors and provide limited oversight of the organization. Meanwhile, Stephen Olsen (CRC/URI) and Maria Haws (UHH) have been assisting with the orientation of the new personnel and with the overall transition to assure that SUCCESS Ecuador tasks are accomplished.

- The timing and format of the annual meeting of the full SUCCESS team continues to require refining. Timing wise, it needs to occur far enough into the current work year to provide a good overview of accomplishments. At the same time, it needs to occur early enough before the start of the new work year to allow sufficient time to conduct good, thorough planning. This leads to the second issue, that of format. Consideration is being given to having fewer team members attend for the full meeting. Rather, attendees would be scheduled only for those days where their input/comment was essential. This should free up time/agenda to allow more focused small-team, in-depth, hands-on workplanning with the field partners. In past years, this element of the agenda has received short-shrift.

- Program reporting continues to be less than efficient for not only the reasons of translation (as outlined above), but due to the factor that the Program Management Team has continued to refine the format of the annual workplans. Each of these changes has necessitated changes to the format of the progress reports—so that both mirror each other. Perhaps even more challenging is the frequency of the reporting schedule. Under the current schedule, the Program is requiring every quarter, either a progress report or a workplan from the field. In addition, the semi-annual report for the July – December period overlap the last three quarters of the previous year and first three quarters of the subsequent year, this also complicates report preparation for this particular reporting period.

- The Program continues to be challenged by a lack of strong and plentiful Spanish speakers on the CRC SUCCESS team and a lack of strong English skills on the part of Program partners. While cooperation amongst all parties is high, so too are the costs that come with continued need for translation on both ends. There is not an immediate solution to this problem other than the short-term "fixes" that are already in place (e.g., the use of volunteers and other non-SUCCESS staff, as they are available)

- SUCCESS funding for knowledge management was leveraged with funding from the AVINA Foundation. It appears unlikely the second phase of funding that was expected will

materialize. This requires a rethinking of how to reshape this element of the SUCCESS workplan in order to accommodate this loss of complementary funding.

- The shifting programmatic focuses within USAID trickle down to the SUCCESS Program and present a small challenge to crafting Program messages and materials in such a way as to clearly articulate how the SUCCESS Program links to and contributes to those program interests. Such areas of interest currently include peace and security and global warming.

III. Upcoming Challenges, Constraints, and Opportunities

While the Program team has continued to struggle with identifying a meaningful way to bridge the SUCCESS and GLOWS Programs so both Programs are truly part of an overarching and cohesive IMCAFS Program, the first opportunity to actually engage in a joint initiative may be imminent. As mentioned earlier in this report, the SUCCESS and GLOWS teams have submitted a proposal (USAID Coca-Cola *"Improving Local Community Livelihoods and Strengthening Capacity for Implementing Tanzania's Water Sector Development Strategy"*) to the USAID Tanzania Mission for a Global Development Alliance initiative that would support Tanzania's new water governance strategy. It would improve community access to sustainable safe water, provide sanitation services to local communities in need, and promote sustainable management of watershed and water resources in the country's two most important basins—the Wami-Ruvu and Pangani River Basins. While this initiative is not funded through IMCAFS mechanisms, the IMCAFS dialogue has been instrumental in catalyzing this joint effort.

Other vehicles were developed this reporting period to further create the sense of a more unified IMCAFS program. This included th*e launching of IMCAFS and SUCCESS websites and the inaugural issue of* Basins and Coasts, an IMCAFS newsletter with a focus on but not limited to sharing SUCCESS and GLOWS Program experience.

The web-based, interactive PMP data collection and reporting system was finalized and field partners can now input data automatically into this system. Challenges arise, however, with the more overarching issue of changing strategic objective-level indicators and definitions for USAID.

It remains a challenge to identify value-added opportunities to use the SUCCESS Program strategic partners (TNC, WWF, CI, and the Sea Grant network) given the limited budget and differences in the geographic and thematic focuses of the different partners. However, the Fisheries Opportunities Assessment report mentioned earlier in this report did allow for engagement with World Wildlife Fund, and with Sea Grant partner institutions, as well as with GLOWS.

A positive challenge is the opportunity to create greater linkages and synergy between CRC and its partners' multiple projects and programs being implemented in the same geographic areas (e.g., the PEACE, Tanzania Coastal Management Partnership IV (TCMP IV) and SUCCESS Programs in Tanzania; the EcoCostas-CRC Network project and the SUCCESS Program in Ecuador and Nicaragua; and, the SUCCESS Associate Award program and the USAID-funded Indian Ocean Tsunami Warning System (IOTWS) project, both in Thailand.

IV. Associate Awards

Thailand

Key accomplishments over the period July 1 - December 31, 2006

The main accomplishments during this period include capacity-building in marine protected area management, construction and program development of the Kamphuan Community Learning Center (KCLC), waste management, and advances in village banking and community-based disaster management.

A week-long training program on co-management of marine protected areas was held in Ranong Province from Sept 18-25 for newly appointed members of the Laemson Marine Park Advisory Committee (PAC). The training was led by CRC and Asia Institute of Technology (AIT) in partnership with the DANIDA-supported Joint Management of Protected Areas Program and the Department of National Parks. Approximately two dozen participants, representing local park staff and stakeholder representatives, discussed key concepts of co-management and how this more participatory and transparent form of conservation governance can be carried out in Laemson National Park.

The workshop was followed in November by a seven-day study tour to Bunaken National Marine Park in Indonesia where co-management arrangements are well developed. A two-day debriefing and planning workshop was held in Phuket upon their return on the 7-9th of November.

Construction and furnishing of the KCLC was started in July and completed in December in time for a high-level inauguration event on December 18. Pam Rubinoff, Virginia Lee and Khun Samruay led an effort to develop a vision, program and business plan for the Learning Center. A three tier management structure is being developed: a Board of Directors who will provide general guidance, set policy and seek funding and endowments; a local Steering Committee that will advise the Center Director on programming and management; and the Center Director who will manage Center activities and services and report to both the Steering Committee and Board.

Waste management and recycling activities continued during this period. This program element was initiated after recognizing that the communities in the project did not have a good waste management program. The general approach was to: 1) create awareness through workshops and study tours, 2) develop community level waste management plans (including recycling and composting program), and 3) support implementation of recycling and composing activities. A survey of waste materials found that recycling and composing could reduce waste by 80-90 percent. Since July 2006, two villages have formed a Waste Management Committees and have been collecting waste for recycling. The recyclable materials generate income. Part of the fund goes to the collector and the other part is saved and used for community social events. Villages now look cleaner and free of plastic bottles, plastic bags, papers or glasses. Other communities are observing this and are interested in a similar program.

Over 50 households in villages 4 and 2 are also composting using the bioliquid extraction method (EM) using composting barrels and bacteria provided by the SCL project. The project is in the process of finding ways to utilize and market this composted product for agriculture.

In August and September the project staff began working with communities and disaster management representatives to complete a disaster management plan in each village. So far, two

out of seven participating villages have completed plans. The other communities will follow. To date, each village has a community-prepared map, evacuation routes, household evacuation kits, and committees to take care of things before, during, and after a disaster event. Videos of survivors' stories are being transcribed and will be placed in the Tsunami memorial room in the newly constructed Learning Center.

During this time, the project provided regular monitoring and technical assistance to the five village microfinance groups. There have been several changes in management and bylaws (through the project's intervention) to make two of the village banks that are lagging behind more efficient. Additional funds were provided to Village 3 in recognition of their successful management of the microfinance and request for additional support. The project maintains a detailed database updated monthly on the status of each village bank, loans, types of microenterprises, and loan repayments.

