

Sustainable Coastal Communities and Ecosystems Program (SUCCESS)

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

Quarterly Report

January 1 – March 31, 2006



Integrated Management of Coastal and Freshwater Systems
Leader with Associates Cooperative Agreement
for
Sustainable Coastal Communities and Ecosystems (SUCCESS)

Quarterly Report
January 1 – March 31, 2006

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A partnership between:

Coastal Resources Center
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and

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Bureau for Economic Growth, Agriculture and Trade
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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, the 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 very wide range of settings.

In addition to these four primary program elements, we are 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 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 bio-diversity conservation compared to most conservation oriented programs, but aims to achieve similar goals². 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 bio-diversity conservation, many scientists have pointed out that in and of itself, this is insufficient unless areas outside and surrounding protected areas are also better managed³. 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 investments⁴. Therefore, livelihood and enterprise development is a feature of all interventions of the SUCCESS Program and also helps address poverty issues⁵—a key feature of communities in most of the places where we work. Lastly, SUCCESS incorporates many of the principles identified by USAID for effective bio-diversity conservation. The SUCCESS Program is 1) 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.

Specific examples of how the SUCCESS Program contributes to bio-diversity conservation in its primary field sites follow.

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

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

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 bio-diversity 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 bio-diversity 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.

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).

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, and its watershed and mangrove forests are amongst the few in the country that remain relatively intact. 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 lagoonal shellfisheries due to overfishing and, 2) the exploitation of coastal timber resources from excessive cutting, and the resultant sedimentation that changes the estuary’s hydrology, pulsing, and water quality.

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 led 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. This biodiversity-rich area is a focus site for the SUCCESS Program. Here the Program team works with local partners 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.

Quarterly Report Overview and Summary of Accomplishments

This Quarterly Report covers work activities implemented between January 1 and March 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 an annex.

Cumulative Program Accomplishments to Date

Selected highlights of the Program to-date (October 2004 through March 2006) include the following:

- Approximately 12,500 hectares of biologically significant natural resources progressing towards improved management.
- Over \$211,000 in funds leveraged in support of program activities
- 301 persons and 152 enterprises benefiting from equitable and sustainable natural resource based enterprises
- Individual capacity built for 314 persons, through implementation of 17 training courses, that support better ICM enabling conditions and best practices
- Three US Volunteer professionals fielded in support of program activities, with a time commitment valued at over \$14,000
- 67 percent of participants involved in coastal resources and conservation planning were female, achieving more equitable participation for this traditionally disadvantaged group

- 81 percent 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

Nicaragua. Important baseline studies were completed. These permit greater understanding of the environmental, social, policy and economic issues that have contributed to deterioration of the coastal resources and the current status and trends of these resources. Support to the associations FINCAMAR and AGROPESCA in shrimp best management practices led to voluntary adoption of these practices. This will lower environmental and economic risks for small producers, and may eventually confer a market advantage. CIDEA is also assisting a women's group in Jiquilillos that are crafting shell jewelry. This microenterprise has become an important economic contributor for the women's group, many of whom are single mothers.

Ecuador. The first microenterprise projects— family gardens—got underway in Bolivar. Approximately 30 families are participating. These gardens will help diversify the diets of local residents. Some may produce more than the families need to eat and that surplus can be sold at market for supplemental income. Other projects are proceeding well, including the Chame aquaculture project that is being implemented with the local organization *Asociación Agroartesanal el Carmen* (AAC). The first harvest was made just before the Easter season, when Chame prices are higher. Another Chame aquaculture project was initiated by the group El Progreso near Chamanga. The group of community promoters trained in July 2005 is involved in alternative livelihoods development and assist EcoCostas with extension activities. In addition to assisting with the family gardens, the promoters have been involved in developing an eleven-hive bee project (Chamanga Women's Association). There has already been a harvest and honey and wax was sold. Again, this and similar activities provide much-needed supplemental income.

Tanzania. Trials of half-pearl farming techniques have continued in the Menai Bay conservation area. While implantation has been successful, difficulties have arisen with respect to cage design and placement. These design flaws are now being corrected. Significant progress has also been made on the redesign and construction of several pilot milkfish ponds. In the Cnagawela site, a successful harvest was made of 205 kg of milkfish from a one-half hectare pond. Seaweed farming trials have also shown that the floating method in Mlingotini is producing 1.2-2.9 times higher production than the off-bottom method and are not experiencing the seasonal die-offs associated with the off-bottom method.

Training. All training conducted this quarter was in support of in-country field operations. In Tanzania, a course was provided to farmers on Tilapia culture and uni-sex stocking. In Nicaragua, CIDEA implemented a continuing course for best practices in shrimp mariculture. In Ecuador, training was conducted for a cockle harvesting group on permaculture as a supplemental livelihood activity. Progress has also been made on the certification program for coastal managers, a draft concept has been prepared and will be presented to in April to the Latin American Network and other representatives involved in the international sea grant work.

Regional Networks and Knowledge Management. The Knowledge Management System (KMS) for the EcoCostas-CRC Network in Latin America has made progress on developing the

overall architecture and design of the web-based system. Plans have been made for constructing the remaining parts of the system for place and project profiling including modifications in the Governance Baseline module. Significant progress was also made in the development of a web-based Monitoring and Evaluation (M&E) system for tracking indicators of progress toward the SUCCESS Program intermediate results. WIOMSA and SUCCESS had discussions on supporting the development of a Western Indian Ocean Mariculture Network through the establishment of a moderated web forum. Further work is awaiting guidance from the WIOMSA Board.

Science for Management. A microenterprise learning concept paper was drafted. It outlines a plan for conducting applied research in the SUCCESS sites to understand the impacts of the Program's microenterprise projects, and factors contributing to successful microenterprise schemes. This will help SUCCESS improve its livelihood promotion practices on-the-ground. This is critical as tangible benefits for stakeholders is a key factor in ICM sustainability. In Ecuador, background research indicated that the pesticide used by the shrimp industry is unlikely to cause die-offs of cockles. Scientists at URI have recommended that cockle samples be collected and examined for pathology effects from pesticide to rule this out as a cause in the decline in abundance. In Nicaragua, a study will be conducted on cockles harvested in the Padre Ramos Estuary to determine whether they are contaminated with hepatitis and other human pathogens that may contribute to the spread of gastroenteritis, hepatitis, and other prevalent diseases in coastal communities.

I. PROGRESS IN MEETING PLANNED OUTCOMES OF WORKPLAN PROGRAM ELEMENTS

Tanzania

Task No. A.1 Equitable livelihood development through mariculture and sustainable resource management

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. In tandem, a kiosk is being constructed for use by local women farmers to sell cooked shellfish (farmed and wild) to tourists passing through Fumba. 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 ICM and conservation plans and policies can be implemented at the village scale.

Report Period Accomplishments

Menai Bay. In September 2005, after nine months of successful shellfish farming on the intertidal area, there was mass mortality of shellfish. The cause was thought to be the shallowness of the shellfish farming areas. Hence, during this reporting period new deeper areas were identified, and enclosures were moved and restocked in Fumba, Bweleo and Unguja Ukuu. Furthermore, two rafts were constructed at Bweleo for deep water shellfish farming. Meanwhile, the kiosk for fish selling reached final stages of construction (doors, windows and furniture have been added). Inauguration of the kiosk is set for May 2006. In January, the number of pearl oysters implanted with half pearl increased from 18 to 40 with about 90 beads set. Unfortunately, the cage was swept away by strong waves in February. This prompted a modification to the cage style. The cage is now ready for re-stocking.

Seaweed Farming. Seaweed seedlings were purchased and two rafts constructed at Pande, while in Changwahela the seaweeds were planted in off-bottom and bamboo rafts and the first harvests were recorded. The Program issued the first installment of funds for Kondo to construct a row boat. The crop-logging method of data collection was introduced in Pande and Mlingotini. Despite continuous vandalism of the two rafts in Mlingotini, a second harvest was made. It showed an improved growth rate of 2.9 and 1.2 times higher in channels 1 and 2 respectively when compared to the off-bottom method. In the raft method, there were no die-offs while in the off-bottom method in channel 2, die-offs did occur. There were several meetings with Action Aid and the District and several discussions with the SUCCESS team to discuss the vandalism. In one case, the culprits were caught and are being handled by the village government. Construction of a row boat for Pande village was also completed. In Mlingotini and Changwahela villages, the traditional off-bottom methods are in practice. However, there are problems of seaweed die-offs. SUCCESS is trying to introduce a deeper water raft method, which is more productive and unlike the traditional method does not result in die-offs. The rafts, however, are acting as fish attracting devices and fishermen are constantly disturbing them.

Milkfish Farming. The original ponds at the Mkuranga site that were 1 hectare in size have been divided into six ponds—four for rearing and two for juveniles—with the main canal located between the ponds. The ponds are being fertilized for stocking in May 2006. At the Changwahela site in Bagamoyo, 467 individual milkfish with a total weight of 205 kg (Average 0.44 kg) were harvested from 800 fingerlings stocked in mid May 2005 in a pond of 0.5 ha in size.

