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Performance Evaluation for the Coastal PWANI Project

FINAL REPORT

November 2013

This publication was produced at the request of the United States Agency for International Development. It was prepared independently by International Business & Technical Consultants, Inc. (IBTCI).

PERFORMANCE EVALUATION FOR THE COASTAL PWANI PROJECT, TANZANIA FINAL REPORT

Contract No: AID-RAN-I-00-09-00016

Order No: AID-621-TO-13-00002

COVER PHOTO

Credit: Arthur H. Mitchell

Focus Group Discussion with Project Beneficiaries at Mkalamo Village, Pangani District, Tanzania

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The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

ACKNOWLEDGEMENTS

The IBTCI team members for the Performance Evaluation of the PWANI Project wish to thank Mikala Lauridsen, Gabriel Batulaine and Robert Layng at USAID/Tanzania for their guidance throughout the evaluation process. We thank Elin Torell and Jim Tobey of the Coastal Resources Center of the University of Rhode Island (CRC-URI) for their support and for providing much information. Elin Torell (PWANI CoP) provided an enormous amount of background information and was always available to provide whatever we needed for the evaluation.

Baraka Kalangahe, Jairos Mahenge, Wilbard Mkama, Jeremiah Daffa and the staff of TCMP, Bagamoyo, assisted with logistics and field support in Bagamoyo and Pangani. In Zanzibar, excellent field assistance was provided by Dr. Narriman Jiddawi of IMS and Abdulrahman Ali Abdalla of WIOMSA.

We would like to especially acknowledge and thank participants of Focal Group Discussions and key informants at villages in Bagamoyo (Mlingotini, Kitonga, Saadani and Mkange), Pangani (Mkalamo, Sange, Sakura and Ushongo) and Zanzibar (Fumba/Bweleo/Nyamazi, Kizongo, Unguja Ukuu and Jambiani/Paje) as well as from TCMP PWANI Project staff in Bagamoyo.

Much information was received through a FGD with the District ICM Working Group of Bagamoyo (David Kaijunga, Muhusini Kihemela, Fulgence Kandengukila, Francis Kaengwa, Obed Chaula, J. B. Bakari, Jasoni Ngehula and J. K. Mtobesya) and the FGD organizing support by Mposho (ICM Facilitator) and Hoza (ICM Team Leader). The District ICM Working Group of Pangani (Joyce Bwindiki, Martin Nekwa, Julius Chagama, Archie Mntambo, Mariam Mnuga, Chitambo Kanta, Mkongo Twahiru, Hassani Mzungu, Abdul Barashele and Dr. Ole Sepere) also provided much information during an ICM FGD. The Acting DEDs for Bagamoyo and Pangani were very cooperative and provided the enabling environment for the team to meet with District staff. Their perspectives and contributions were invaluable.

The quality of this evaluation was deeply enhanced by the invaluable perspectives and contributions of Key Informants. Those who contributed their insights on the project through KIs included project partners Dr. Vera Pieroth, Emmanuel Mlule and Novatus Uwasa (UZI KWASA, Pangani), Daniela Biocca and Stanley Mose (CVM/APA, Bagamoyo), Steven Kashangaki Boniface and Hassan Bussiga (TaTEDO) and Lindsey West (Sea Sense). Dr. Alfred Kikoti of the World Elephant Centre provided much information on the elephant radio telemetry project at Saadani National Park and the positive impact it has made on Park management.

In Dar es Salaam, Dr. Fadhila Khatibu (NEMC), Dr. Constantine M. Shayo (DoE) and Mlola M.R., Abdi Hussein, Upendo Hamidu, N.J. Jihulya, John Komakoma, Kimas Bugomba, Julius Mairi and Meckzedeky Koddy (MoLF) contributed their insights on the project through KIs. Bagamoyo District Key Informants included Erasto A. Mfugale (Acting DED), Karimu M. Hoza, Abubakar Mposho and Mailane Dionise. In Pangani District, we received KI information from Frida Urrio and Dr. Ole Sepere.

In Zanzibar, grateful acknowledgement is given to KI participants including Dr. Julius Francis and Abdulrahman Ali Abdalla (WIOMSA), Dr. Yohana W. Shagude and Dr. Narriman Jiddawi (IMS), Sheha Mjaja Juma and Sihaba H. Vuai (DoE), and Daneli Haji Pandu, Juma Haji Ame and Muumin Iddi Hamad (MoFD and MBCA).

Further, we are grateful to Jim Holderbaum and Elif Senvardarli of International Business & Technical Consultants, Inc. (IBTCI), Vienna, Virginia, for their backstopping support throughout the evaluation.

Finally, the team leader would like to thank his colleagues, Masejo Songo, Frank Moshi and Anither Karugila for their competency and good humor throughout the evaluation and to all Tanzanians he met during the evaluation - *asante sana* and *shukran*!