In addition to the above, a number of other activities were completed.

- Three *Kamphuan in Action* Newsletters distributed
- Two workshops on community-based disaster management trained 33 community members
- Training of 11 women in Muslim headscarf production initiated
- Community works: soccer field at village 7 re-sodded by youth group
- Spawning of two batches of catfish at the small-scale catfish hatchery
- Construction of small-scale feed mill and office
- Initiation of the first production cycle of three household experiments in integrated Muscogee duck-tilapia fish-vegetable garden production
- Planning and organization of a group of 10 community members interested in establishing a yellow ginger farm
- Organization of a group of six people to start a small fresh coffee café
- Mid-term evaluation team hosted at the field site
- Strategic planning retreat in Krabi, September 2006
- SUCCESS meetings in Miami in July 2006
- Visit of local, Provincial and national agencies to the field site to learn from the project's experience in community based disaster management

V. Contacts with USAID Missions

Tanzania

The SUCCESS sites in Zanzibar were visited by the ENV SO team during the meeting held in July, 2006. Later, Crawford and Torell met with Dennis Cengel and Gilbert Kajuna at the US Embassy in Dar es Salaam in September 2006 and November 2006 respectively, to provide progress reports on SUCCESS activities including those related to economic activities and analyses, which the Mission is very interested in seeing once complete. Edwin Requintina also briefed the Mission on progress concerning milkfish farming pilot activities and potential. Also, TCMP represents and reports on SUCCESS activities during ENV SO meetings held quarterly by the Tanzania Mission along with work funded directly by the Mission. The SUCCESS coordinator at WIOMSA is invited and attends periodic meetings conducted by TCMP to ensure Program activities are fully coordinated.

Nicaragua

Steve Olive: A meeting was held to discuss alternative livelihoods with Dr. Olive and to discuss the issues associated with the lack of collaboration from SELVA, the NGO responsible for management of the Padre Ramos Protected Area, which has impeded work with cockle management and research in the area. Dr. Olive discussed his willingness to work on this issue with CIDEA.

Steve Fondriest: Dr. Fondriest was contacted to obtain contact numbers for Dr. Jerry Bouer, who is with the U.S. Forest Service and stationed in Puerto Rica to request assistance in conducting a study of the bird species found in Padre Ramos Estuary in support of the ecotourism efforts. Dr. Fondriest is planning to visit Puerto Morazan in December to observe the tilapia culture project.

Maira Vargas Roa-Fulbright Program: Communication has been maintained to understand the application process and to submit an application for Dr. Jurij Homziak of the University of Vermont. Dr. Homziak wishes to work with CIDEA to develop an extension program in Coastal Management for the Pacific Coast and for institutional strengthening.

***Peace Corps*:** Communication has been maintained with Georgia Narcisso, who visited Puerto Morazan, met with the high school principal and had follow-up meeting with volunteers Mike Millar and Kelly Broach who are coordinating with CIDEA.

Ecuador

Emilio Ochoa and Maria Haws met with Rocio Cedeno in October 2006, when she visited Guayaquil. Cedeno was updated on the SUCCESS Ecuador progress and issues around the transition of Emilio Ochoa as director of EcoCostas and lead for the SUCCESS Program. The visit included discussion of fundraising for the passion fruit and cacao work, as well as the concerns of stakeholders in the area about problems related to transporting products such as *chame* and fruit to nearby larger markets and post-harvest issues such as obtaining sanitation permits to process products. Cedeno advised she would investigate whether USAID had funding to address these issues and/or whether other USAID projects working on these topics might be able to help. EcoCostas staff then prepared a proposal which was submitted to USAID.

Thailand

In September, Amrit Bart, Chief of Party (CoP) and Dr. Tobey, CRC project manager met with the Regional Bureau in September to provide an update on the Sustainable Coastal Livelihoods program. In October, there were several interactions with the Bureau. This included a visit by CRC's director, Stephen Olsen; attendance by the CoP at the Mission's PMP meeting with environment program partners; and a field site visit by Winston Bowman, the project's cognizant technical officer (CTO) and Richard Volk (USAID Washington) for the mid-term evaluation of the project. In early November there was another field site visit by the CTO, Mark Ward (USAID/W), and Richard Whelden (Acting Mission Director). Meanwhile, in December, Winston Bowman again traveled with the CoP to Sri Lanka to prepare for regional study tours.

Appendix 1. SUCCESS Performance Management Report

> "Performance management is the systematic process of monitoring the results of activities; collecting and analyzing performance information to track progress toward planned results; using performance information to influence program decision making and resource allocation; and communicating results achieved, or not attained, to advance organizational learning and tell the Agency's story." (ADS 200.6)

This Performance Management (PMP) Report shows the progress that the SUCCESS program has made towards its targets for FY 05, FY 06, and quarter one of FY 07. The report is based on the Performance Monitoring Plan, which was approved in December 2005. The report will begin by explaining the SUCCESS Project logic, followed by outlining how data was collected and analyzed. Thereafter is an overview of the results for SUCCESS as a whole and the detailed results report per indicator and country.

The SUCCESS Project Logic

The SUCCESS program's goal *is to help the people of the place improve their quality of life (health, income education) and their physical environment through good governance.* This is a long-term objective (a third order outcome) that the project will contribute to over the life of the project. To achieve this goal, the program has established four Program Elements. The first Program Element, "On the ground results", have three underlying Intermediate Results (IRs):

IR 1. Improving management and conservation across diverse landscapes through science, inter-disciplinary approaches, and the adoption of best practices.

IR 2. Promoting equitable coastal resources governance and management of natural resource conflicts.

IR 3. Increasing tangible and equitable economic benefits through sustainable production, marketing, and trade of natural resource-based products and services.

The other three elements together form the fourth "cross-cutting" IR of "knowledge and best practices are widely shared to promote cross learning". There are several sub-intermediate results under each IR (Figure 1).

For each Sub-IR, there are one or two indicators. These are presented in the results framework below. The results framework shows the targets for the SUCCESS project as a whole (when applicable), the frequency of monitoring and what data sources/evidence will be used to gauge if the targets have been met. More specific information on the targets and results for each country is presented in more detail below.