Tilapia Farming. In Mfurumwambao village in Mkuranga, where Tilapia culture was introduced, farmers were trained in unisex stocking techniques. Tilapia farming is expanding in this site with an increased number of residents interested in and constructing ponds.

In all sites, baseline records and data have been collected continuously in order to monitor changes in the environment. Efforts are being taken to follow the integrated coastal management (ICM) and other government policies to safeguard the environment. Parallel socio-economic studies are underway to evaluate the advantages of the new methods compared to the traditional (off-bottom method, shellfish collection and fishing) and to provide a cost benefit analysis to assess profitability of all the mariculture systems being promoted. Once initial trails and farms

are operating well and economic data are compiled, the program will be staged for wider promotion and extension of good mariculture practices in these areas, with the potential of expanding the number of persons benefiting from the program.

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

Task and Milestones	Date Due	Status	Comments/Challenges/Constraints
<i>Task A.1: Equitable livelihood development through mariculture</i>			
Develop governance baselines, and monitoring and adaptive management plans for each of the three field sites	April 2005	Bagamoyo Completed in December; Fumba completed in February and Mkuranga on-going	Local staff received on-site guidance on how to prepare a governance baseline during TDY of E. Torell in September 2005. Governance baselines for Bagamoyo completed; Fumba baselines were completed in February and Mkuranga is on going.
Conduct workshop on implementation grant preparation and lessons learned from ICM action plan implementation	May 2005	On-going	Districts completed implementation of original grants provided under Tanzania Coastal Management Partnership (TCMP) in July 2005. Next round is planned under the new USAID Mission project. Lessons learned from SUCCESS activities in these field sites and grant implementation occurred as part of a kick-off work planning workshop of TCMP in October 2005. New district implementation grant has been given and the district personnel have started working again
Complete proposal and secure approval of District Council and SUCCESS	June 2005	completed	See above. Key here is to ensure SUCCESS team continues coordinating SUCCESS activities with the district implementation grants funded through the USAID Mission project. The grants are out and the districts are working again according to their plans including developing zoning policies between seaweed and fishermen in Mlingotini
Monitor and analyze harvest results from tilapia, milkfish, bivalves, and seaweed in all sites	Continuous	Ongoing	Monitoring is conducted fortnightly for seaweed growth rate for both off-bottom and raft methods at Mlingotini Bagamoyo. Monitoring is also being conducted at Changwahela and will be conducted for Pande where SUCCESS has already introduced both off-bottom and raft methods. First harvest of milkfish was in July 2005 and was monitored for total production and sale price. Unfortunately, the second harvest that was anticipated to be in January/February did not mature as there was a month in which they could not get water to the ponds (shallower than the current) and the evaporation made the ponds so shallow that the fish were eaten by

			birds. A harvesting, however, was effected in Changwahela Bagamoyo on 22 nd March 2006. The bivalve culture suffered severe mortality in September-October 2005. Project staff harvested but did not monitor the remaining seaweed. Harvests were estimated at 30 kg (in 13 enclosures). But, during this quarter, the enclosures were moved to deeper waters and two rafts were developed at Bweleo where the seaweed was put in small fishnet sacks. It is expected that this will solve the problem of mortality.
Complete governance baselines	December 2005	See Year 1 above	Bagamoyo and Menai Bay baselines were completed, while the one for Mkuranga is being developed
Conduct economic feasibility analysis of seaweed, milkfish and bivalve farming (TDY of Dr. Q. Fong, University of Alaska Sea Grant)	December 2005	On-going	The economic feasibility analysis is being given final edits while that for milkfish is at the final stages of development. The one for shellfish farming is still on developmental stages and is still lacking some of the basic information that will probably be obtained in the running of the kiosk
Open kiosk at Fumba in Menai Bay to business	November 2005	Construction completed	Working now on the finishing touches of construction and starting on the management of the kiosk
Redesign bivalve farms in Fumba including pilot half-pearl farming (TDY of M. Haws)	December 2005	On-going	Pilot half pearl farming started but the cage was swept away; New cages have been designed and will be stocked soon; re-designing the farms ongoing
Provide extension support for Tilapia farmers in Mkuranga on sexing methods	December 2005	Completed	A successful training was conducted on <i>Tilapia</i> farming and sexing methods. Plans for this year were developed with farmers including time frames for preparing ponds, obtaining fingerlings, stocking, management and harvesting

Priorities for Next Quarter (April 1 – June 30, 2006)

Priorities are to consolidate the pilot project methodologies prior to disseminating these to other areas. Related to this is completion of the economic analyses. Lastly, there is a need to gear up activities to produce zoning plans for fish farming, seaweed farming and shellfish farming and designating no-take zones. The preparation of zoning plans and improved pearl farming will be priorities for the next quarter and will receive technical assistance during the upcoming trips of B. Crawford, M. Haws.

Nicaragua

Task No. A.2 Livelihood development through mariculture diversification and sustainable fisheries management

Background

This work is intended to benefit the communities surrounding two of the major estuary systems in Nicaragua—Estero Real and 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.

Report Period Accomplishments

Cockle management and culture in the Padre Ramos Estuary

The current regulatory system for the cockle fishery requires strengthening in order to protect this organism as an important part of the estuary ecosystem and as a mainstay for the poorer estuary communities. Activities are related to food safety, water quality in shellfish sites, and the implementation of a system of co-management in Aserradores (and possibly La Ballona, Padre Ramos).

Two pilots for monitoring cockle growth were continued—one in natural conditions in La Bayona (Padre Ramos), and the other at a shrimp farm (Campa). The cockles at the latter were growing well until heavy rains lowered salinity drastically, killing the cockles. Measurement of the cockles in La Bayona continues with an average monthly growth of 2.7 mm in length. These and previous experiments suggest that cockles can only be grown in shrimp ponds that are not susceptible to rapid changes in salinity.

The originally planned implementation of co-management strategies for the blood cockle has been set back due to lack of an agreement with SELVA to permit CIDEA to conduct research or co-management activities in Padre Ramos in the community of La Ballona. However, the community members and other stakeholders in Padre Ramos have strong interest in participating in these management efforts. During the visit of Crawford and Haws, the situation was explored and another meeting attempted with the director of SELVA with no results. Since lack of permission from SELVA could cause difficulties for CIDEA, other possibilities were explored.

One alternative is to work with the community of Aserradores, which lies just outside the Padre Ramos area and which is confronting a similar situation with the cockle fishery. Co-management strategies could be tested and demonstrated there with Aserradores' stakeholders while community members from Padre Ramos could be invited and learn from the training and demonstrations. Visits were made to Aserradores and surrounding communities (Teodoro King and El Gallo) to assess the possibilities of working there. There will be a meeting with community stakeholders on April 21, 2006 to move forward with developing co-management strategies.

Another difficulty is the interruption of the pilot bivalve culture trials due to repeated theft of the materials used for culture. Although CIDEA has now collected an ample amount of data suggesting that several species of bivalve might be good culture candidates, trials are on hold pending identification of an area or community where theft could be prevented. La Ballona appears to be a potentially good site for work with bivalve culture for two reasons. The community shows an interest in bi-valve culture and closely observes and controls the area. But again, efforts are on hold until SELVA grants permission to CIDEA to work with this community.

Improved Management Practices for the Estero Real

Monitoring of the Estero Real. A meeting was held with the Environmental Officer of the Mayor's office of Puerto Morazan to evaluate the final version of the Estero Real Monitoring Plan proposed by Natural Resources and Environment Ministry (MARENA). CIDEA has also gained the approval of the Nicaraguan Association of Shrimp Producers (ANDA) for physiochemical and microbiological monitoring of the Estero Real. The information generated during the monitoring program will contribute to implementation of the Estero Real Management Plan, improvement of practices by shrimp farmers, and identification of areas of the estuary at risk for contamination and which may have environmental or economic effects (e.g. shellfish and shrimp sanitation).

Good Management Practices in Shrimp Mariculture:

The Director of CIDEA received a *scholarship from the Global Aquaculture Alliance* to attend a training program for certifiers of Good Management Practices (GMP) for shrimp farms and processing plants. These GMPs are aimed at reducing environmental, social and economic impacts of shrimp farming and contributing to economic growth in the sector by enabling producers and processors in developing nations to meet export requirements of major markets. Through training courses and extension services, CIDEA can help small producers meet requirements for certification, or at a minimum, to improve sanitation practices.

Alternative Livelihoods and Small Business Creation

Alternative Tourism. Dr. Ignacio Sariago was contracted to conduct a feasibility study for tourism development in Padre Ramos with FINCAMAR, a union of cooperatives and community groups. Members of FINCAMAR are engaged in activities such as fishing and agriculture and have access to resources such as mangroves and dry tropical forests—which they believe could

become the basis of tourist activities. During this reporting quarter, two representatives from CRC and AVINA Foundation visited. Thesis research by the students from the National Agrarian University will also inform this effort.