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ACRONYMS

AIDS	Acquired Immunodeficiency Syndrome
CBD	Community Based Distributor
CBO	Community-based Organization
CC	Climate Change
CDCS	Country Development Cooperation Strategy
CoP	Chief of Party
COR	Contracting Officer's Representative
CRC	Coastal Resources Center, URI
CVM	<i>Comunita Volontari per il Mondo</i> (Community of Volunteers for the World)
DED	District Environment Department
DO	Direct Observation
DoE	Department of Environment
FGD	Focus Group Discussion
FP	Family Planning
GoT	Government of Tanzania
HIV	Human Immunodeficiency Virus
IBTCI	International Business & Technical Consultants, Inc.
ICM	Integrated Coastal Management
IEC	Information, Education and Communication
IMS	Institute of Marine Sciences, Dar es Salaam University
IR	Intermediate Result
iWASH	Integrated Water Sanitation and Hygiene Project (iWASH)
KIDOTOA	Kizimkazi Dolphin Tourism Operators Association
KII	Key Informant Interview
LGA	Local Government Authority
LOP	Life of Project
MBCA	Menai Bay Conservation Area
MoLF	Ministry of Livestock and Fisheries
NEMC	National Environment Management Council
NGO	Non-governmental Organization
NRM	Natural Resources Management
PEPFAR	USG President's Emergency Plan for AIDS Relief program
PE	Peer Educator
PHE	Population, Health and Environment
PMP	Performance Monitoring (or Management) Plan
PWANI	Coast in Kiswahili, the Coastal PWANI Project
SACCOs	Savings and Credit Cooperative Societies
SANAPA	Saadani National Park
SO / SOT	Strategic Objective / Strategic Objective Team
SUCCESS	Sustainable Coastal Communities and Ecosystems
TaTEDO	Tanzanian Traditional Energy Development Organization
TCMP	Tanzania Coastal Management Partnership
TFD	Theater for Development
URI	University of Rhode Island
USAID/T	United States Agency for International Development, Tanzania
USG	United States Government
UZIKWASA	<i>Uzima kwa Sanaa</i> in Kiswahili, meaning "Alive through Art"; NGO based in Pangani
VCCC	Village Climate Change Committee
VEC	Village Environment Committee
VEO	Village Executive Officer
VMAC	Village Multisectoral AIDS Committee
WIOMSA	Western Indian Ocean Marine Science Association
WMA	Wildlife Management Area
WWF	World Wildlife Fund or World Wide Fund for Nature

EXECUTIVE SUMMARY

The four-year PWANI Project is an ecosystem-based management initiative that targets the northern coastal area on the Tanzanian mainland, including Saadani National Park (SANAPA) and the Wami River estuary, in Pangani and Bagamoyo districts. In Zanzibar, the Menai Bay Conservation Area, including 37 coastal villages, was targeted. PWANI works to strengthen capacity at the local level to implement policy, advocate for policy adjustments (good governance) and integrate poverty concerns into conservation strategies.

Coastal regions of Tanzania are experiencing problems of habitat loss, pollution and declining resources caused largely by conflicts among users, poor planning and decision-making. Several factors, including sea level rise and rapid coastal population growth accompanied by rapid increase of human activities that interfere with natural processes are linked to the problem. All these problems are particularly severe for coastal villagers because they are more dependent on natural resources and have fewer options when local resources decline or disappear. This puts coastal villagers at risk of even greater poverty and food insecurity. For women, the disadvantages are compounded; they often have little or no education and lack a voice in household and community decision-making and finances because of social, cultural and religious beliefs.

The purpose of the performance evaluation is to help inform USAID and project stakeholders on:

- Overall key achievements and outcomes of the project;
- Effectiveness of the project's approach in meeting the aim of the USG biodiversity earmark for Water, Biodiversity and Climate Change;
- Effectiveness of the project and its integrated design in achieving intended results; and
- Sustainability of the approaches implemented and potential for scaling up.

Six questions guided the PWANI project evaluation. To address the evaluation questions, data were triangulated through several collection tools to reinforce findings and identify inconsistencies.

1. How effective has the coastal ecosystem conservation program approach been in achieving intended outcomes of the program in the key programming areas of (1) sound natural resources management (*Nature*), (2) strengthened resilience (including community resilience to adapt to climate change impact) and assets (*Wealth*), and (3) improved governance (*Power*)?
2. What have been the strengths and/or weaknesses of the project approach and why? (a) Working with local partners, (b) to address gender issues and (c) using an integrated approach, i.e. integrating HIV/AIDS, climate change, biodiversity and economic growth activities? In addition, how relevant are the project targets and are they at an appropriate scale (e.g. coverage, geographic focus, target beneficiaries) for achieving impact?
3. How effective is the program monitoring system and oversight, reporting and documentation?
4. What are the underlying key constraints/opportunities (internal/external) that have potentially impacted performance of the program (e.g. capacity, staffing, organizational support)?
5. What are some identified key recommendations and lessons learned which could enhance project performance? Which approaches have the potential for being scaled-up?
6. Is progress being made toward sustainability of the coastal ecosystem conservation program (e.g. government engagement, private sector, community ownership of no-take zones)?

Based on the majority of the KII and FGD respondents, the integrated coastal biodiversity conservation approach has been very effective in achieving intended project outcomes in the three key programming areas of Nature, Wealth and Power. For sound natural resources management and biodiversity conservation (Nature), improvements in biophysical conditions are largely on target as are the associated livelihoods improvements intended to reduce pressure on the environment and natural resources. For strengthened resilience and assets (Wealth), savings and credit schemes, for example have allowed for diversified and supplemental livelihoods and women's empowerment. Communities

have been supported by the project to develop climate change adaptation plans for increased resilience. For improved governance (Power), capacity building has been a major focus. The project has also helped establish many policies, strategies, plans, agreements and regulations addressing climate change mitigation or adaptation and biodiversity conservation.

A primary strength of the project approach has been its strategic selection of project partners with extensive experience of community engagement, and this has meant that each partner has been able to work successfully with communities from the outset. Another strength of the project approach is that it has addressed gender by explicitly focusing on gender inequities and increasing women's access to credit and entrepreneurship opportunities. Women's involvement has improved project results significantly since women are critical to family livelihoods, education and health. Additional strengths of using an integrated approach to project interventions included a focus on addressing root causes of behavior leading to biodiversity degradation and gender inequity.