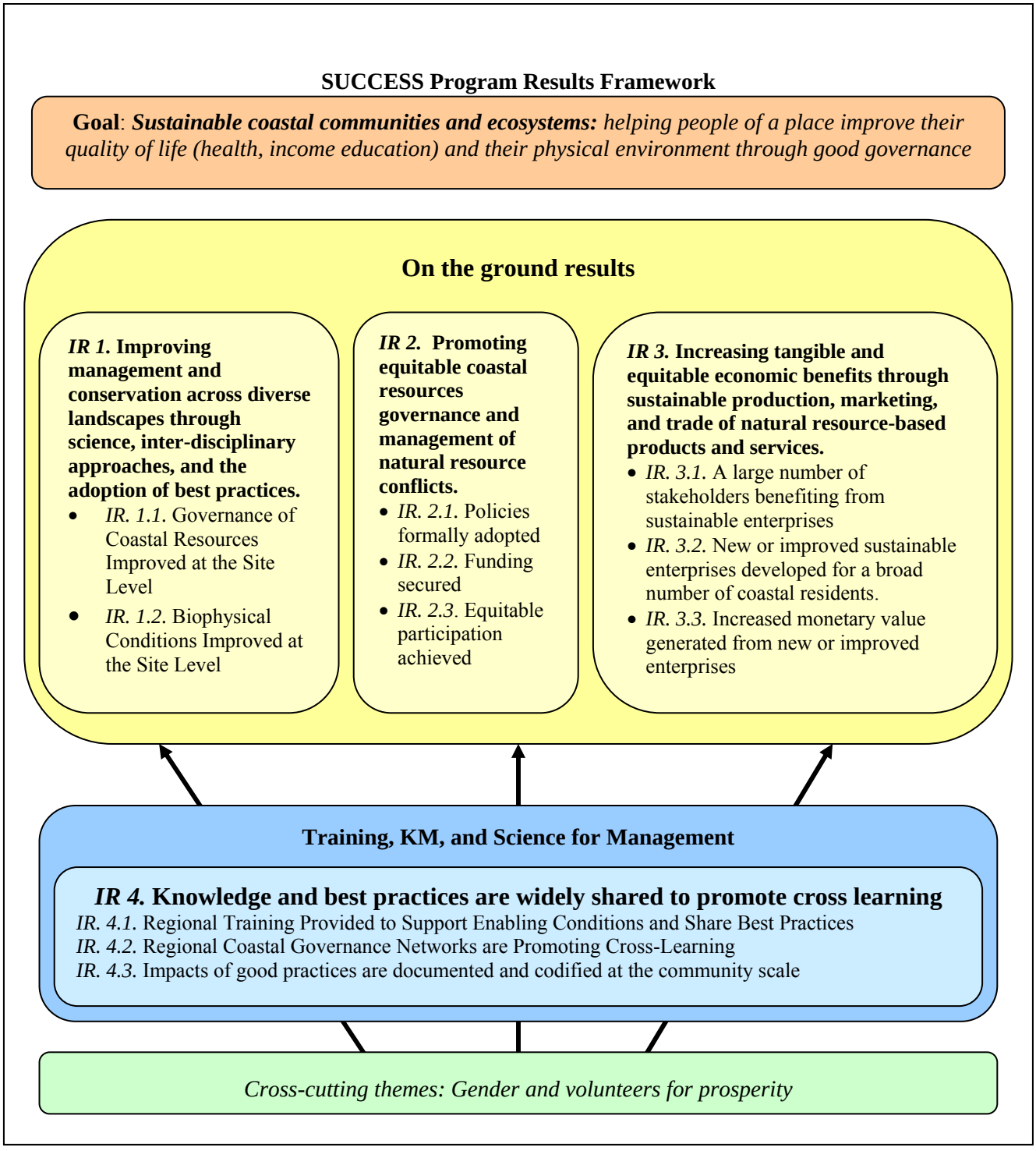


Figure 1. Schematic of the SUCCESS Project Framework

Data collection, management, and quality control

The CRC M&E specialist coordinate the collection of monitoring data under supervision by the Program Director. Each field site has a designated monitoring and evaluation specialist who is responsible for collecting PMP data and conduct data quality assessments. These specialists are:

- Tanzania: Aviti Mmochi
- Nicaragua: Maria Jose Almanza
- Ecuador: Rafael Elao
- CRC-based indicators (e.g. volunteers and training) Kim Kaine
- Overall coordinator: Elin Torell

Performance monitoring data for this report was collected by the field coordinators in October and December 2006. They sent the information to the CRC based M&E specialist through the web-based data collection system. The CRC based M&E specialist synthesized the report and conducted a data quality assessment. According to the ADS 203.3.5.1, the performance data in the PMP needs to meet five data quality standards:

a) *Validity:* Data should clearly and adequately represent the intended result. It should also be clear whether the data reflect a bias.
b) *Integrity:* Data that are collected, analyzed, and reported should have established mechanisms in place to reduce the possibility that they are intentionally manipulated for political or personal reasons.
c) *Precision:* Data should be sufficiently precise to present a fair picture of performance and enable management decision-making at the appropriate levels.
d) *Reliability:* Data should reflect stable and consistent data collection processes and analysis methods from over time.
e) *Timeliness:* Data should be timely enough to influence management decision-making at the appropriate levels.

For this semi-annual report, only first order outcome indicators are measured. These indicators are quantitative, simple, and straight forward (e.g. studies completed, individuals trained, number of volunteers). To ensure that the data is valid, the schedule laid-out above will be followed, with the deliverables/artifacts working as data source/ evidence that the targets have been met. More complex indicators and targets (e.g. *Monetary value generated from sustainable natural resources or conservation initiatives*) will be measured in year three.

Overview of the results for the SUCCESS Program to date

This table gives an overview of the "rolled-up" results for SUCCESS in Year One, Two, and Three (until 12/31/06). Comments on the results and targets are found under the description of each indicator.

indicator	FY 05 Targets	FY 05 Results	FY 06 Targets	FY 06 Results	FY 06 Results Quarter 1	FY 06 Results Quarter 2	FY 06 Results Quarter 3	FY 06 Results Quarter 4	FY 07 Targets	FY 07 Results Quarter 1	Cumulative results
1. Number of hectares in areas of biological significance under improved management	See summary table and comments on page 81.										123,107
2. Number of hectares showing stable or improved biophysical conditions for selected parameter(s)	no target	Not measured until 2007									

indicator	FY 05 Targets	FY 05 Results	FY 06 Targets	FY 06 Results	FY 06 Results Quarter 1	FY 06 Results Quarter 2	FY 06 Results Quarter 3	FY 06 Results Quarter 4	FY 07 Targets	FY 07 Results Quarter 1	Cumulative results
3. Number of sustainable natural resource management and conservation policies, laws, agreements, or regulations implemented	0	0	0	1	0	1	0	0	4	0	1

4. Leveraged funding and financing	no target	177,073	no target	121,778	4,953	48,029	35,296	33,500	no target	9,509	308,360
5. Number of persons participating in coastal resources and conservation planning initiatives	123	123	620	1,164	110	112	433	509	755	147	1,434
6. Number of full time jobs in excess of two weeks created	118	124	241	180	28	58	58	36	255	36	446
7. Number of new or improved enterprises developed	46	47	72	146	13	92	5	36	60	25	200
8. Monetary value generated from sustainable natural resources or conservation initiatives (USD or equivalent)	no target	Not measured until 2007									
indicator	**FY 05 Targets**	**FY 05 Results**	**FY 06 Targets**	**FY 06 Results**	**FY 06 Results Quarter 1**	**FY 06 Results Quarter 2**	**FY 06 Results Quarter 3**	**FY 06 Results Quarter 4**	**FY 07 Targets**	**FY 07 Results Quarter 1**	**Cumulative results**
9. Number of people trained (gender dissaggregated)	75	93	150	468	133	88	85	162	100	0	561
10. Number of training courses implemented	3	5	10	20	9	3	6	2	3	0	25
11. Number of active participants in web-based regional networks (gender disaggregated)	0	20	17	1	1	0	0	0	8	0	21