Hammocks. The women of the Altagracia Cooperative usually work as cockle gathers and shrimp post-larvae fishers. Now they have formalized two new businesses—one in hammock making (two different types) and the other in bread baking. The SUCCESS Program provided skills training and issued the first batch of materials. Product marketing will begin shortly as will training in financial management.

Tilapia Culture. Tilapia culture is being developed as a more environmentally friendly and economically feasible alternative to shrimp culture, particularly for the many shrimp cooperatives in the Estero Real area, which have recently suffered from economic losses. Ponds at the CIDEA demonstration farm were repaired and cleaned in preparation for earth-moving required to modify the shrimp ponds for Tilapia culture. A meeting was held with the Mayor to explain the objectives and to obtain her support. Training for community members in the basics of Tilapia culture will begin in July-August 2006.

Jewelry Making. CIDEA is also providing support to the Jiquilillos women’s group in making shell jewelry to sell at locations at the popular Jiquilillos beach. This group has a large percentage of single mothers and heads of households. CIDEA is assisting the group in improving production, ensuring quality control, opening other markets, and learning good financial management skills.

CIDEA and community partners are collecting data and conducting an economic analysis of these alternative livelihoods as well as alternative tourism. Data is also being collected from the small scale shrimp farmers who are receiving technical assistance for improving practices and working towards production of “green shrimp”.

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

Task and Milestones	Date Due	Status	Comments/Challenges/Constraints
Task A.2: Equitable livelihood development through mariculture and improved estuarine management			
Collect biological, physiochemical and socioeconomic information on cockle and other bivalve fisheries, resource management and users	December 2005	Ongoing Work continues on monitoring cockle growth rates. Co-management and research efforts in Padre Ramos are on hold until SELVA agrees to grant permission. Meanwhile, cockle research and co-	This was added as a distinct task in the revised work plan. The shellfish marketing study was completed and sent to CRC. The cockle growth rate monitoring continued and results were presented to CRC. The final results will be analyzed and sent to CRC in April. Implementation of the co-management strategies for the cockle fishery has not been possible since SELVA still has not granted

		management will be initiated in Aserradores (adjacent to Padre Ramos).	permission; as an alternative, work will begin in Aserradores which lies outside the protected area, but can still provide experience to the Padre Ramos stakeholders who will be included in the work.
Develop documentation, evaluations and business plans for alternative livelihoods and diversification of aquaculture	January 2006	On-going. Remaining 25% to be submitted in May 2006.	This is a task added in the revised work plan. Feasibility studies and economic analysis is on-going for hammock and bread making. Studies on rabbit and iguana rearing for FINCAMAR will begin in April 2006.
Develop cooperative agreements with other institutions: NGOs, governmental agencies, Peace Corps. Provide an institutional matrix to USAID.	August 2005	Updated matrix submitted in March 2006.	
Make training modules available through the SUCCESS KM system	Post course delivery	On target	Planning for training modules and KM system ongoing. Training modules to be posted after course completion.
Seek Sea Grant mentors for extension teams through Fulbright Senior Expert program and volunteer programs	April 2005	On-going although delayed.	Contact has not been possible with the Fulbright program. The Peace Corps has identified a volunteer that may be assigned to El Viejo (near Puerto Morazan). In April the Peace Corps APCD will visit the field sites to assess the possibility of inserting a volunteer in Puerto Morazan and Padre Ramos.
Review progress and apply adaptive management practices at training course	November – December 2005	Delayed due to scheduling conflicts with holidays	Training course re-scheduled for mid- 2006
<i>Task A.2: Livelihood development through mariculture diversification and sustainable fisheries management of the blood cockle</i>			
Engage in collaborative agreements with institutions and groups – institutional matrix	September 2005	<i>Matrix updated in April 2006.</i>	
Deliver extension support services to/for development of alternative livelihoods and natural resources management	Continuous	Advancing. Training at FINCAMAR will resume in April.	Implementation of sustainable livelihoods scheduled for January 2006. Training courses supporting natural resources management (e.g. mangroves, best management practices) have been given to communities of FINCAMAR, Manzano and Los Clavos. Training was provided in hammock making with the women's cooperative Altagracia. Research and identification of plant species in the forest near FINCAMAR (Rosita Farm) to be the site of a tourist trail will begin in April. Begin the feasibility study of

			<p>tourism, rabbits and iguanas in FINAMAR in April.</p> <p>Infrastructure improvements for the Tilapia culture trials were conducted in March. Training will take place in late July or early August.</p>
Develop and distribute extension materials (includes collaboration with EcoCostas manuals)	September 2005-May 2006	<p>Ongoing</p> <p>75% of Best Management Practices manual completed.</p> <p>Tilapia culture manual will be completed early in the next quarter.</p> <p>EcoCostas' chame manual was reviewed and comments sent.</p>	<p>Completion of Best Management Practices Manual projected for early next quarter.</p> <p>The Tilapia manual draft has been completed and will soon complete its review.</p>

Conduct series of one-day, mini-extension trainings	N/A	Will be reinitiated in April.	
Coordinate with Peace Corps and volunteers	Continuous (integration into activities)	Ongoing	Peace Corps has identified a volunteer to be placed in El Viejo. In April the APCD for business development will visit the CIDEA field sites to evaluate the possibility of putting volunteers in Puerto Morazan and Padre Ramos.
Implement activities related to cockles to increase revenues	Initiated December 2005, continuing through September 2006	<p>Ongoing</p> <p>Work at Padre Ramos is still on hold due to lack of permission from SELVA to work in the area.</p> <p>Work in Aserradores has been initiated.</p>	<p>Implementing research and co-management strategies in Padre Ramos has not been possible to due continued lack of permission from SELVA to operate in the area.</p> <p>Work in Aserradores has begun as an alternative to Padre Ramos. Stakeholders from the latter will participate in the work.</p>
Build capacity for bivalve culture	September 2005-January 2006	Ongoing	Growth study data for mangrove clams has been sent to CRC.
Continue technical assistance from SUCCESS to cockle/bivalve research efforts and linkages with other international efforts	Continuous through January 2006	Ongoing	CRC has sent technical information on bivalve culture and management. CRC and UHH personnel also provided training during March TDY.
Continue to conduct applied research and work with communities to select bivalve species and culture systems	Continuous through January 2006	Ongoing	Due to theft of pilot culture materials, continued data collection has not been possible. Six months of data has been collected and will be submitted to CRC in April.
Continue monthly water quality monitoring with Bayona community members to select bivalve culture sites. Discontinued.	Continuous through January 2006	<p>Ongoing</p> <p>50% complete</p> <p>Due to on-going thefts of bivalve culture pilot</p>	<p>Water quality analysis has been conducted on one occasion.</p> <p>Bivalve culture will be re-evaluated once microbiological data is gathered on safe shellfish culture</p>

		materials, the feasibility of continuing culture efforts is in doubt. This task is being replaced with monitoring of the microbiological quality of shellfish extraction areas.	sites and when a community has been selected that can assure that culture efforts will not be interrupted by theft.
Distribute findings	Continuous through January 2006	Ongoing	The study on cockle growth will be distributed in April.
Conduct capacity building workshops to support implementation	December 2005-January 2006	Delayed, will resume in April.	Due to the lack of permission to work in Padre Ramos from SELVA, efforts have been delayed at this site. Meanwhile, work has begun at an alternative site (Aserradores) and training will resume in April.
Conduct feasibility study and resource assessment	August 2005	On-going	Studies for hammock making and bread have been completed. Studies for tourism, rabbits and iguanas will begin in April.
Design and implement pilot	September 2005	Initiated.	Preparation of trial ponds began in January. Trials will begin when salinity drops during the rainy season.
Conduct training in tilapia culture	September 2005 - October 2006	Planned for July-August.	
Continue extension to support Best Management Practice efforts by FINCAMAR	Continuous	Ongoing	Technical assistance visits are made twice monthly.
Provide technical support for implementation	October 2005-August 2006	Ongoing	Technical assistance trips to provide implementation support made twice monthly. Training for hammock making was given in February.
Science for management: microbiological quality in shellfish extraction zones for two species of cockle in Padre Ramos, Aserradores, el Realejo and Chinandega. Note-this is replacing the water quality component listed above which was not funded.	One year. Through April 2007.	Initiated.	Presence of Hepatitis A will be monitored in four shellfish extraction sites.

On-the-Ground Story

Three species of cockles are harvested in Nicaragua. Based on studies contracted by the Ministry of the Environment and Natural Resources (MARENA), in 2003, Ministerial Resolution No. 54-02 established the following closed seasons:

- *Anadara grandis* (Burro's helmet) fishing prohibited until further notice
- *Anadara tuberculosa* (Black cockle) and *Anadara similis* (Black cockle) fishing banned from April 15 to July 15

Nicaragua is the poorest country in Central America and the second poorest in the Western Hemisphere. The coastal zone communities around the Natural Reserve, Padre Ramos Estuary, which is one of the SUCCESS sites, live in extreme poverty. This poverty puts direct pressure on the coastal resources and creates environmental, social and economic problems. For example, the communities of Kilaka, Kilakita, Puerto Arturo, which are located in the Reserve area, have always depended on the extraction of cockles for their subsistence. This protected area, however, is now under co-management by the nongovernmental organization (NGO) SELVA, which created the management plan for, including the ban on the extraction of cockles in, this protected area. Meanwhile, the communities have few to no alternatives to replace the cockle fishery.