The project operated at a scale where it was able to achieve impact at both the community and LGA levels and, to a smaller extent, at the national policy level. Under the *Nature* paradigm, the target was to improve management of areas of biological significance. Under the *Wealth* paradigm, the project introduced livelihood activities. Under the *Power* paradigm, the target was to build local capacities and adopt policy and regulations aimed at addressing climate change and biodiversity conservation.

All Focus Group respondents and the majority of KII respondents have stressed that the overall support from the project has been appreciated as local capacities, women's empowerment, and income levels have increased due to project interventions.

Progress is being made toward sustainability, in which interventions have been made to put proper management systems in place to ensure the use of natural resources is at a rate that does not reduce the system's ability to provide those products and services to future generations. However, this goal takes considerable time and there remain challenges. At a broader scale, there is much work to do. The level of illegal resource exploitation is great and will continue to be a major threat to sustainability of coastal ecosystems without a concerted effort to address governance and accountability issues.

Approaches that have the potential for being scaled-up include a focus on (i) LGA capacity building and increasing their coordination and involvement with the project; (ii) climate change adaptation planning scaled-up to district and/or ecosystem level to create a stronger framework for addressing the unique conditions and needs of individual villages; (iii) promoting women's empowerment, leadership and entrepreneurship; (iv) establishing and strengthening conservation-based SACCOs; (v) continuing to integrate livelihoods with biodiversity conservation (e.g. fuel-efficient stoves, solar technology, PHE, gender rights, HIV/AIDS awareness and prevention) and supporting marine conservation activities (e.g. mariculture permitting procedures, sea turtle conservation/ecotourism, no-take zoning).

The Coastal PWANI Project is of particular interest for contributing to the development of an integrated coastal and water resource management program for the Wami-Ruvu and Rufiji River Basins. Key recommendations focus on developing this new program.

Recommendations for Nature: Promoting Sound Natural Resource Management

Increase Capacity and Resources to Enforce Bans on Unsustainable Fishing Practices: Rights-based approaches to fisheries should be piloted, requiring moving from open access to managed access. There are several approaches where groups of fishermen or communities are granted exclusive rights to the reef fishery in a geographically distinct area of the sea. A careful institutional analysis is recommended to determine whether there is a strong enough legal basis and supportive policy framework for moving to managed access approaches and whether a national policy and legal reforms track are required.

Expand the Use of Energy-Efficient and Alternative Energy Technology to Reduce Deforestation and Promote Energy Independence: This initiative should be expanded as it not only assists to conserve forest

resources but also provides a means for new livelihoods, e.g. restaurants, bakeries. Alternative energy technology (e.g. solar, wind) should be promoted with most new initiatives.

Support Radio Telemetry/Elephant Tracking: Continue to collar and monitor elephants to fully understand their movement patterns and the factors that influence those patterns. Explore to what extent cattle influence elephant distribution in the ecosystem. Use the data to guide park ranger patrols and predict human elephant conflicts before they happen by using geo-fencing technologies. Use remote sensing images to detect the rate of land-use changes within the Wami and Ruvu River basins.

Recommendations for Wealth: Strengthening Resilience and Assets

Use Spatial Planning with Mariculture as a Focus: Mariculture zoning and permitting procedures should be replicated and expanded geographically. Areas with extensive mangrove forests, (e.g. Rufiji River Delta) and where mariculture development interests are likely to conflict with conservation goals are well suited. Special Area Management Planning (SAMP) should be developed for areas where (1) there are conflicting interests related to natural resources, (2) jurisdiction is clear, (3) a district or other authority is able to adopt the plan, and (4) a public server for free and open-source coastal spatial data is available.

Promote the Means for Climate Change Adaptation: Scale-up climate change adaptation planning to district and/or ecosystem level to create a stronger framework for addressing the unique conditions and needs of individual villages. Tools and information for climate change decision-making and preparedness should be developed and provided. National attention should be drawn to the material, organizational and policy requirements for successful implementation of local adaptation plans.

Link Economic Growth to Climate Change Adaptation: Support should be given to promote livelihood activities that help communities adapt to climate change, including introducing livelihoods that are not vulnerable to climate change. Entrepreneurs should be organized into marketing groups, where each member is responsible for their own production but other business activities are conducted jointly.

Promote SACCOs as a Tool for Increasing Local Access to Credit: Build capacity among new and existing entrepreneurs for business management and planning and identify appropriate partners that can contribute to developing sustainable enterprises. Engage in strategic partnerships with government, universities, the private sector, technical support providers, credit and financial institutions and buyers.

Expand the Population, Health and Environment (PHE) Program: Focus behavior change communications on the root causes of high-risk behaviors. This includes addressing issues related to poor leadership and gender inequity. Take a multi-sectoral approach and involve both formal and informal leaders, and create spaces where people are comfortable discussing PHE-related issues.

Recommendations for Power: Improving Governance

Establish an Interagency Coordinating Mechanism: Creation of a special central-level coordinating commission or committee would serve to promote and strengthen interagency and inter-sectoral collaboration, reduce interagency rivalry and conflicts, minimize duplication of functions of line agencies, provide a forum for conflict resolution among sectors, review monitoring and evaluation progress and approve actions resulting from the evaluation exercise.

Incorporate the ICM Program in National Development Plans: From an economic development perspective, the ultimate objective of an ICM program is that it will become an integral part of economic development plans both at central and local levels. Achieving this objective will require the support of policy or decision-makers and line agency officials.