12. Publications documenting impacts of best practices	no target	3	no target	8	0	2	4	2	no target	1	12
13. Number of American volunteers	2	2	2	2	1	0	1	0	2	0	4
14. Volunteer person days	24	24	24	46	16	15	15	0	24	0	55
15. Value of volunteer time ($)	12636	12,636	12,952	6,603	2,203	2,200	2,200	0	2,258	0	17,039

indicator	FY 05 Targets	FY 05 Results	FY 06 Targets	FY 06 Results	FY 06 Results Quarter 1	FY 06 Results Quarter 2	FY 06 Results Quarter 3	FY 06 Results Quarter 4	FY 07 Targets	FY 07 Results Quarter 1	Cumulative results
16. % females participating in coastal resources and conservation planning initiatives	74%	74%	78%	60%	67%	56%	59%	34%	42%	35%	49%
17. % females with new full time jobs in excess of two weeks created	75%	75%	51%	71%	36%	57%	57%	50%	47%	28%	69%
18. % females trained	40%	30%	40%	37%	26%	47%	45%	53%	30%	0%	41%
19. Number of female participants in web-based regional networks	50%	40%	50%	38%	38%	38%	38%	38%	38%	38%	38%
% female American volunteers (Ind 13)	50%	0%	50%	50%	0%	0%	100%	0%	50%	0%	25%

Overview of the results for the current reporting period

This table gives an overview of the results for the current reporting period (July 1st – December 31st, 2006). Comments on the results and targets are found under the description of each indicator.

indicator	FY 06 Results Quarter 4	FY 07 Results Quarter 1	FY 06 Q4 and FY 07 Q1 Cumulative Results
1. Number of hectares in areas of biological significance under improved management	See summary table and comment on page 81		
2. Number of hectares showing stable or improved biophysical conditions	Baseline conducted in Fumba		One baseline conducted
3. Number of sustainable natural resource management and conservation policies, laws, agreements, or regulations implemented	0	0	0
4. Leveraged funding and financing	33,500	9,509	43,009
5. Number of persons participating in planning initiatives	509	147	656
6. Number of full time jobs created	36	36	72
7. Number of enterprises developed	36	25	61
8. Monetary value generated	Not measured during this reporting period		
9. Number of people trained	162	0	162
10. Number of training courses implemented	2	0	2
11. Number of active participants in web-based regional networks	21	21	21
12. Number of publications	2	1	3
13. Number of American volunteers	0	0	0
14. % females participating in planning initiatives	34%	35%	34%
15. % females with new full time jobs	50%	28%	39%
16. % females trained	53%	0%	53%
17. Number of female participants in web-based regional networks	38%	38%	38%

PERFORMANCE MONITORING PER INDICATOR

IR 1. Improving management and conservation across diverse landscapes through science, interdisciplinary approaches, and the adoption of best practices

IR 1.1 Governance of Coastal Resources Improved at the Site Level

Indicator 1: Number of hectares in areas of biological significance under improved management

Definition: ICM programs and activities set the stage and build the foundation for the improvement of coastal resources. When an ICM program is in place and functioning it is an improvement to the management process with the potential to lead to the on-the-ground improvement in coastal resources. Therefore those geographic areas that are part of USAID sponsored ICM programs can be considered "improved" as a result of those activities undertaken by the program. Improved management includes activities that promote enhanced management of natural resources for the objective of conserving biodiversity in areas that are identified as biologically significant through national, regional, or global priority setting processes. Management should be guided by a stakeholder-endorsed process following principles of sustainable NRM and conservation, improved human and institutional capacity for sustainable NRM and conservation, access to better information for decision-making, and/or adoption of sustainable NRM and conservation practices.

The purpose of this indicator is to document the geographic extent of coastal resources falling under improved management regimes as part of the SUCCESS program.

The improved areas are reported in hectares that are disaggregated by marine and terrestrial hectares.

Data Source/Evidence: GIS maps for each site

Table 1a. Number of hectares with improved natural resources management, including biologically significant areas, watersheds, forest areas, and sustainable agricultural lands.

Site	FY 05 - FY 06 Results			FY 07 Target			FY 08 Target			FY 09 Target			LOP Target		
	Total	Marine	Terrestrial	Total	Marine	Terrestrial	Total	Marine	Terrestrial	Total	Marine	Terrestrial	Total	Marine	Terrestrial
Tanzania	3,600	2,475	1,125	10,100	8,900	1,200	0	0	0	0	0	0	13,700	11,375	2,325
Fumba	3,600	2,475	1,125		0			0			0		3,600	2,475	1,125
Mkuranga		0		5,800	4,900	900		0			0		5,800	4,900	900
Bagamoyo		0		4,300	4,000	300		0			0		4,300	4,000	300
Ecuador/Cojimies	96,444	96,444	0	6,454	6,442	12	29	21	8	29	19	10	102,956	102,926	30
Nicaragua	23,063	12,749	10,314	24,326	13,459	10,867	4,031	2,324	1,706	70,367	38,889	31,478	121,787	67,422	54,365
Padre Ramos	257	206	51	320	256	64	430	344	86	750	600	150	1,757	1,406	351
Estero Real	12,146	6,680	5,466	12,785	7,032	5,753	1,918	1,055	863	37,077	20,392	16,685	63,925	35,159	28,767
Aserradores	10,660	5,863	4,797	11,221	6,171	5,049	1,683	926	757	32,541	17,897	14,643	56,105	30,857	25,247
Total hectares	**123,107**	**111,668**	**11,439**	**40,880**	**28,801**	**12,079**	**4,060**	**2,345**	**1,714**	**70,396**	**38,908**	**31,488**	**238,443**	**181,723**	**56,720**

Comments on Results: This indicator has been revised and as a result, the field partners recently revised the hectares that have been reported as results for FY 05 and FY 06 as well as the targets for forthcoming years. During this process it was impossible to tease out what quarters the hectares should be reported under and therefore we do not have hectares reported per quarter for FY 05 and 06.

IR 1.2 Biophysical conditions improved at the site level

Indicator 2: Number of hectares showing stable or improved biophysical conditions for selected parameter(s)

Definition – Area under improved management where there is biophysical monitoring data showing stability, improvement, or slowing in the rate of decline in one or more selected parameters over time. Parameter(s) selected will depend on the type of management actions taken and may include one of the following, or others:

- Percent live hard coral cover
- Relative fish or other target organism abundance
- Reserve effect (ratio of parameter inside versus outside the reserve)

Only biophysical conditions at two sites where improvements are expected as a direct result of Program activities during the SUCCESS LOP (Fumba/Tanzania and Padre Ramos/Nicaragua**)** will be measured.

Table 2 Hectares with stable, improved, or a slowing in the rate of decline in the biophysical conditions

fiscal year	Target (stable/improved)			Type of Area			
	FY 07	FY 09	LOP target	BS	W	F	A
Tanzania							
Fumba	stable	improved	improved	x			x
Nicaragua							
Padre Ramos	stable	improved	improved		x		x
Total							

Comments on Results

Biophysical conditions at these sites will be measured at two points—in 2007 and 2009. Therefore, there are no results for this semi-annual report. However, a baseline of the Fumba area was completed in August, 2006.

IR 2. Promoting equitable coastal resources governance and management of natural resource conflicts

IR 2.1 Policies formally adopted

Indicator 3: Number of sustainable natural resource management and conservation policies, laws, agreements, or regulations implemented

Definition: Implementing policies and strategies are critical enabling conditions to achieve healthy ecosystems and sustainable resource management. The purpose of this indicator is to document advances in implementing ICM related policies and strategies. The indicator tracks coastal management policies and strategies developed and submitted for consideration, formally adopted by an agency capable of implementation and implemented by the adopting agency. Movement towards implementation is tracked in Table 1. A policy or strategy is considered developed when it has been drafted and submitted to an appropriate institution for review and adoption. A policy or strategy is considered adopted when it has been formally approved for implementation by an appropriate institution. A policy or strategy is considered implemented when at least one actionable element has been put in place and becomes part of an institution's operations on a routine and regular basis. Coastal management policies and strategies are defined as written documents that are sanctioned by a relevant entity (e.g. local government, group of villages managing an area, or national government). Policies adopted by individual villages do not count. Examples of policies and strategies are: laws, decrees, agreements, regulations, ordinances, management plans, guidance, and best management practices (BMPs). Policies and strategies include those formed by government, non-government, civil society and private sector stakeholders

Data Source/ Evidence: policy and strategy documents, letters of adoption, implementation documents, plans, etc.