One of the goals of the SUCCESS program in Nicaragua is to build the communities' capacity to implement integrated coastal management (ICM). The program is using the cockle fishery as an ICM early exercise—to test if it is possible to promote cockle culture in a way that optimizes the use of the cockle resources and at the same time considers sustainability. This activity has had great success in Asian countries, and perhaps it can have equal success in Nicaragua. One option for the culture is an extensive system of "ranching" whereby juvenile cockles are collected and protected until a suitable harvest size is reached. This system has the added advantage of being low-technology and may enhance natural populations through efforts to produce a number of large animals for broodstock and re-population of natural populations.

It is critical to implement a system of true co-management for cockles, a system whereby the communities are more environmentally aware and are capable of managing the fishery in a responsible, voluntary manner after appropriate training and with technical support. SUCCESS is seeking SELVA's agreement for this type of co-management and participatory research work. Without it, decision-making cannot go forward in Padre Ramos. A lack of scientific information to use in management decision-making and a lack of feasible alternatives for management are other factors that further complicate the situation. However, working together with the communities in the Estuary's protected area and with SELVA, the SUCCESS program hopes to find ways to continue providing the community with access to cockles, while still protecting the long term viability of this important resource and the biodiversity of the protected area.

Priorities for Next Quarter (April 1 – June 30, 2006)

In Padre Ramos, the priorities for the upcoming quarter are the feasibility studies and economic analysis for alternative tourism, bread making, rearing of iguanas and rabbits. Equally important is to provide support for the commercialization of the products and to introduce financial management to sustain the small businesses being developed.

Also important is initiating the cockle co-management strategies in Aserradores and microbiological quality monitoring in shellfish extraction sites to improve management of this key resource and to assure the safety and health of the communities dependent on the cockle fishery. At the same time, efforts will continue to be made to collaborate with SELVA and to obtain permission to conduct participatory research and co-management efforts in Padre Ramos. The stakeholder communities of Padre Ramos will however be brought in to participate in the Aserradores work so it will serve as a demonstration for them as well.

Research on fishers and changes in natural resources use will continue in Estero Real in collaboration with McGill University to support the national effort to implement the Management Plan for the estuary, a process in which CIDEA is closely involved as the major scientific and extension institution serving the surrounding communities. Equally important will be the Tilapia culture trials, which will provide an alternative for the small shrimp farmers and cooperatives of the Estero Real and other coastal areas.

Ecuador

Task No. A.3 Sustainable livelihood development and improved management of biological resources in the Cojimies estuary and watershed

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.

Report Period Accomplishments

- Permaculture training in Bolivar
- Agroforestry Training in Maldonado
- Small gardens activity
- Beekeeping and honey marketing activity
- A second chame culture effort started
- Participated in Peace Corps Training event at Cerro Blanco
- Improvements to the office in Chamanga
- Chame and small gardens manuals
- Shrimp Farm Case Study
- Chame production pilot project (with supporting funds from USAID-Quito)
- Planning for the possibility of constructing an ecological sewage treatment system for Chamanga

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

Task and Milestones	Date Due	Status	Comments/Challenges/Constraints
<i>Task A.3: Sustainable livelihood development through improved management of the blood cockle fishery in Cojimies</i>			
Prepare a governance baseline of the site in the context of recent governance efforts at larger scales	February 2005	~95% completed	To be completed in July, 2006
Prepare documentation of mini-case studies	August 2005	~80% completed	Four of five mini case studies are completed. The remaining case study (small gardens) will be completed in May 2006. The shrimp case study was completed in March 2006.
Establish Livelihood Diversification Fund for sustainability of local economic development	November 2005	Delayed- Possibly will be cancelled	The logistics of implementing a livelihood diversification fund through SUCCESS have slowed development of this program. Currently we are providing a very limited number of small grants for sustainable business pilot projects and seeking outside funding to develop a microcredit program for sustainable business in the area.
Produce extension manuals	December 2005	Delayed	Final revisions are being completed on the Chame and the small gardens manuals. They will be sent out to be printed in mid-April 2006.
Livelihood diversification pilot projects	Beginning in December 2005 (continuous)	Ongoing	Our first livelihood diversification pilot project was begun in February 2006 when we began a small garden project with residents of Bolivar. Three new pilot projects (in chame, small animal raising and beekeeping) are planned for the next quarter.
Prepare business plans with stakeholders for the various livelihood alternatives	December 2005 (for initial set of projects, continuous assistance to new participants)	Delayed	There is a EcoCostas/URI volunteer coming in late April who will be working on this. We also are planning a small business training with Peace Corps for may.
Deliver extension support services to support alternative livelihoods and natural resources management	Continuous	On going	EcoCostas provides regular and continual extension support to the Cojimies estuary communities through their extension personnel. Additionally, they have brought together a group of representatives from each of the estuary communities to act as locally-based promoters to provide support to the alternative livelihood and management activities. These individuals receive technical training and capacity building in extension techniques.
Conduct basic water quality monitoring to establish a baseline	Continuous	Delayed	We will buy some basic water quality monitoring equipment in May to monitor the water in chame ponds of groups we are working with. We have been approved to receive money from PMRC for a comprehensive water quality study. This funding would go to monitoring changes after this baseline is set. Unfortunately, PMRC has not given us a date for when we can begin implementation of this project.
Secure collaborative agreements with institutions and groups	Continuous	On going	Collaboration is being explored with New England Waste Systems-Ecuador (NEWS-Ecuador), Chamanga Parish Board and UMOG (district environmental officer) for Muisne for sanitation project in Chamanga; Peace Corps; Ethos for watershed management; Rio Muchacho Organic

			Farm for permaculture training.
Create GIS Maps	Continuous	On going	Land use maps will be distributed to schools in Chamanga in June 2006.
Organizational assessments of local governments (3) and community organizations (4)	Beginning in July, 2006	Newly added	This activity will take place over a six month period. The work will be done largely using volunteers.
Development of an Eco/Community tourism plan for the Mompiche-Portete-Bolivar corridor	July, 2006	Newly added	Ecotourism volunteer (to be in the field for May and June of this year) will do preliminary assessment of the potential to develop a Mompiche-Portete-Bolivar tourism corridor. Plan will be further developed in a meeting/training involving representatives from all three communities in June or July.
ADD ANY NEW TASKS			

Priorities for Next Quarter (April 1 – June 30, 2006)

The groundwork for several new initiatives will be started in the coming months. In the next quarter we will have several volunteers (one EcoCostas/Volunteers for Prosperity (VfP) and the other EcoCostas) who will assist us in the start-up of ecotourism and small business activities. The Program will also begin working with four Peace Corps volunteers placed near the Program area.

Various trainings in mariculture (chame and blue crabs), small business, and ecotourism are slated to begin and training activities in permaculture will continue. The blue crab culture is a new activity. Local communities will be taught to construct blue crab traps of bamboo and to construct cages where the crabs can be kept and grown to a marketable size. There are also several promising small enterprise projects (beekeeping, chame production and small animal production) that will be initiated shortly. Small animal production is another new initiative. The Program will buy a breeding pair of pigs (a cross between the village variety and a higher producing variety) for a local farmer (a member of the Asociacion Agricultores Simón Bolívar) who has been involved in the SUCCESS Ecuador Program from the beginning. This farmer will, in turn, give a small portion of each litter to other members of the association.

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 quarter was targeted at participants from SUCCESS on-the-ground field sites and supporting institutions. These events are summarized below:

Tanzania: Only one training was conducted during the reporting period. The topic was *Tilapia* farming and 18 individuals from the village—more than half were women—participated. The course covered all aspects of *Tilapia* farming from site selection, to pond preparation, fingerling selection and sexing, brood stock management, pond fertilization, stocking, pond management,

harvesting, economics, book-keeping and environmental assessment of the pond. Most participants will use what they learned to run seven existing ponds, while others are in the process of developing or promised to develop additional ponds. (At the time of this report, one individual reported having finished construction of a pond).

Nicaragua: CIDEA is giving a series of training sessions to shrimp farmers, cooperatives and extension agents in shrimp best management practices with support from SUCCESS and the Presidential Commission of Competitiveness, Fisheries and Shrimp Cluster. Seven installations of the course have been delivered to date, and will continue until June 2006. The topics covered have included general concepts of natural resources and protected areas, good practices for shrimp culture, pond design and construction, stocking and feeding, water quality, pathology, nutrition, food safety and quality and policy/regulations. Technical assistance is also being given on a regular basis in shrimp best management practices to FINCAMAR and AGROPESCA. FINCAMAR was also given a small amount of funding to build a small, local-style building as a venue for training courses and for future tourism use. During the March visit of Crawford and Haws, a seminar was held at CIDEA for university faculty and stakeholders on the themes of: 1) Management of MPAs, 2) Good practices for shrimp culture, and 3) presentation of the SUCCESS Program.