Engage LGAs through Technical Task Teams: PWANI established ICM teams in Pangani and Bagamoyo Districts, and task forces were created. The task teams proved a good opportunity for different sectors within the districts to work together. The ICM Working Groups should be strengthened as the primary means of engaging LGAs and integrating district coastal development planning.

Engage the Private Sector: It is recommended that TCMP and WIOMSA continue to serve as catalysts, bringing local communities together with private sector businesses to achieve sustainable livelihood strategies.

Increase Local Capacity for Mariculture Development: A program to help mainstream mariculture extension support into district (LGA) development plans is recommended, and MoLF should clearly identify its requirements.

Implement Information, Education and Communication Campaigns: A good IEC campaign is essential for sustaining project initiatives and establishing support for conservation efforts and creating an awareness of the linkages to other sectors. Various target sectors will need to be the focus of specially tailored IEC campaigns.

Improve Local Capacity and Knowledge about Climate Change Adaptation: NEMC should take the lead on improving local capacity and knowledge about climate change adaptation by identifying an actionable program that expands the one developed by PWANI. Implementation and coordination on the ground should be through DoE, District Environment Departments and the Village Climate Change Committees established through the PWANI project.

Expand and Strengthen Village Multisectoral AIDS Committees (VMACs): Greater coordination should be established between the Department of Health and the NGOs UZIKWASA and CVM to develop and implement an action plan that will expand and strengthen VMACs in coastal communities.

Empower Women through Conservation-based Livelihoods: Women on Zanzibar and the mainland have become empowered through participating in SACCOs and conservation-based livelihoods (e.g. shell craft making combined with no-take zoning). Through entrepreneurship, many women have become the major household earner. Women have started new enterprises, including bakeries, restaurants, kiosks and shops as well as keeping bees and livestock. Based on its successes with PWANI, TCMP and WIOMSA should intensify this activity by developing an action plan that could be supported financially and technically.

Support and Strengthen the Role of Women through Behavior Change Communication that Focuses on Root Causes of High-Risk Sexual Behavior: The “Banja Basi” communications campaign implemented by PWANI with UZIKWASA in Pangani has inspired people to speak out about problems related to high-risk sexual behaviors, gender rights and other problems. Greater coordination should be established between the Department of Health and the NGOs UZIKWASA and CVM to develop and implement an action plan that will expand, support and strengthen the role of women in coastal communities through behavior change communication.

A. BACKGROUND

I. Country Context and Problem Definition

The Tanzania coast stretches for over 800 km (500 m). About two-thirds of the coastline has fringing reefs, often close to the shoreline and broken by river mouths (e.g. Rufiji, Pangani, Ruvuma, Wami, Matandu, Ruvu). The Bagamoyo-Pangani and Menai Bay Seascapes are rich in biodiversity with important estuaries, mangrove forests, beaches, coral reefs, sea grass beds, coastal forests and rare and endangered wildlife. The Saadani National Park (SANAPA) is also on the coast and has the largest marine no-take reserve in the country with the potential of becoming one of the most visited national parks in Tanzania. Marine areas also support a large and vulnerable artisanal fishery and wildlife and the potential for marine recreation and tourism, all of which depend upon a healthy ecosystem. Menai Bay Conservation Area (MBCA) is situated in the southwest of Unguja, the main island of the Zanzibar Archipelago and is extensively covered with coral reefs, sea grass beds and mangrove forest. MBCA is the largest marine conservation area in Zanzibar and is managed by local communities and government.

However, the seascapes have changed considerably in the past 10 years as a result of increased private sector investment and development along the beachfronts, growing national and international tourism, and new agro-industry development.¹ Future pressures include an Export Processing Zone and harbor planned for the Mbegani Bay.^{2,3} Pressures on the coastal environment include rising population, poverty, poorly planned economic development, under-resourced government institutions, and weak implementation of existing policies and laws. Further inland, competition for freshwater is intensifying as the local population rises.

Coastal communities are experiencing problems of habitat loss, pollution and declining resources caused largely by conflicts among users, poor planning and decision-making. Several factors, including sea level rise, geology and rapid coastal population growth accompanied by rapid increase of human activities that interfere with natural processes are linked to the problem. Coastal erosion, as well as industrial and domestic pollution in coastal urban centers, is one of the major threats to sustainable coastal development. Illegal sand mining along beaches, coastal waterways and other restricted areas is a big industry in Tanzania employing many youths, and has become a social, economic and environmental problem.⁴ Problems are exacerbated, for example in Pangani District⁵ where surging tides have forced hundreds of people to abandon their homes as higher sea levels threaten coastal villages. Flooding and saltwater intrusion have damaged property and tainted limited clean water supplies; the problem has been attributed to the effects of climate change and deteriorating sea defenses.

All these problems are particularly severe for coastal villagers because they are more dependent on these natural resources and have fewer options when local resources decline or disappear. This puts coastal villagers at risk of even greater poverty and food insecurity. For women, the disadvantages are

¹ CRC, URI (2013). Briefing Packet for the Evaluation of University of Rhode Island's Conservation of Coastal Eco-Systems in Tanzania: the PWANI Project, Coastal Resources Center, University of Rhode Island, Kingston.

² Mahenge, Jairus (2013) State of the Mbegani Bay Environment: The Ecosystem, Livelihoods and Future Development. Conservation of Coastal Eco-Systems in Tanzania and Bagamoyo District, CRC-URI.