Comments on Results: In this reporting period, one new policy document—a zoning plan for cockle management in Estero Real, Nicaragua—was developed. It is expected that the definition and targets related to this indicator will need to be changed in the following quarter (Q2 FY 07) based on feedback from the field sites as well as refinements to our definitions of this indicator.

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Indicator 3. Number of sustainable natural resource management and conservation policies, laws, agreements, or regulations, implemented

Country	Name of policy	Target = Developed (D), Adopted (A), Implemented (I)					
		FY 05	*FY 06*	*FY 07*	*FY 08*	*FY 09*	LOP target
Tanzania		**0**		**2**	**1**		**3**
	Menai Bay Shell Fishing Zoning Plan		D	A	I	I	
	Bagamoyo Zoning agreement seaweed/fishing		D	A	I	I	
	Mkuranga Milkfish/Saltpond zoning plan			D	A	I	
Ecuador/Cojimies		**0**		**2**	**1**		**3**
	Ordenamiento de la poblacion de Bolivar			D	A	I	
	Manejo de bosque		D	A	I	I	
	Pesquerie de concha en Bolivar		D	A	I	I	
Nicaragua		**0**					**3**
	Monitoreo para Estero Real			D	A	I	
	Buenas Prácticas de Manejo Estero Real			D	A	I	
	Regulación en Pesquerías de conchas				D	A	
Total		**0**	**0**	**4**	**4**	**1**	**9**

Actual results

fiscal year	Name of policy	Actual = Developed (D), Adopted (A), Implemented (I)				
		FY 05	FY 06	FY 06 Q4	FY 07 Q1	Cumulative
Tanzania	Menai Bay Shell Fishing Zoning Plan		D			
Ecuador/Cojimies						
Nicaragua	Estero Real monitoring plan		A			
	Shrimp best practices		D			
	Regulación en Pesquerías de conchas					
	Plan de Manejo De Estero Real		D			
	Regulación de pesquerías de concha, aprobado el permiso por parte del MARENA para ejecución de inves				D	
Total		**0**	**1**			**1**

IR 2.2 Funding Secured

Indicator 4: Leveraged funding and financing

Definition: This indicator measures additional, non-SUCCESS funded support, by way of leveraged funding and/or in-kind contributions to *SUCCESS field sites* from other sources (leveraged funding for the overall SUCCESS initiative is captured in the annual reports). The sources of these in-kind or leveraged services and funds are those that do not originate from USAID funds. They can be from NGOs, foundations, in-country governments, etc.

There are no targets for this indicator.

Data Source/ Evidence: Letters of commitment and awards, copy of host-government budgets, letters from host country governments

Table 4. Leveraged funding

fiscal year	Actual (dollars secured)				
	FY 05	FY 06 Total	FY 06 Q4	FY 07 Q1	Cumulative
Tanzania	18,686	17,050	0	5,800	41,536
Ecuador/Cojimies	35,000	85,441	33,500	0	120,441
Nicaragua	123,387	19,287		3,709	142,674
Total	**177,073**	**121,778**	**33,500**	**9,509**	**308,360**

Comments on results: there are no targets for this indicator, but funds leveraged annually to the field site initiatives are being counted. In the first and second years, SUCCESS partners leveraged significant funds for the fieldwork in Ecuador and Nicaragua. This trend continued in the first quarter of FY 07. Major donors are Sida, the Avina foundation, USAID Ecuador, UCRESEP, OIKOS, PMRC, and the Japanese aid agency.

IR 2.3 Equitable Participation

Indicator 5: Number of persons participating in coastal resources and conservation planning initiatives (gender dissaggregated)

Definition: This indicator measures the number of men and women who are engaged in the planning, adoption, and implementation of natural resource management and conservation policies and strategies. By being engaged in these activities, it is assumed that the men and women will get more voice in natural resources decisions, contributing to more equitable governance of coastal resources.

Data Source/ Evidence: List of participants that take part in planning and implementation activities (male and female)

Table 5. Number of Participants

Target (no of participants and % women)												
	FY 05		FY 06		FY 07		FY 08		FY 09		Cumulative	
Country/Place	Total	% women	Total	% women	Total	% women	Total	% women	Total	% women	Total	% women
Tanzania	**0**	**0**	**396**	**42%**	**511**	**31%**	**335**	**36%**	**0**	**0**	***1242***	***36%***
Fumba	0	0	125	99%	200	50%	200	50%	0	0	***525***	***62%***
Mkuranga	0	0	0	0	40	50%	0	0	0	0	***40***	***50%***
Bagamoyo	0	0	271	15%	271	15%	135	15%	0	0	***677***	***15%***
Ecuador/Cojimies	***0***	***0***	**174**	78%	**174**	**78%**	**174**	**78%**	**174**	**78%**	***819***	***77%***
Nicaragua	**0**	**0**	**50**	**20%**	**70**	**31%**	**90**	**39%**	**110**	**39%**	***320***	***34%***
Padre Ramos	0	0	30	17%	30	40%	50	40%	55	45%	***165***	***38%***
Estero Real	0	0	20	25%	40	25%	40	38%	55	33%	***155***	***31%***
Total	***0***	***0***	***620***	***78%***	***755***	**42%**	***599***	**48%**	***284***	**63%**	***2381***	**57%**

Place	FY 05 Total	FY 05 % women	FY 06 Total	FY 06 % women	FY 06 Quarter 4 Total	FY 06 Quarter 4 % women	FY 07 Quarter 1 Total	FY 07 Quarter 1 % women	Cumulative Total	Cumulative % women
Tanzania	**0**	**0**	**469**	***55%***	**172**	***52%***			**469**	**55%**
Fumba	0	0	222	*59%*					222	59%
Mkuranga	0	0	29	*28%*					29	28%
Bagamoyo	0	0	46	*70%*	172	***52%***			46	70%
Ecuador/Cojimies	**123**	***74%***	**318**	***55%***	***70***	***30%***	**28**	**39%**	**469**	**59%**
Nicaragua	**0**	***0%***	**377**	***34%***	***267***	***23%***	***119***	***34%***	**496**	34%
Padre Ramos	0	0	32	153%	30	*10%*	13	38%	110	49%
Estero Real	0	0	78	18%	53	*43%*	78	36%	156	27%
Nicaragua other/Asserra Dores					184	*20%*	28	29%		
Total	***123***	***74%***	**1164**	***49%***	***509***	***34%***	***147***	***35%***	**1434**	**49%**

Comments on Results: In FY 05 and 06, planning was initiated in all countries and field sites, except Mkuranga where the focus is on milkfish and tilapia farming. A zoning planning activity for Mkuranga will be initiated in Year 4.