Ecuador: Permaculture training was delivered in Bolivar—the first village-based training as part of the SUCCESS Program in Ecuador. The training was targeted to the Asociación Virgen de Las Lajas in Bolívar (concheras group). As a result of the training, participants gained a general knowledge of organic agriculture and the preparation of compost. Agroforestry training was conducted in Maldonado. It was targeted to the Agriculturalists group in Maldonado/Bolivar. However, individuals from the communities of Bolivar, Maldonado and Daule also participated. As a result of the training, participants gained a general knowledge of how to use trees to increase their agricultural production (both crops and animals) and to improve their soils.

Certification Program

The CRC Director and the SUCCESS Assistant Director for Administration and Capacity Building developed a strawman for a certification program in ecosystem governance. It is based on the model of the certification program for financial planners. That strawman is to be presented in late April 2006 to a team from SUCCESS Ecuador and SUCCESS Nicaragua and other individuals from the Avina-funded Latin American Network for Coastal Management program. This team will discuss and amend the model to fit the Latin American context. Development of a skeleton curriculum will follow. In the third quarter 2006, the draft should be sufficient to distribute to a larger working group for comment and review.

As noted in section G (Volunteers) of this report, U.S. professionals provided value-added assistance to the SUCCESS Program including offering expert extension input to training courses. While there has been a great deal of effort put into communication on what is needed from the field in terms of training archive materials and information for the TraiNet system, it is clear that additional training is needed. CRC continues its efforts to make the process of moving this information from the field to the CRC offices more efficient and timely. Meanwhile, the Program is compliant with TraiNet regulations.

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

Task and Milestones	Date Due	Status	Comments/Challenges/Constraints
Task B.1: Regional Capacity Building			
Disseminate training materials from LA and EA first courses	July 2005	Delayed	While theme-based KM system still under construction, training materials being archived at CRC but not distributed on web
Produce design for extension bulletin series	July 2005	Cancelled	Agreement reached at October 2005 partners' meeting that no one "template" or design look or feel to be imposed; each country and bulletin will retain its own design identity
Develop action plan to fund and design certification program (if research study indicated high demand and feasibility)	July 2005	Delayed	Workgroup being formed in second quarter Year 2; workgroup will develop plan of action
Disseminate training materials from LA and EA second courses	September 2005	Delayed	While theme-based KM system still under construction, training materials being archived at CRC but not distributed on web
Identify potential trainers and training curriculum from the LA and EA networks for inclusion in Summer Institute 2006	September 2005	Ongoing	To date, one co-trainer from the first EA course has been identified and recommended
Deliver three Ecuador courses on livelihoods	December 2005 - March 2006	Ongoing	First of series of courses began in late January 2006 starting with training in small family gardens using permaculture approach

C. REGIONAL NETWORKS AND KNOWLEDGE MANAGEMENT

Background

The CRC SUCCESS project 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 has focussed on gathering and analyzing information on the trajectory of change in governance of coastal ecosystems at select sites in Latin America. This data set comprises information on the places, projects (and generations of governance initiatives), people. While place and project profile information is collected, a large portion of this effort is encompassed in the Governance Baseline module where both the process and results of these initiatives are detailed, analyzed and made available for review and comment. This module, and the analysis it contains, is being applied to the SUCCESS Program sites in both Latin America and East Africa.

Report Period Accomplishments

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

Efforts to establish a web-based knowledge management system in Latin America have progressed with the acceptance of the architecture at the Guayaquil planning workshop in January 2006. Small modifications will be made to the structure of the Governance Baseline module as a result of workshop input. A KMS Working Group (KMSWG) was formed at the workshop and has been tasked with developing documentation on the structure, purpose and operation of the KMS. Funding for this effort continues from the AVINA Foundation. Phase II of the effort is slated to begin in May 2006.

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

Establishment of a web-based KMS for East Africa progressed with a planning meeting at WIOMSA in February 2006. It was decided that WIOMSA will consider hosting an effort to build a web forum for mariculture. It would provide for a moderated discussion on mariculture and would be organized around specific topics relevant to the CRC approach. CRC will assist with this system as it develops and work to integrate the system into CRC initiatives on the mariculture theme. The desire is for this system to connect with efforts in Latin America to build out a South-South exchange of information on small-scale, community-based mariculture information.

Task C.3 KM support to other SUCCESS activities

Design and construction of the Monitoring and Evaluation (M&E) system for tracking indicators across SUCCESS Program sites is nearly complete. Testing and evaluation of the design and the modular data entry and reporting system has started. The system will be completed in the next quarter and will be tested internally before being deployed to the SUCCESS field partners.

Support to the SUCCESS volunteer activity has begun with the development of a photo slide show application for the web. SUCCESS staff will be trained on how to use this application to upload photos and slides directly. The application is generic enough that it can be used for the other SUCCESS activities as well.

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

Task and Milestones	Date Due	Status	Comments/Challenges/Constraints
<i>Task C.1: Development of a web-based knowledge management system (in LA)</i>			
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 2005	Delayed	System is configured for Governance Baseline (GB) data collection and display. Design will be evaluated January-February 2006 by LA partners. Finalization of the governance baselining system will continue Q1, Q2 of '06.

Make available in a compatible, layered, web-based system the materials generated for and developed by the initial training courses	September 2005	Delayed (<i>anticipated Q3 Yr 2</i>)	Courses were conducted at much later dates than listed in the original workplan thereby creating a ripple effect of delays for this task. This effort will re-commence Q3 '06 with development of the theme module and aquaculture content.
Make available to members of the LA regional network the materials generated in support of a Sea Grant-like program	April-September 2005	Pending	Assessment of interest in building a Sea Grant-like network of linked programs will need support from leveraged activities in SUCCESS regions.
Task C.2: Preparation for development of web-based knowledge management system (EA)			
Prepare templates for assembling data and conducting an analysis of mariculture initiatives in the region	May 2005	Delayed (<i>anticipated Q3 Yr 2</i>)	Planning and design work will begin in January 06 with a new scheduled completion date of 30 June 06
Prepare for launching an English version CRC KM system in Year 2 with links to the existing WIOMSA web page	August 2005	Delayed (<i>anticipated Q3/4 Y2</i>)	Design consultations will begin in Feb 06 with a TDY to Tanzania.
Task No. C.3 KM support to other SUCCESS activities			
Design PMP database system including required report formats	October 2005	completed	The data system has been completed
Program PMP web pages	November 2005	Partially completed	Data input forms for all indicators have been built. Remote logon system has not been completed and will be constructed Q3 06. The reporting system has been completed to fit the model given. Additional reporting output to an MS Excel file has been done. Printable reports will be constructed in Q3 06.
Enhance SUCCESS Volunteer page on CRC website	November 2005	Partially completed	The volunteer project has been built. Linkages to SUCCESS project activities, and an online slideshow of experiences is being worked on in Q3 06.
Test PMP web input system	December 2005	Partially completed	Input forms are complete and the system is being tested with this quarters reporting by having in-house staff load the data system through the form-based input.
Complete PMP web-based database system	December 2005	Delayed	Target completion date, July 06.
Develop on-line SUCCESS Volunteer application materials	December 2005	Delayed	This task is awaiting completion of the volunteer project/activity entry and completion of the PMP activity. An online application form will be built with target completion of June 2006.

Priorities for Next Quarter (April 1 – June 30, 2006)

Completion of the reporting system for the M&E application will take top priority. Currently, reports are structured based upon reports from the M&E plan. However, new additional reporting fields are being discussed. Meanwhile, the Microsoft Excel output option has been generated. What remains is to provide a mechanism for producing a clean, printable format from the web system. A determination of the need for changes to the layout will be undertaken in this

next quarter. The application will be tested in-house in the next quarter and any small adjustments needed to the data system or data entry will be addressed. The remote login procedure will also be developed.

The KMS work on the mariculture theme will be designed. Construction of the code will be started. The system will initially be built around the existing CRC website with linkages being designed, but not constructed, for future interaction with collaborative web forums and document management systems being thought out for networks of practitioners in Latin America and East Africa.

D. SCIENCE FOR MANAGEMENT

Background

SUCCESS science for management includes two sub-components: cross-project learning and site-level science for management. This work is linked closely to the Knowledge Management activities and the Monitoring and Evaluation framework currently under development. 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, CRC organized a learning session as part of the IMCAFS partners meeting and it was decided that the IMCAFS learning component would focus on:

- a. Advancing the state of the art in integrated water resources management (IWRM) and integrated coastal management (ICM) on selected themes/questions in order to leave a legacy; and
- b. Disseminating advancements in the fields to other practitioners and policymakers.

From the 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 worked on a desk study of existing knowledge on this topic. Results of this study will be presented at the July 2006 partners’ meeting and a decision will be made on how to move forward with researching and learning on this topic.