³ Robadue, Don (2013). Scenarios for the Future of Mbegani Bay: Review of available documentation on Mbegani Bay port, the Bagamoyo special economic zone and case studies of similar developments in the Indian Ocean region. Conservation of Coastal Eco-Systems in Tanzania: The Pwani Project, Coastal Resources Center, University of Rhode Island, Kingston.

⁴ Masalu, Desiderius C. P. (2002). Coastal Erosion and Its Social and Environmental Aspects in Tanzania: A Case Study in Illegal Sand Mining. Coastal Management, Volume 30, Issue 4, pp. 347-359.

⁵ Makoye, Kizito (2012). Rising tides threaten Tanzania's coastal towns. Thomson Reuters Foundation, 23 March 2012.

compounded; they often have little or no education and lack a voice in household and community decision-making and finances because of social, cultural and religious beliefs.

Tanzania's political and economic development is impeded by high rates of infectious disease (e.g. HIV/AIDS), unsustainable natural resource exploitation, structural obstacles to higher economic growth, institutional and human capacity limitations, corruption, and fragile democracies on the mainland and Zanzibar.⁶ As Tanzania continues to move toward a market driven, private sector led economy and looks at the yet untapped resources of the coast for economic development, the need for sustainable management both nationally and locally has become more urgent.

USG assistance supports Tanzania's national development goal *"to build public and private capacity to foster a healthier, prosperous and secure nation through accountable, democratic government that responds effectively to the needs of its citizens."* USAID/Tanzania's Environment and Natural Resource (NRM) Program works to achieve Strategic Objective 13, *"Biodiversity conserved in targeted landscapes through livelihood driven approaches."*⁷ Through a livelihood driven approach that emphasizes improved governance of natural resources, SO 13 is intended to generate results relevant to both USG and GoT priorities of sustainable management of Tanzania's biodiversity assets and on linkages among environment, economic growth, poverty alleviation and governance.⁸

The NRM program works under three distinct earmarks, namely Water, Biodiversity and Climate Change. Currently, five programs are being implemented in targeted landscapes of Tanzania; these programs will be coming to an end in 2013 or early 2014. In addition, a new Country Development Cooperation Strategy (CDCS) is being developed for the Tanzania Mission. The NRM program is therefore well positioned to develop a new program strategy in line with the CDCS process. Analytical work is a critical component contributing to the development and design of this process. Two NRM projects, Integrated Water, Sanitation and Hygiene (iWASH) and Coastal PWANI, are of particular interest in developing a proposed integrated coastal and water resource management program for the Wami-Ruvu and Rufiji River Basins.

Both projects contribute to SO 13 intermediate results:

- IR1: Policies and laws that integrate conservation and development applied.
- IR2: Participatory landscape scale conservation practiced.
- IR3: Transparent and equitable benefits from the sustainable management of natural resources generated.
- IR4: Improved health and well-being of general and vulnerable populations.

2. Project Description

The PWANI Project is a four-year coastal ecosystem-based management initiative that began in December 2009 and will end in December 2013.⁹ It targets an area stretching from Bagamoyo to Pangani town, focusing on the Saadani National Park (SANAPA) and the Wami River estuary. An additional area of focus is the Menai Bay Conservation Area (MBCA) on Zanzibar. The PWANI Project

⁶ USAID (2004). USAID/Tanzania Country Strategic Plan FY 2005-2014: "Improving the Quality of Life in Tanzania". USAID/Tanzania, Dar es Salaam, Tanzania.

⁷ USAID (2013). RFTOP: AID-RAN-I-00-09-00016 Task Order: Section C – Description/Specifications/Statement of Work. Request for Task Order Proposal, USAID, Washington, D.C.

⁸ USAID (2004). USAID/Tanzania Country Strategic Plan FY 2005-2014: "Improving the Quality of Life in Tanzania". USAID/Tanzania, Dar es Salaam, Tanzania.

⁹ CRC, URI (2013). Briefing Packet for the Evaluation of University of Rhode Island's Conservation of Coastal Eco-Systems in Tanzania: the PWANI Project, Coastal Resources Center, University of Rhode Island, Kingston.

area (Appendix A) covers more than 348 km of coastline in Bagamoyo and Pangani as well as Unguja, Zanzibar. The area includes the lower Wami River watershed (3,270 km²), SANAPA (1,114 km², including a marine area of 60 km²), and MBCA (almost 500 km²). These areas encompass 39 coastal wards (21 small wards on Zanzibar and 18 wards on the mainland) and a population over 200,000.

Cross-cutting in nature, the project recognizes that poverty, gender, climate change, population, and infectious diseases (e.g. HIV/AIDS) can be significant constraints to coastal and marine biodiversity conservation. PWANI takes an integrated approach to building community resilience and addressing key barriers that have prevented women from obtaining increased benefits through natural resource based livelihoods. It also recognizes that implementation of an ecosystem based project must be directed at catalyzing changes in human behavior. As such, PWANI works to strengthen capacity at the local level to implement policy and to advocate for policy adjustments for improved governance and integrate poverty concerns into conservation strategies.

The PWANI Project builds on previous experience and investments by the Coastal Resources Center (CRC) at the University of Rhode Island (URI), the Government of Tanzania, USAID/Tanzania and other partners. Over time, the URI program in Tanzania has gone through several cycles of projects that initially resulted in establishing a coastal and marine management program, the Tanzania Coastal Management Partnership (TCMP), and subsequently focusing on implementation at district and local levels. Later work also focused on eco-regions, including coastal watershed management (ridge-to-reef) in the Wami River sub-basin and marine management in the Bagamoyo-Pangani and Menai Bay Seascapes.