IR 3. Increasing tangible and equitable economic benefits through sustainable production, marketing, and trade of natural resource-based products and services

IR 3.1 Number of Beneficiaries

Indicator 6: Number of full time jobs in excess of two weeks created

Definition: This indicator measures the number of men and women who are engaged in micro-enterprises and other natural resource-based livelihood development schemes. By being engaged in these activities, it is assumed that the men and women will achieve increasing tangible and equitable economic benefits. For areas where sustainable fisheries management plans have been adopted, number of fishers impacted by the fisheries plan will be included here.

Data Source/ Evidence: List of beneficiaries (male and female) or number of fishers in the management area taken from census data of fisheries statistics report.

Table 6. Number of Beneficiaries

	Target (no persons with new employment and % women)											
	FY 05		**FY 06**		**FY 07**		**FY 08**		**FY 09**		**Cumulative**	
Country/Place	Total	% women	Total	% women	Total	% women	Total	% women	Total	% women	***Total***	***% women***
Tanzania	***118***	**75%**	**140**	**50%**	**110**	**50%**	**55**	**51%**	**0**	**0**	***423***	***57%***
Fumba	*26*	96%	50	50%	50	50%	25	52%	0	0	***151***	***58%***
Mkuranga	*34*	53%	10	50%	10	50%	5	40%	0	0	***59***	***51%***
Bagamoyo	*58*	79%	80	50%	50	50%	25	52%	0	0	***213***	***58%***
Ecuador/Cojimies	**0**	**0%**	**38**	**66%**	**32**	**78%**	**20**	**25%**	**0**	**0**	***90***	***61%***
Nicaragua	**0**		**63**	**43%**	**113**	**35%**	**133**	**38%**	**159**	**38%**	**468**	**38%**
Padre Ramos	0	**0%**	28	**61%**	68	**35%**	78	**36%**	91	**34%**	**265**	**38%**
Estero Real	0	**0%**	35	**29%**	45	**33%**	55	**40%**	68	**43%**	**203**	**37%**
Total	***118***	**75%**	***241***	**51%**	***255***	**47%**	***208***	**40%**	***159***	**8%**	***981***	**43%**

Place	FY 05		FY 06		FY 06 Quarter 4		FY 07 Quarter 1		Cumulative	
	Total	% women	Total	% women	Total	% women	Total	% women	Total	% women
Tanzania	***124***	**74%**	**161**	**84%**	**36**	**50%**	**12**	**25%**	**297**	**78%**
Fumba	*26*	96%	121	99%					147	99%
Mkuranga	*36*	58%					12	25%	48	50%
Bagamoyo	*62*	74%	40	40%	36	50%			102	61%
Ecuador/Cojimies	**0**	**0%**	81	**0%**			**24**	**29%**	**105**	37%
Nicaragua			**44**	**82%**					**44**	82%
Padre Ramos										
Estero Real			44	82%					44	82%
Total	***124***	**74%**	***286***	**71%**	***36***	**50%**	***36***	**28%**	**446**	**69%**

Comments on results: This activity has taken off in all field sites. In Tanzania, this included work on bivalves (which added half-pearl cultivation in Quarter 1), milkfish, tilapia, and seaweed. In FY 06 there was a large increase in the number of women involved in bivalve harvesting, grow-outs, and half-pearl cultivation in Tanzania as activities were expanded to include all the villages on the Fumba Peninsula. The number of villages involved in seaweed cultivation in the Bagamoyo District was expanded. In Nicaragua, the Program initiated jewelry, bread making, and hammock making. The team is also planning for tilapia and sustainable shrimp cultivation—activities that will be reported in the next quarter. In Ecuador, ECCOSTAS has initiated *chame* and beekeeping activities in Cojimies. Overall, there is a 69 percent female participation in the income generating activities and so far the targets have been met each year.

IR 3.2 New or improved sustainable enterprises developed for a broad number of coastal residents.

Indicator 7: Number of new or improved enterprises developed

Definition: This indicator measures the number of new or improved income opportunities/enterprises developed through the SUCCESS program. The livelihood development will be part of a package of extension services delivered to the targeted beneficiaries. In the first year, this will include provision of technical and business support services to groups of mariculture farmers on culture technology and post harvest handling as well as micro-financing, marketing assistance, and training on entrepreneurship. In later years, it may also include other forms of livelihood opportunities (e.g. bee-keeping and community-based tourism). This indicator captures the end-stage of the extension services – income opportunities/enterprises developed. It does not capture the revenues generated from the enterprises (see Indicator 8). For areas where sustainable fisheries management plans have been adopted, number of fishing enterprises impacted by the fisheries plan will be included here. For an estimate of the number of fishing enterprises, the number of vessels in the management area will be used as the unit of measure (where no vessels are used (e.g. cockle or bivalve gleaners), number of households engaged in this form of fishing will be used.

Data Source/ Evidence: list of enterprises, fisheries statistics, or report of field survey

Table 7. Number of new enterprises

Country/site	Type of enterprise	Target (no of enterprises)					
		FY 05	FY 06	FY 07	FY 08	FY 09	LOP target
Tanzania		**46**	**67**	**52**	**21**	**0**	***186***
Fumba	Bivalve culture	13	25	25	10	0	***73***
Mkuranga	Milkfish and tilapia culture	4	2	2	1	0	***9***
Bagamoyo	Seaweed and milkfish culture	29	40	25	10	0	***104***
Ecuador/Cojimies		**0**	**1**	**3**	**4**	**0**	***8***
	Agricultura-Miel	0	0	1	1	0	***2***
	Chame	0	1	1	1	0	***3***
	Bosque	0	0	0	1	0	***1***
	Bivalve	0	0	1	1	0	***2***
Nicaragua		**0**	**4**	**5**	**8**	**11**	***28***
Padre Ramos	Turismo rural y bancos comunitarios	0	4	5	8	11	***28***
Total		**46**	**72**	**60**	**33**	**11**	**222**

Enterprise development results

Country	Type of enterprise	FY 05	FY 06	FY 06 Q4	FY 07 Q1	Cumulative
Tanzania		**47**	**112**	**18**	**1**	**159**
Fumba	bivalves (grow-out and half-pearl)	13	75			88
Mkuranga	Milkfish	2	0		1	2
Mkuranga	Tilapia	2	0			2
Bagamoyo	Seaweed	30	37	18		67
Bagamoyo	Milkfish		1			1
Ecuador/Cojimies			**12**		**24**	**12**
	Chame		3			3
	Organic farming		8			8
	Honey					
	Agricultura sustentable: Cacao - Maracuyá				24	
Nicaragua			**4**			**4**
Estero Real	Hammocks		2			2
Estero Real	Jewelery making		1			1
Estero Real	bread		1			1
Total		**47**	**128**		**25**	**200**

Comments on results: See indicator six above.

IR 3.3 Revenue generated from sustainable natural resources or conservation initiatives (USD or equivalent)

Indicator 8: Monetary value generated from sustainable natural resources or conservation initiatives (USD or equivalent)

Definition: This indicator measures the monetary value generated from the natural-resource based enterprises developed through SUCCESS as well as the indirect value of improved resource management. The indicator captures the total monetary value – including the actual revenue generated and where applicable the estimated value of ecological services provided. The indicator also measures the economic impact on local communities – number of households benefiting from increased income, number of women with increased income, and the average increase per household. The revenues and increases in income will be captured through a survey of beneficiaries.