For the SUCCESS-specific learning components, CRC explored and prepared a concept paper on the two topics of governance and livelihoods. The learning team deliberated and then decided to put the governance learning topic on hold and to dedicate the team’s time and resources to pursuing only the livelihood topic. Under the microenterprise learning agenda, CRC will measure, understand, and analyze what leads to successful livelihoods in different contexts. Two general research questions will form the basis of an impact assessment conducted in each SUCCESS field site, 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?

Science for Management at the Site Level

In the SUCCESS field sites, many topics and issues have emerged for which key information is lacking to develop management solutions or in the case of the on-the-ground results, to determine which strategies are feasible or most desirable. SUCCESS has a limited capacity to carry out applied research to answer all of these questions, and in many cases, original research is not necessary since it is often a case of transferring information or experiences from other cases or models. However, a few key needs for scientific inquiry have been identified and means to address these are being developed.

For example, in Nicaragua, Hepatitis A is often transmitted through cockles. Yet, cockles are a mainstay for the local diet and one of the few sources of income for many stakeholders. So among other efforts, CIDEA is taking water samples from three sites along the two estuaries for 10 months—during both the wet and dry seasons—and analyzing those samples for *E. coli*, *Salmonella* and *Vibrio parahaemolyticus*. Results will help indicate where shellfish may be safely grown or gathered and which estuary sites are subject to pollution. This data will be used in raising community awareness on aspects of and the relationship between water quality and human health.

Report Period Accomplishments

Accomplishments in the current reporting period are:

- Microenterprise concept paper drafted
- IMCAFS desktop study initiated
- Development of a proposal to assess water quality and public health issues related to cockle harvests in Nicaragua
- Progress on a research design to assess whether pesticides may be the cause of low cockle abundance in Cojimies estuary

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

Task and Milestones	Date Due	Status	Comments/Challenges/Constraints
<i>Task No. D.1. Develop the key hypotheses concerning best practice in ICM</i>			
Refined learning agenda complete	November 2005	Complete	We have two learning agendas – one for IMCAFS and one for SUCCESS. We say that they are complete because the topics and questions have been selected, but we expect that it will be an evolving process as we move along with designing data collection instruments, etc.
Develop the strategy journal model	December 2005	Activity removed	Since we have put the governance learning agenda on hold, we have decided not to pursue developing

			strategy journals. This activity will however be pursued under the Avina network.
Define the cross-cutting science for management projects	January 2006	Completed	Science for management topics selected in Nicaragua and Ecuador.

Priorities for Next Quarter (April 1 – June 30, 2006)

In the next quarter, there are two major priorities under cross-project science for management. The first is to design the methods and survey instruments for the microenterprise impact assessment. The second is to finalize the IMCAFS study to learn how valuation of coastal, marine, estuarine systems is being used to influence upstream management decisions.

E. GLOBAL LEADERSHIP

CRC continued to engage in a number of initiatives that contribute to global leadership in coastal ecosystem management – activities that are complementary and contribute to the SUCCESS Program but which are not supported directly with SUCCESS funds.

During this reporting period, final editing and responses to reviews have continued on a suite of technical reports that disseminate and further refine the conceptual frameworks and participatory ecosystem management practices developed through CRC/USAID Cooperative Agreements. These are *The Guide to Managing Freshwater Inflows to Estuaries* (with USAID and The Nature Conservancy), and *A Marker for Assessing Progress in Linked Watershed and Coastal Management* (with UNEP/GPA).

A major effort was made to work with an interdisciplinary team supported by the Global Environmental Facility (GEF) to prepare a *Handbook on the Governance and Socio-economics of Large Marine Ecosystems* (LMEs) and deliver a week long training session on these topics for participants in LME management efforts from around the world. The Handbook applies the Policy Cycle and the Orders of Outcomes framework to LME issues and to the planning process required by the GEF. The Handbook and workshop are the first of their kind and have been warmly received. The Handbook will be widely circulated by National Oceanic and Atmospheric Administration (NOAA), the GEF and the UNEP/GPA (United Nation’s Environment Programme’s Global Plan of Action) program.

As a member of the Land Ocean Interface in the Coastal Zone (LOICZ) Scientific Steering Committee, the CRC Director was asked to lead working groups on one of three priority topics identified at a meeting in Berlin in December 05. The topic is: “*How can comparative analysis inform the improvement of the governance of human activities in changing coastal ecosystems?*” Such analysis is being pioneered by the current and former CRC/USAID Cooperative Agreements and can do much to strengthen the practice.

The CRC Director has agreed to work with the UNEP/GPA program to prepare materials for presentation at a major meeting on the completion of the first ten years of this program to be held in Beijing in October 2007. This includes preparation of papers on the importance of participatory approaches to ecosystem governance and the use of the Orders of Outcomes framework when assessing progress in ecosystem management initiatives.

Finally, at a meeting in New York City in late March, the Carnegie Hall Chorus agreed to make its 2007 program in the United States and Latin America a series of benefits for a Trust Fund designed to support coastal ecosystem governance initiatives in Latin America. This is an exciting development that has the potential to address the critical problem of sustained core funding for high quality coastal management initiatives in the region.

Priorities for Next Quarter (April 1 – June 30, 2006)

During the next quarter the technical reports now nearing completion should all be in the layout and printing phase. Major efforts will be made in support of the Trust Fund, in the preparation of materials for the UNEP/GPA program and in organizing LOICZ workshops on comparative analysis of coastal ecosystem governance efforts.

F.

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. On-the-ground activities in Tanzania, Ecuador, and Nicaragua, intentionally aim for gender equity. 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 percent of the seaweed farmers are women. In both Ecuador and Nicaragua, women comprise the majority of the cockle harvesters in the project sites and therefore women make up a large share of key stakeholder groups and targeted program beneficiaries – for example, in Nicaragua, 75% 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 50% of those individuals participating in coastal resources and conservation planning initiatives and 47% of those individuals who were trained.

Health: HIV/AIDS

Health is an emerging issue within the CRC portfolio. The second year of the *Population, Equity, AIDS, and Coastal Ecosystem* (PEACE) project is being implemented in Tanzania. PEACE works in the interface between HIV/AIDS, population, equity and coastal conservation. While the PEACE project is not part of the SUCCESS Leader Award or 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.

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 contamination in shellfish can result in health problems and what practices to undertake in order to avoid such contamination.

Priorities for Next Quarter (April 1 – June 30, 2006)

A priority for next quarter is to develop a survey instrument to study the impacts of the SUCCESS livelihood activities on women (e.g. to determine if these activities are increasing the assets of women).

G. VOLUNTEERS FOR PROSPERITY

Background

The Coastal Resources Center has a long history of using volunteers in its international work. To date, the SUCCESS Program has assigned volunteers to Tanzania and Ecuador.



Construction of a secondary gate in Mkadam site in Tanzania with the assistance of former volunteer Edwin Requentina

Selected Program Highlights in Current Reporting Period (Jan 1 – Mar 31, 2006)

The Volunteers for Prosperity (VfP) program highlighted CRC's volunteer program in its 2005 report to The White House. The story of volunteer Edwin Requentina was highlighted in the report was also featured on the front page of VfP's web site. CRC is participating in VfP's beta testing of a new on-line donation program that allows corporations, individuals and organizations to donate money directly in support of volunteer assignments, such as the SUCCESS volunteer assignments.

Report Period Accomplishments

During this reporting period, no volunteers were assigned to field sites. However, new assignment opportunities were posted on CRC and external websites and listserves. Some of the external websites were chosen because they were specific to an assignment. For example, the beekeeper assignment was advertised not only on generic sites for international volunteers, but also on a specific beekeeping site. The volunteer section of the CRC web site was updated to include not only current volunteer opportunities but also returned volunteer stories and reports. CRC's volunteer program began collaborating with Partners of the Americas to advertise CRC's Latin America volunteer assignments and has since received numerous applications for assignments in Nicaragua.

The SUCCESS Nicaragua has also hosted and mentored three international volunteers—students at McGill University. They are conducting studies on resource use and recent changes in the Gulf of Fonseca and conducting a preliminary diagnostic of fishing activities in the Estero Real. Because of their student status, they do not qualify as part of the SUCCESS official volunteer assignments. However, the information they are gathering will significantly contribute to estuary management activities and to development of sustainable enterprises.