PWANI has established itself as the preeminent coastal management expert team. Locally, the project is typically referred to as TCMP, which was what the URI-led program was called between 1996 until 2005. Today, TCMP is the name of the in-country team that manages the PWANI Project on the mainland and some smaller projects. In Zanzibar, the project is managed by the Western Indian Ocean Marine Science Association (WIOMSA) with the Institute of Marine Sciences (IMS) of the University of Dar es Salaam.

The project contributes to USAID/Tanzania's NRM SO 13 and PEPFAR (Prevention Sub-area 8: Sexual and Other Risk Prevention). From the project Performance Monitoring Plan (PMP),¹⁰ the PWANI Project Results Framework is shown in Table 1. The overall goal of the PWANI project is *"to sustain the flow of environmental goods and services; reverse the trend of environmental destruction of critical coastal habitats and improve the well being of coastal residents in the target areas."* This goal was expected to be met by accelerating the formation of enabling conditions for coastal governance, supporting local participation in natural resources management, integrating socio-economic and other cross-cutting issues and promoting institutional and resource user behaviors that are appropriate for long-term management of the Northern Tanzania Seascape.

The PWANI strategy is to build upon the experience and capabilities already present in the Bagamoyo-Pangani and Menai Bay areas and, through selected capacity-building activities, to maximize the potential for sustaining, and where feasible restoring, the vital biodiversity-based goods and services these areas generate. The key hypothesis of PWANI posits that:

- I. If coastal constituencies are empowered to utilize and manage their natural resources and participatory implementation mechanisms are effective (Power) and

¹⁰ CRC, URI (2013). Briefing Packet for the Evaluation of University of Rhode Island's Conservation of Coastal Eco-Systems in Tanzania: the PWANI Project, Coastal Resources Center, University of Rhode Island, Kingston.

2. *If* there are sustained benefits generated from those resources at local levels by those who actually use them (Wealth),
3. *Then* coastal and marine biodiversity (Nature) within targeted ecosystems will be appropriately maintained.

Table 1: PWANI Project Results Framework¹¹

Project Goal: <i>To sustain the flow of environmental goods and services; reverse the trend of environmental destruction of critical coastal habitats and improve the well-being of coastal residents in the Bagamoyo- Pangani and Menai Bay Seascapes</i>		
Goal Level Indicators G1: Number of hectares of biological significance and/or natural resources showing improved biophysical conditions as a result of USG assistance G2: Number of individuals with increased economic benefits from project interventions G3: Proportion of female participants in USG-assisted programs designed to increase access to productive economic resources		
IR 1: Sound natural resource management (Nature)	IR 2: Strengthened resilience and assets (Wealth)	IR 3: Improved governance (Power)
Indicators: 1.1a. Hectares in areas of biological significance under improved management 1.1b. Number of hectares under improved natural resource management as a result of USG assistance 1.2. Local policies, plans, and co-management agreements adopted to manage natural resources and endangered ecosystems 1.3. Leveraged funding for project activities	Indicators: 2.1a. Number of climate vulnerability assessments conducted as a result of USG assistance 2.1b. Number of institutions with improved capacity to address climate change issues as a result of USG assistance 2.1c. Number of stakeholders with increased capacity to adapt to the impacts of climate variability and change as a result of USG assistance 2.2. Number of households with improved access to finance, including those receiving community credit and start-up grants 2.3. Number of persons reached through community outreach that promotes HIV/AIDS prevention 2.4. Number of the targeted population reached with individual and/or small group level HIV prevention interventions 2.5. Number of fishermen reached with individual and/or small group level preventive interventions 2.6. Number of targeted condom service outlets 2.7. Number of households implementing energy efficient measures as a result of USG assistance	Indicators: 3.1. Number of local organizations strengthened to manage endangered ecosystems, and to support sustainable livelihoods and cross-cutting issues such as HIV/AIDS and gender 3.2. Number of individuals reached through community outreach and planning that promotes biodiversity conservation and improved gender equity 3.3. Number of person hours of training in natural resources management and/or biodiversity conservation supported by USG assistance (SO 13, indicator 4.8.1-29) 3.4. Number of individuals trained and/or certified in coastal governance, MPA management, HIV/AIDS action planning and other cross-cutting issues 3.5. Number of success stories documenting key actionable findings about best practice approaches and lessons learned published in local media reports, radio shows, conference papers and research studies

3. Partners and Target Beneficiaries

The PWANI Project's target beneficiaries are coastal communities in the Bagamoyo-Pangani Seascape (including Saadani National Park) and Menai Bay, Zanzibar, with the goal of increasing participation and capacity in natural resource governance, including the ability to adapt to climate change impacts. PWANI pays particular attention to HIV/AIDS vulnerable groups (including women and mobile men with money), women shellfish collectors, and households adjacent to SANAPA who are dependent on fuel wood for energy. PWANI also works to strengthen local governments, park units and community groups that are essential for coordinating on-the-ground activities. Some were long-standing TCMP partners (e.g. Pangani and Bagamoyo Districts, Menai Bay Conservation Area), others were relatively new at the outset of the Project (e.g. SANAPA).

¹¹ CRC, URI (2013). Briefing Packet for the Evaluation of University of Rhode Island's Conservation of Coastal Eco-Systems in Tanzania: the PWANI Project, Coastal Resources Center, University of Rhode Island, Kingston.