Increased monetary value generated will be measured through administration of a survey of a random sample of direct beneficiaries serviced by the project. The surveys will be conducted in 2007 and 2009. These surveys will be short and simple – no more than 15-20 minutes per survey and no more than 1-2 pages long. Sample size will be large enough to make a statistically significant inference for the entire population of beneficiaries. For areas where sustainable fisheries management plans have been adopted, fishing enterprises impacted by a fisheries plan will be included here. For an estimate of the increased monetary value generated, a sample of fisher households in the management area will be used and average number of fishers per household calculated. Total number of fisher households in the management area will also be collected from key informants or fisheries statistics to determine total number of beneficiaries. Total monetary value will be measured based on the perceptions of users regarding changes in catch. Methods for quantifying indirect values generated through SUCCESS will be developed in collaboration with a resource economist.

There are no targets for this indicator

Data Source/ Evidence: Beneficiary survey and selected secondary data

Table 8. **Increased monetary value**

Country/site	FY 07				FY 09			
	actual total value	**number of beneficiaries with increased income**	**% women with increased income**	**average incresed income**	**actual total value**	**number of beneficiaries with increased income**	**% women with increased income**	**average incresed income**
Tanzania								
Fumba								
Mkuranga								
Bagamoyo								
Ecuador/Cojimies								
Nicaragua								
Padre Ramos								
Estero Real								
Total								

Comments on results: In Tanzania this indicator will be measured in 2007 and 2009. In Ecuador and Nicaragua it will be measured in 2008 only.

IR 4. Knowledge and Best Practices are widely shared to promote cross-learning

IR 4.1 Regional training programs provided to support enabling conditions and share best practices

Indicator 9: Number of people trained (gender dissaggregated)

Definition: This indicator assesses the increased capacity of ICM professionals to perform their duties by measuring the number of ICM professionals trained through SUCCESS, dissaggregated by gender. Training-of-Trainers is considered to be a training program. Workshops are considered a training event provided that the primary objective is to increase capacity of local stakeholders to more effectively undertake or complete the ICM project being conducted in their area. Detailed information on each training event and participants is also submitted electronically to USAID's TraiNet system. This indicator will capture all training courses implemented by the project – regional, national as well as local events.

Data Source/ Evidence: List of Training participants, signed participant compacts

Table 9a. Target number of participants attending training programs (all countries combined)

Target (for all sites)											
FY 05		**FY 06**		**FY 07**		**FY 08**		**FY 09**		**Cumulative**	
Total	% women	Total	% women	Total	% women	Total	% women	Total	% women	Total	% women
75	30	150	30	100	30	100	30	75	30	500	30

Comments on results: **In this reporting period, there were only two trainings, one in Tanzania (on cockle monitoring) and one in Nicaragua (on tilapia cultivation).**

Table 9b. Actual number of participants attending training programs

Place/date	Event	FY 05		FY 06		FY 06 Q4		FY 07 Q1		Cumulative	
		Total	% women	Total	% women	Total	% women	Total	% women	Total	% women
Tanzania		**21**	**29%**	**207**	**55%**	**146**	**58%**			**228**	**53%**
	First Mariculture training	21	29%								
12/05/05	Second Mariculture training			21	29%						
02/14/06	Tilapia farming training course			18	44%						
05/27/06	Jewelry training			22	73%						
08/28/06	Cockle monitoring training			146	58%	146	58%				
Ecuador		**52**	**31%**	**117**	**43%**					**169**	**39%**
08/02/05	Basics of extension August 2-5	26	23%								
09/03/05	Validacion de Perafil y Generacion de lan Vision de la Zona	26	38%								
10/03/05	Taller para Promotores			13	38%						
01/31/06	Taller de Huertos Familiares			39	59%						
02/11/06	Curso de agricultura organica y diseno permacultural			3	33%						
03/31/06	Taller sobre tecnicas de agroforesteria	0		28	32%						
05/18/06	Taller sobre Manejo Integral de la Jiba			18	28%						

06/12/06	Small Business Training			16	44%						
Nicaragua		**20**	**30%**	**128**	**27%**	**16**	13%			**148**	**27%**
07/29/05	Basics of extension	20	30%								
08/10/05	Bivalve mariculture	No data	No data								
10/07/05	Bosque Monglar			16	31%						
10/20/05	Problemas Ambientales y Socio-económicas de la Industria Acuícola			11	18%						
10/21/05	Biologio de Comores Pencido			17	29%						
11/03/05	Un nuevo desorrollo para el cultivo del comoron			11	18%						
11/17/05	Marea Roja			9	22%						
11/18/05	Biologia de Moluscos			17	29%						
12/02/05	Metodos para identificar poslarvas Silvestres			18	17%						
04/06/06	Best management practices in shrimp culture (6 modules)			17	12%						
05/18/06	Vision empresarial			12	67%						
07/31/06	Tilapia cultivation			16	13%	16	13%				
Total		**93**	**30%**	**468**	**43%**	**162**	**53%**	**0**	**0%**	**561**	**41%**

IR 4.1 Training programs provided to support enabling conditions and share best practices

Indicator 10 : Number of training courses implemented

Definition: This indicator assesses the increased capacity of ICM professionals to perform their duties by measuring the number of training events provided through SUCCESS. Training-of-Trainers is considered to be a training program. Workshops are considered a training event provided that the primary objective is to increase capacity of local stakeholders to more effectively undertake or complete the ICM project being conducted in their area. Detailed information on each training event and participants is also submitted electronically to USAID's TraiNet system. This indicator will capture all training courses implemented by the project - regional, national as well as local events.

Data Source/ Evidence: Training agendas

Table 10A. Target Training Programs

Country	Target (no of training courses)					
	FY 05	FY 06	FY 07	FY 08	FY 09	LOP target
Tanzania	**1**	6	1	1	1	10
Ecuador	**1**	1	1	1	1	5
Nicaragua	**1**	3	1	1	1	7
Total	**3**	**10**	**3**	**3**	**3**	**22**

Table 10B. Actual Training Programs

fiscal year	Actual (no of training courses)				
	FY 05	FY 06	FY 06 Q4	FY 07 Q1	Cumulative
Tanzania	1	3	1		**4**
Ecuador	2	6			**8**
Nicaragua	2	9	1		**11**
Total	**5**	**20**	**2**	**0**	**25**

Comments on Results: There were two training courses during this reporting period. Overall, it seems the number of trainings to be held in FY 06 was underestimated as the total number was 20 (compared to the target of 10).

IR 4.2. Regional Coastal Governance Networks are Promoting Cross-Learning

Indicator 11: Number of active participants in web-based regional networks

Definition: The SUCCESS program intends to assist in the development of a web-based knowledge management system in Latin America and East Africa. This indicator will measure the number of participants that are active in these networks.

Data Source/ Evidence: Participant lists, training compacts

Table 11. Number of active participants (Target and Acutal)

	Target (no of new participants)											
Place	**FY 05**		**FY 06**		**FY 07**		**FY 08**		**FY 09**		**Life of project target**	
	Total	% women	Total	% women	Total	% women	Total	% women	Total	% women	Total	% women
East Africa	0	0	3	33%	4	25%	3	33%	0		10	30%
Latin America	0	0	14	50%	4	50%	0	0%	0		18	50%
Total	0	0	17	47%	8	38%	3	33%	0	0	28	43%

	Actual (no of new participants)									
Place	**FY 05**		**FY 06 Total**		**Q4**		**FY 07 Q1**		**Cumulative**	
	Total	% women	Total	% women	Total	% women	Total	% women	Total	% women
East Africa	0	0	1	0					**1**	**0**
Latin America	20	40%	0	0					**20**	**40%**
Total	**20**	**40%**	**1**	**0**	**0**	**0**	**0**	**0**	**21**	**38%**

Comments on results: The Latin America Network is ongoing with twenty members (40% women).One participant in the East Africa network was counted for FY 06. While one participant does not make a network, this person was counted as he is the person who is working to develop the network in East Africa. However, this indicator has not been very useful and it is proposed to remove it in the next quarter.