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

Task and Milestones	Date Due	Status	Comments/Challenges/Constraints
<i>Task F.1: Volunteers</i>			
Initiate limited partnerships with two or three international volunteer organizations established	March 2005	Completed but on-going as new opportunities arise	The Thailand project is no longer using volunteers. Collaboration with Partners of the Americas began in March 2006
Conduct in-country and CRC volunteer needs assessments	April 2005	On-going	This is on going. All assignments completed have been assessed
Recruit and screen volunteers	June 2005	Ongoing	Applications have been received and are being reviewed by UCA and Maria Haws for volunteers to Nicaragua.
Orient and assign volunteers	July 2005	Ongoing	
Evaluate and make recommendations for Year 1 volunteer program	September 2005	Delayed	Rescheduled to 2007
Engage CRC, WIOMSA, EcoCostas and UCA in the volunteer program by identifying detailed volunteer job	October 2005	On-going	In October the partners met and developed draft volunteer assignments. Volunteer assignments

descriptions for posting on the CRC website for Year 2			drafted from the field offices will be on-going
Conduct an external evaluation of the international volunteer program with recommendations for program improvements	November 2005	Re-scheduled to 2007	Postponement is based on recommendations of Director of URI Volunteer Center.
Post volunteer jobs on various websites and list servers with emphasis on locating female professionals as volunteers	December 2005	Completed and on-going	Volunteer descriptions received from Nicaragua and posted. Some listservers were used that have a predominant female audience

Priorities for Next Quarter (April 1 – June 30, 2006)

Priorities for next quarter include:

- Interview, hire and orient one to two volunteers for assignment to Nicaragua.
- Update the CRC volunteer web site to include more volunteer opportunities and stories of returned volunteers.
- Craft and disseminate through listserves an announcement of the volunteer section on CRC's website.
- Solicit and post/advertise SUCCESS partners' requests for volunteer assignments

H. MONITORING, EVALUATION AND REPORTING

Background

The SUCCESS monitoring and evaluation (M&E) activity includes two components:

1) Performance Management and 2) Learning. The SUCCESS Performance Management Plan (PMP) was approved in January 2006. A summary of our PMP indicators for January 1st – March 31st, 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. Currently, field teams send PMP data via email to the PMP coordinator at CRC. However, development is underway on a web-based database system that will allow field site personnel to directly input their PMP data. This system should be operative by the end of next quarter.

Under the learning component, we are engaging in activities to promote applied research and adaptive management. Three major elements are:

- Governance baselining
- Development of a SUCCESS learning agenda (see science for management)
- Development of an IMCAFS learning agenda (see science for management)

Governance baselines have been conducted in each field site. These map out the recent history of management and the status of the enabling conditions for ICM in the six field sites. They provide a basis for fitting the SUCCESS activities into the larger ICM goals in each site. They also give an overview of the current knowledge about the status of environmental resources– information that will be useful as we prepare biodiversity threats assessments next year.

Selected Program Highlights in Current Reporting Period (Jan 1 – Mar 31, 2006)

Program highlights for the current reporting period are:

- A beta-version of the web-based monitoring system was finalized and is currently being tested. A final version will be online for the July Semi-annual report.
- The Nicaraguan governance baselines were published by UCA.
- A draft concept paper for studying the impacts of the SUCCESS microenterprise activities was completed.
- The IMCAFS learning agenda progressed and CRC is preparing a desktop study on how valuation of coastal, marine, estuarine systems is being used to influence upstream management decisions.
- The PMP was revised slightly and targets were added to correspond with changes to the USAID/EGAT NRM strategic objective indicators.

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

Task and Milestones	Date Due	Status	Comments/Challenges/Constraints
<i>Monitoring and Evaluation</i>			
Develop 1 st order governance baselines for each field site (steps 1 - 3 in the policy cycle)	June 2005	Almost completed	These are part of the governance baselines, which has been completed for all sites except Mkuranga. The problem with Mkuranga is the lack of background information about the site. One reason for this might be that it is a new district in Tanzania.
Determine selected targets for outcome mapping of 2 nd order outcomes and construct outcome maps	June 2005	Completed	Second order outcomes will be measured as part of the PMP and its indicators.
Web-based monitoring system developed	June 2006	On target	The system has been developed and is currently being tested in-house.
PMP indicators and targets revised based on USAID feedback	April 15	Almost completed	Targets on hectares are pending from the field sites

Priorities for Next Quarter (April 1 – June 30, 2006)

A major priority for the next quarter will be to finalize the web-based PMP database and ensure that both the data collection and report writing functions work properly. The goal is that field teams will use the data entry system as part of preparing the July 2006 Semi-Annual Report. Final touches to the Tanzanian governance baselines are needed and will be made prior to publishing on our websites. The concept paper for conducting a microenterprise impact assessment will be drafted and survey instruments for this study will be designed. An IMCAFS learning day will be planned in collaboration with Florida International University (FIU). The CRC “learning paper” will be presented at that meeting.

II. MANAGEMENT ISSUES

With the Program well into its second year, most management issues have been addressed. A few, however, remain a challenge.

- The timing of the annual meeting of the full SUCCESS team was problematic in the past. Specifically, the meeting was scheduled too close to the due date for the annual workplan, leaving insufficient time for ample discussion and revisions prior to the workplan's submittal to USAID. This year's meeting is scheduled for July 2006 and should correct this problem.
- USAID branding continues to be a challenge—especially since the official co-branding guidelines for partners with cooperative agreements and grants are not yet published. While the SUCCESS sites have been complying with the contractor guidelines currently on-line, the sites—along with the CRC office—are hesitant to invest time or money in following each change that is issued while knowing the co-branding guidelines will be issued soon and could differ from the guidelines currently posted. With this said, the SUCCESS Program in Tanzania has produced a branding strategy for the mission and the Thailand Associate Award Program has done the same for the Regional Development Mission/Asia. Feedback on those strategies/plans is forthcoming.
- The Spanish-English language challenges remain but are being minimally eased by CRC having increased the number of its bi-lingual volunteers on call for English-Spanish-English translation.

III. UPCOMING CHALLENGES AND CONSTRAINTS

The Program team continues 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. We have identified a few areas of common interest concerning a learning agenda, and have established a web portal (www.imcafs.org) that shows both programs falling under the IMCAFS umbrella and with links to each program's respective web pages. However, identifying on-the-ground linkages remains more elusive.

There are indications that the Program effort is spread too thin in Tanzania – potentially requiring the Program to end its current activities in Tilapia at the end of the Year2 workplan year.

The web-based, interactive PMP data collection and reporting system remains under development but is close to finalization. Challenges arise, however, with the more overarching issue of changing strategic objective-level indicators for USAID and with the greater need to link SUCCESS more strongly to biodiversity.

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. With that said, the Program has made modest progress in this area, whereby Sea Grant partners from the University

of Alaska and Louisiana State University have contributed personnel time to training events in East Africa and the Latin America region.

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 and 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.

During this most recent quarter, numerous discussions were had on the topic of the biodiversity earmark requirements. The governance baselines prepared at each site, do a very good job of discussing trends and conditions of resource use and governance arrangements for each place. However, they do not do an adequate job of explaining specific biodiversity assets and significance, threats to bio-diversity, and how the SUCCESS Thailand Program activities contribute to addressing these threats. Therefore, over the next quarter, more time will be spent talking with partners how to prepare more specific threats assessment documentation for each site. This process may result in considering changes to some work activities for next year. In addition, this process will also help more clearly identify biophysical monitoring that will be started in Year 3.

IV. ASSOCIATE AWARDS

Thailand

Key accomplishments over the period January-March 2006:

First Regional Lessons Learned Workshop. The Workshop was held February 15-17 followed by a Ranong project site visit and the Intergovernmental Oceanographic Commission meeting in Phuket on ecosystem and **biodiversity** impacts of the tsunami. By linking with the IOTWS project, it was possible to share some travel costs. Participants appreciated the time in the field and commented on how well designed the workshop was in comparison to others. The Learning Workshop captured many issues, experience, and recommended good practices in five categories (sustainable fisheries and aquaculture, microfinance and building diversified livelihood opportunities, community-based disaster preparedness, infrastructure reconstruction and coastal development, co-management of marine parks and fisheries). Recommendations include good practices to protect **biodiversity**.

SUCCESS Thailand conducted **two workshops on better fishing practices to conserve biodiversity and maritime safety** for the benefit of the 20 recipients of SUCCESS Thailand boats and engines. The team of Brian Crawford, Chris Dunbar and resource persons from several Thai government agencies delivered the interactive program. The training was well received and recently the Department of Fisheries (DoF) expressed interest in implementing similar workshop in other Tsunami affected communities

A second training session on resilient coastal communities was held in March 2006. The communities **completed draft evacuation plans, community hazards maps, and draft disaster management plans**. A tsunami-resilient community assessment tool was developed and tested. **The assessment tool includes guidance on enhancing the ability of the natural system to act as a bioshield to protect people and their livelihoods by conserving, managing and restoring wetlands, mangroves, spawning areas, seagrass beds and coral reefs.**

The 4th and 5th **Khampuan in Action Newsletter** was published. The newsletter serves as a communication link between the community leaders, government leaders and the project. Community feed back has been positive.