The PWANI Project is led by the Coastal Resources Center (CRC) at the University of Rhode Island (URI) and includes several implementing partners:

- WIOMSA works with IMS staff to expand intertidal no-take zones and half-pearl farming in Menai Bay and with dolphin tourist groups to encourage entrepreneurs to be more environmentally responsible;
- Bagamoyo and Pangani Districts are partners with the PWANI team on all activities implemented in the two districts;
- Menai Bay Conservation Area and the Zanzibar Department of Fisheries collaborate with WIOMSA on activities related to no-take zoning;
- UZIKWASA implements activities related to HIV/AIDS communication and prevention as well as culture, gender and leadership strengthening in Pangani District;
- CVM implements activities related to HIV/AIDS communication and prevention in Bagamoyo District;
- TaTEDO leads fuel-efficient stove, alternative energy power supply and other activities to reduce destructive practices and pressures on forest resources in Bagamoyo District; and
- Sea Sense implements activities to protect sea turtles in Pangani, implements endangered species awareness activities targeting schoolchildren and fishers and develops and promotes environmental and cultural ecotourism initiatives.

The strength of supporting partners has been drawn upon for targeted research and technical support related to project activities and cross-sectoral themes, such as climate change and gender. Supporting partners are national government counterparts (e.g. NEMC and Departments of Environment), the local scientific community (USDM, IMS, Tanzania Fisheries Research Institute), the private sector (tourism businesses and agro-industries) and international groups (e.g. US Department of Interior, US Fish and Wildlife Service, WWF, National Oceanic and Atmospheric Administration).

Appendix B provides a list of all PWANI-supported villages, village populations, target beneficiaries and project-supported activities in each village.

4. Evaluation Purpose

USAID/Tanzania requires an end-of-program evaluation for the Coastal PWANI Project. The evaluation is aligned with the CDCS planning process and a new design phase for the NRM program. Appendix C provides the description, specifications and Statement of Work (SOW) as it pertains to the PWANI project.

The purpose of the performance evaluation is to help inform USAID and project stakeholders on:

1. The overall key achievements and outcomes of the project;
2. Effectiveness of the project's approach in meeting the aim of the USG biodiversity earmark for Water, Biodiversity and Climate Change;
3. Effectiveness of the project and its integrated design in achieving intended results;
4. Sustainability of the approaches implemented and potential for scaling up.

Findings, lessons learned and recommendations from the evaluation will be relevant for contributing to USAID/Tanzania's development and design of a new coastal management program, especially for an integrated coastal and water resource management program for the Wami-Ruvu and Rufiji River Basins. To this end, the task involves addressing specific evaluation questions.¹²

¹² USAID (2013). RFTOP: AID-RAN-I-00-09-00016 Task Order: Section C – Description/Specifications/Statement of Work. Request for Task Order Proposal, USAID, Washington, D.C.

B. METHODS

I. Design

Specific questions for guiding the PWANI evaluation were identified by USAID; namely:

- EQ1: How effective has the coastal ecosystem conservation program approach been in achieving intended outcomes of the program in the key programming areas: a) sound natural resources management (*Nature*), b) strengthened resilience (including community resilience to adapt to climate change impact) and assets (*Wealth*) and c) improved governance (*Power*)?
- EQ2: What have been the strengths and/or weaknesses of the project approach and why? a) working with local partners, b) to address gender issues and c) using an integrated approach (integrating HIV/AIDS, climate change, biodiversity, and economic growth activities). In addition, how relevant are the project targets and are they at an appropriate scale (e.g. coverage, geographic focus, target beneficiaries) for achieving impact?
- EQ3: How effective are the program monitoring system, oversight, reporting and documentation?
- EQ4: What are the underlying key constraints/opportunities (internal/external) that have potentially impacted performance of the program (e.g. capacity, staffing, organizational support)?
- EQ5: What are some identified key recommendations and lessons learned which could enhance project performance? Which approaches have the potential for being scaled-up?
- EQ6: Is progress being made toward sustainability¹³ of the coastal ecosystem conservation program (e.g. government engagement, private sector, community ownership of no-take zones)?

Appendix D presents the design matrix outlining the methodology used to evaluate each question. The matrix identifies type of evidence required, data collection methods, data sources and data analysis.

The evaluation team comprised one international consultant serving as Team Leader and three national consultants as Evaluation Specialist, Research Assistant and Interpreter/Data Entry Assistant. Appendix E provides brief biographies of the evaluation team members. The Team coordinated closely with PWANI supporting partners and project personnel, who facilitated setting up meetings, organizing site visits, and scheduling but did not observe or participate in interviews, village discussions or data collection.

Meetings with key stakeholders were identified and organized (Appendix G). Prior to field visits, the Team held a briefing meeting with USAID/Tanzania and other stakeholders to present the methodology and approach to data collection. An out-briefing meeting with USAID/Tanzania and PWANI partners to present preliminary findings was held during the final week.

2. Site Selection

Among the 37 project villages in Bagamoyo, Pangani and Zanzibar, the Evaluation Team in consultation with CRC/TCMP selected a sample of 12 villages, four in each area and representing nearly one-third (32.4%) of the project total. In each area, the village with the most project activities was included as one of the four villages; the remaining three villages were selected to:

¹³ *Sustainability* is defined in terms of having proper *management systems* in place to ensure the use of natural resources is at a rate which does not reduce the system's ability to provide those products and services to future generations.

- Maximize representation among different categories of PWANI activities in the district using a five-category classification of activities could be: (1) marine conservation, (2) coastal conservation, (3) climate change resiliency, (4) economic growth, and (5) integrating population, health and environment (PHE), and
- Include activities that have been in place for at least one year.

Appendix A shows project coverage and locations of all PWANI project villages. *Appendix B* provides a list of all PWANI participating villages and indicates those villages selected for evaluation visits based on the fact that these villages have been involved in multiple activities.