IR 4.3. Impacts of good practices are documented and codified at the community scale

Indicator 12: Publications documenting impacts of best practices

Definition: This indicator assesses the degree of local and global awareness about, or knowledge of (but not explicitly an ability to better conduct) ICM initiatives, by tracking the number of publications produced through SUCCESS. Publications include any awareness building materials, such as project brochures, maps, posters, profiles or eco-histories, press releases, management plans, and video tapes. Actual and Target Number Produced are numbers of each different publication, not total number of copies of each publication produced. No targets are set for number of copies, although number of copies will be included in the report.

Data Source/ Evidence: copy of publications

There are no targets for this indicator

Table 12. Publications

Place	Name of publication	Number of publications				
		FY 05	FY 06	FY 06 Q4	FY 07 Q1	Cumulative
Tanzania		**1**	**4**	**0**	**0**	**5**
	aquanews article	x				
	Half perl farming manual		x			
	Bagamoyo baseline		x			
	Fumba baseline		x			
	Mkuranga baseline		x			
Ecuador		**1**	**2**	**2**	**1**	**3**
	Se elaborará una publicación sobre moluscos	x				
	Home/family gardening manual		x	x		
	Chame farming manual		x	x		
	Ecuador governance baseline				x	
Nicaragua		**1**	**2**	**0**	**0**	**3**
	Se elaborará una publicación sobre el Estero Real (aquanews article)	x				

	Estero Real governance baseline		x			
	Padre Ramos governance baseline		x			
Total		**3**	**8**	**2**	**1**	**12**

Comments on results: For this indicator, we have no targets, but we expect at least one publication from each field site and year. Once the learning program is implemented, we also expect to see publications (e.g. articles) that cut across the field programs. In the current reporting period we published three documents in Ecuador – two extension manuals and one governance baseline. In the next quarter, we expect to publish a marketing guide "Marketing your product" and a publication around community-based MPAs.

Cross-cutting theme: Volunteers for Prosperity

CT 1. American Volunteer effort in time and value (Indicators 13, 14, 15, 16)

Definition: The SUCCESS program implements a professional volunteer program. This indicator will measure the volunteer program effort using several variables: the number of volunteers, number of volunteer days, and the value of volunteer time. Data is dissaggregated to show number of female volunteers and number of volunteers working on SUCCESS Associate Awards. For PMP reporting, only number of American volunteers will be reported, but other non-American volunteers can be listed in footnotes. Data on volunteers is also provided to USAID/EGAT for *Volunteers for Prosperity* reporting. Peace Corps and Crises Corps volunteers are not counted as volunteers here but should be footnoted if they are assigned at project sites. We are not setting targets for the number of American volunteers at associate award sites as we have no ability to predict how many associate awards will result and therefore what the opportunity for volunteer assignments will be. However, the volunteer program managed by the leader award will consider placement of American volunteers in any LWA Leader or Associate Award activities, or other USAID supported initiatives. The specific indicators are:

- Number of American volunteers (Indicator 13)
- Volunteer person days (Indicator 14)
- Value of volunteer time (Indicator 15)
- Number of SUCCESS Associate Award American volunteers (Indicator 16)

Data Source/ Evidence: volunteer contracts

Table 13. American volunteer effort

Indicator	Target					
	FY 05	**FY 06**	**FY 07**	**FY 08**	**FY 09**	**LOP target**
number of volunteers	2	2	2	2	2	10
number of volunteers at associate award sites	No target	No target	No target	No target	No target	No target
% women	50	50	50	50	50	50
Number of days worked	24	24	24	24	24	120
Value of volunteer time	12636	12952	13276	13608	13948	66419

Indicator	FY 05	FY 06	FY 06 Q4	FY 07 Q1	Cumulative
number of volunteers	2	2			**4**
number of women volunteers	0	1			**1**
% women	0%	50%			**25%**
Number of days worked	24	30.5			**55**
Value of volunteer time	12636	4402.5			**17039**

Comments on results: We have had no volunteers in the current reporting period. Over the course of the program, we have had four volunteers that count under the Volunteers for Prosperity Program: Dr. Michael Rice and Edwin Requintina went to Tanzania in FY 05 to provide support to the aquaculture projects and Joe Torres went to Ecuador in December 05. In Jill Turek (a small business development specialist) spent five weeks working part time in Esmeraldas, Ecuador. In addition, Dr. Quentin Fong of the University of Alaska (not a US citizen) volunteered to help out as a trainer during the second mariculture training in Tanzania. In Thailand, we have had two Crisis Core volunteers. We have also had a number of student volunteers at CRC, who have helped out with translation and background research.

Cross-cutting theme: Gender mainstreaming

Definition: Gender mainstreaming is an important cross cutting theme in our work. Gender mainstreaming is about involving men and women in the project and ensuring equitable contributions, involvement and sharing of benefits. For reporting purposes – data is dissaggregated for women as they are a traditionally disadvantaged and under-represented gender group. By inference, the contribution of and benefits to men can also be determined. The indicators for gender mainstreaming and their related IR are listed below. This information here is secondary – generated from data contained in the other tables:

- % females participating in coastal resources and conservation planning initiatives (Indicator 5)
- % females with new full time jobs in excess of two weeks created (Indicator 6)
- % females trained (Indicator 9)
- % female active participants in web-based regional networks (Indicator 11)
- % female American volunteers (Indicator 13)
- % female volunteer person days overseas (Indicator 14 - actual number only)
- % female associate award volunteers (Indicator 16)

Data Source/ Evidence: Data used here is generated from other tables provided above. The summary here is just a collated and dissaggregated transformation of this other data so that all gender indicators can be viewed easily here in one place.

Table 14. Gender Indicators

	Target (percent)					
Indicator	**FY 05**	**FY 06**	**FY 07**	**FY 08**	**FY 09**	**LOP target**
% females participating in coastal resources and conservation planning initiatives (Ind 5)	74	78	42	48	63	**57**
% females with new full time jobs in excess of two weeks created (Ind 6)	75	29	44	35	19	**39**
% females trained (Ind 9)	30	30	30	30	30	**30**
% female active participants in web-based networks (Ind 11)	0	47	38	33	33	**43**
% female American volunteers (Ind 13)	50	50	50	50	50	**50**
% female volunteer person days overseas (Ind 14)	50	50	50	50	50	**50**

	Actual (percent)				
Indicator	**FY 05**	**FY 06**	**FY 06 Q4**	**FY 07 Q1**	**cumulative**
% female participants (Ind 5)	74%	49%	34%	35%	49%
% female beneficiaries (Ind 6)	75%	71%	50%	28%	69%
% female participants trained (Ind 9)	30%	43%	53%	0%	41%
% female active participants in web-based networks (Ind 11)	40%	38%	38%	38%	38%
% female American volunteers (Ind 13)	0%	50%	0%	0%	25%

Comments on results: Cumulatively, we have met or exceeded our targets on gender mainstreaming in all categories except American volunteers. We started improving on this indicator in the third quarter of FY 06, when a female volunteer helped the team in Ecuador. During the current reporting period, we have seen a decrease in female participation in meetings and enterprises. The reasons behind this are something that we need to investigate during the next quarter.