Solid waste management. The first phase (inception workshop and study tours) was completed. A team lead by Asian Institute of Technology (AIT) faculty conducted a study of the composition of waste and the potential for composting and recycling. They recommended that a small micro enterprise could be supported by selling both the compost and the recyclables. **Two waste management study tours** were completed. The first was for community members and the second was for Tambon-level authorities. These study tours had a positive impact on the community and on TAO support for recycling and waste management planning



Waste at the Kamphuan dump being sorted
Before weighing for composition study

A small-scale, appropriate technology fish hatchery was completed in February with the capacity to produce one million fish seeds annually. Spawning trials were successfully

conducted. This hatchery will be managed and operated by a community group. Training on artificial insemination, fertilization, incubation, and larval feeding/rearing was provided by Kevin Hopkins of the University of Hawaii, Hilo in March 25-31, 2006. The purpose of this low-impact aquaculture is to **reduce pressure on marine biodiversity**.

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

- **Cash-for-work programs** were completed in five communities; benefiting 326 people (181 male, 145 female).
- **Agricultural training** was provided to 100 farmers on improving the standard of safety of agricultural products.
- An **MOU with local authorities** (TAO) was signed.
- A **Site for green learning center was approved**, the building design finalized and the contractor selected.
- **Progress in National Park co-management**. Brian Crawford visited in January to identify strategies for co-management and **conservation of marine biodiversity**. Three joint meetings have been held with JoMPA (DNP/DANIDA) since Brian Crawford's visit to take some of his recommendations forward. Proposals for training and study-tour are under development.
- SiriConsult provided further training to monitor progress of micro-finance loan recipients.
- A senior Thai national was hired to take on the task of microenterprise and microfinance monitoring and extension. Over 250 loans have been disbursed.
- **29 water tanks were provided to households** in the community.
- Participated in a meeting organized by Australian Embassy on 'Strategic Planning for Coastal Management' and led by Clive Wilkins.
- Attended Andaman Forum Meetings in Krabi and Phuket.
- Chaired sessions on Livelihoods component of the Program in IOC meeting in Phuket
- Presented SUCCESS Thailand Program accomplishments at a meeting entitled: Post-Tsunami Rehabilitation of Fisheries and Aquaculture led by the Food and Agriculture Organization and the Department of Fisheries (FAO/DoF) on 22 March 2006.
- An office assistant was hired.
- **An Herb-drying enterprise was established** with leveraged support from Peace Corps.

V. CONTACTS WITH USAID MISSIONS

Tanzania

There were no direct contacts by the SUCCESS team with the USAID mission in Tanzania during this reporting period. However, TCMP represents and reports on SUCCESS activities during ENV SO meetings held quarterly by the Tanzania Mission along with work directly funded by the mission. The SUCCESS coordinator at WIOMSA is also invited and attends periodic meetings conducted by TCMP to ensure project activities are fully coordinated.

Nicaragua

A meeting was held with Steve Olive of USAID/Nicaragua during the March 2006 visit of Brian Crawford and Maria Haws. Crawford and Haws presented the current status of the SUCCESS

Program. The SUCCESS team was also interested to gain more information on the Comprehensive Mitigation Assessment Process (COMAP) project, given the difficult situation with SELVA in the Padre Ramos area. USAID was briefed on the issues related to collaboration and lack of success in obtaining permission for CIDEA to work in the SELVA-controlled protected area.

Ecuador

On February 24th, there was a meeting with Thomas Moore from the Democracy and Governability office at USAID-Quito. A second meeting was held with the Environment office including Thomas Rhodes, Director of the Environment Office and Rocio Cedeño, Project Specialist. Emilio Ochoa, Derek Simmonds and Maria Haws were in attendance representing EcoCostas. USAID requested assistance from SUCCESS to conduct a feasibility study on pearl oyster culture in the Galapagos Islands as part of the effort to develop alternative livelihoods for fishers and other stakeholders. The NOAA Marine Sanctuary Office is currently working in the Galapagos and may potentially fund such as effort. Dialogue between NOAA, SUCCESS and USAID has continued since the initial meeting and a preliminary concept paper submitted.

Thailand

The Chief of Party (CoP) has frequent meetings with the Mission both for the Post-Tsunami Sustainable Coastal Livelihoods Program and the U.S. government Indian Ocean Tsunami Warning System (IOTWS) project. The Cognizant Technical Officer (CTO) for the Thailand SUCCESS Program was transferred from Winston Bowman to Saengroaj Srisawaskraisorn. Drs. Tobey and Bart participated in the Regional Environment Office's PMP workshop on February 9, 2006. The Deputy Director of Regional District Mission/Asia, the CTOs of the Thailand SUCCESS and the IOTWS project, others from the Mission attended the February 2006 regional learning workshop at AIT.

Annex A: Summary Results of the Performance Management Plan

Overview of the Results Year 2, Quarters 1 and 2

This table gives an overview of the “rolled-up” results for SUCCESS in Year One and Year Two (until 03/31/06). It shows the results for FY 05, the first two quarters of FY 06, and the cumulative results to date.

IR. 1 Improving management and conservation across diverse landscapes through science, inter-disciplinary approaches, and the adoption of best practices.	Indicator	FY 05 Results	FY 06 Quarter 1	FY 06 Quarter 2	Cumulative results
Sub IR 1.1 Governance of Coastal Resources Improved at the Site Level	1. Number of hectares with improved natural resource management, including biologically significant areas, watersheds, forest areas, and sustainable agricultural lands	132	5,230	7,115	12,478
	<i>Number of biologically significant hectares</i>	55	5,557	1,093	6,704
	<i>Number of watershed hectares</i>	50	5,228	1,349	6,627
	<i>Number of forested hectares</i>	0	2,320	2,268	4,588
	<i>Number of hectares under agriculture/aquaculture</i>	5	341	36	382
Sub IR 1.2 Biophysical Conditions Improved at the Site Level	2. Number of hectares showing stable or improved biophysical conditions for selected parameter(s)	Not measured until 2007			

IR. 2. Promoting equitable coastal resources governance and management of natural resource conflicts.	Indicator	FY 05 Results	FY 06 Quarter 1	FY 06 Quarter 2	Cumulative results
Sub IR 2.1 Policies formally adopted	3. Number of sustainable natural resource management and conservation policies, laws, agreements, or regulations implemented	0	0	1	1
Sub IR 2.2 Funding secured	4. Leveraged funding and financing	164,437	2,250	44,965	211,652
Sub IR 2.3 Equitable participation achieved	5. Number of persons participating in coastal resources and conservation planning initiatives	123	93	129	345
IR 3. Increasing tangible and equitable economic benefits through sustainable production, marketing, and trade of natural resource-based products and services.	Indicator	FY 05 Results	FY 06 Quarter 1	FY 06 Quarter 2	Cumulative results
Sub IR 3.1 A large number of stakeholders benefiting from sustainable enterprises	6. Number of full time jobs in excess of two weeks created	124	28	200	301
Sub IR 3.2 New or improved sustainable enterprises developed for a broad number of coastal residents.	7. Number of new or improved enterprises developed	47	13	92	152
Sub IR 3.3 Increased monetary value generated from new or improved enterprises	8. Monetary value generated from sustainable natural resources or conservation initiatives (USD or equivalent)	Not measured until 2007			
IR 4. Knowledge and best practices are widely shared to promote cross learning	Indicator	FY 05 Results	FY 06 Quarter 1	FY 06 Quarter 2	Cumulative results
Sub IR 4.1 Regional Training Provided to Support Enabling Conditions and Share Best Practices	9. Number of people trained (gender disaggregated)	93	133	88	314
Sub IR 4.1 Regional Training Provided to Support Enabling Conditions and Share Best Practices	10. Number of training courses implemented	5	9	3	17

Sub IR 4.2 Regional Coastal Governance Networks are Promoting Cross-Learning	11. Number of active participants in web-based regional networks	20	1	0	21
Sub IR 4.3 Impacts of good practices are documented and codified at the community scale	12. Publications documenting impacts of best practices	3	0	2	5
CT 1. Volunteers for Prosperity	Indicator	FY 05 Results	FY 06 Quarter 1	FY 06 Quarter 2	Cumulative results
CT 1. Volunteer international opportunities provided to US professionals to work on technical projects overseas.	13. Number of American volunteers	2	1	0	3
CT 1. Volunteer international opportunities provided to US professionals to work on technical projects overseas.	14. Volunteer person days	24	16	0	40
CT 1. Volunteer international opportunities provided to US professionals to work on technical projects overseas.	15. Value of volunteer time (\$)	12,636	2,203	0	14,839
Gender mainstreaming	Indicator	FY 05 Results	FY 06 Quarter 1	FY 06 Quarter 2	Cumulative results
Sub IR 2.3 Equitable participation achieved (Ind 5)	16. % females participating in coastal resources and conservation planning initiatives	74%	78%	50%	67%
Sub IR 3.1 A large number of stakeholders benefiting from sustainable enterprises	17. % females with new full time jobs in excess of two weeks created	75%	36%	93%	81%
Sub IR. 4.1 Regional Training Provided to Support Enabling Conditions and Share Best Practices	18. % females trained	30%	26%	47%	33%
Sub IR 4.2 Regional Coastal Governance Networks are Promoting Cross-Learning	19. Number of female participants in web-based regional networks	40%	38%	38%	38%