The twelve villages selected for the evaluation were:

- Bagamoyo District: Mlingotini, Kitonga, Saadani and Mkange
- Pangani District: Mkalamo, Sange, Sakura and Ushongo
- Zanzibar: Fumba/Bweleo/Nyamazi, Kizongo, Unguja Ukuu and Jambiani/Paje

3. Data Collection and Analysis

The evaluation included a Desk Review of existing project documents and Key Informant Interviews (KII). Data collection during village site visits included using check sheets and questionnaires for Focus Group Discussions (FGD) and Direct Observation (DO) surveys of project and beneficiary initiatives. The evaluation included methodological triangulation, i.e. application of different data collection methods, and consolidating findings from different team members. Overall, the Team conducted content analysis of respondent data, guided by the evaluation questions, by identifying themes and trends. The six primary evaluation questions were analyzed according to three domain areas: 1) project outcomes and impacts, 2) project design and implementation, and 3) project management.

Desk Review: The Team Leader conducted a comprehensive review of existing project and related documentation (*Appendix F*) to strengthen an understanding of the PWANI project and assist in the Team's development of its overall strategy and accompanying analytical tools. Documents included the project description document, baseline reports, annual work plans, quarterly performance reports, performance monitoring plan (PMP), mid-term evaluations, relevant GoT policy documents and other studies.

Key Informant Interviews: The Team met with relevant key stakeholders, including project personnel, government donors, NGOs and CBOs in Dar es Salaam, Bagamoyo District, Pangani District and Zanzibar (*Appendix G*). The Team used KIIs at the central level to understand perspectives on PWANI, including those of the Ministry of Livestock and Fisheries (Dar es Salaam and Zanzibar), NEMC, Department of Environment, (Dar es Salaam and Zanzibar) and MBCA (Zanzibar). In addition, KIIs were conducted with the PWANI Director (TCMP) and CRC-URI CoP as well as WIOMSA and IMS in Zanzibar. Attempts to interview the SANAPA Chief Park Warden were unsuccessful; however, Dr. Alfred Kikoti provided valuable input on the radio telemetry elephant study at SANAPA. Bagamoyo and Pangani district-level interviewees included regional authorities (LGAs), ICM Working Groups, local NGO/CBO partners, i.e. CVM, TaTEDO, Sea Sense and UZIKWASA, and village community leaders (VEOs). Overall, 21 KIIs with PWANI stakeholders were prepared. Due to time constraints, fewer VEOs were interviewed directly than expected; however, most of them participated in village FGDs. An example KII questionnaire is provided in *Appendix H*.

Focus Group Discussions: FGDs enabled greater depth in understanding the experience of project beneficiaries. FGD participants consisted of community members who have participated in PWANI activities as well as most VEOs (*Appendix G*). FGD participant activities were all discussed during each FGD and focused only on those activities of relevance to each village or ICM Working Group. FGD participation ranged from 8 to 25 (N=15, average=13) for a total of 200 beneficiary respondents, 50% of whom were women.

Focus groups typically had: (i) participation from a diversity of different activities, i.e. heterogeneity in project interventions, (ii) balanced representation by gender, and (iii) a preference for individuals with over one year of participation in PWANI activities. FGD participants were queried on the effectiveness of the project in achieving intended village and individual outcomes, key constraints and opportunities impacting performance, strengths and weaknesses of the project in addressing gender issues and using an integrated approach, lessons learned and recommendations. As all FGDs were conducted in Kiswahili (with the exception of PWANI/TCMP staff in Bagamoyo facilitated by the Team Leader), the Team's Evaluation Specialist and Research Assistant facilitated FGDs structured through the FGD visual guide. An example of a FGD guide is provided in *Appendix H*.

In each of the twelve villages, the Team conducted only one FGD due to time constraints. However, this appeared to be an optimal way of gathering information because all relevant beneficiaries participated in the entire FGD, which was broken down into several thematic sessions. For example, climate change adaptation data collection in a village included individuals involved with beekeeping, mangrove conservation or fuel-efficient stoves, among others. Furthermore, most people involved with SACCOs, for example, were also involved with project-initiated income generating activities and gender considerations.

Direct Observations: Site visits provided an opportunity for team members to verify that activities were implemented as reported during the FGD. The Team used a survey checklist to ensure that observations were recorded in a consistent manner. Informants provided information relevant to the evaluation questions and were asked to substantiate their responses with specific examples or other evidence. The DO checklist is provided in *Appendix H*.

FGD responses were analyzed by gender to the extent possible so that differences between male and female beneficiary responses could be identified. A list of questions that were incorporated into several KIs included:

- Describe the project's approach to mitigating constraints and optimizing opportunities related to gender.
- Has the project integrated gender considerations into its activities? If yes, how?
- How did the project integrate findings from gender analysis into its activities?
- To what extent have both sexes participated and benefited from project activities?
- What were gender integration challenges and benefits for project implementation?
- Did the project interventions have any influence on the status of women and men?
If yes, then describe.
- Has the project developed any measures to enhance women's participation in project activities?
What were they?
- How did the different roles and status of women and men within the community, workplace, and household (e.g. decision-making, access to and control over resources and services) affect project implementation and results achievement?

The original evaluation design intended to ask female participants to participate for an additional 20-30 minutes, without male participants present, so as to respond to gender-related questions. However, again due to time constraints, this was not feasible. However, female responses during the FGDs were noted as such, and answers to specific gender-related questions were received.

4. Limitations

Several factors potentially limit the comprehensiveness of the evaluation. First, the nature of the evaluation process itself does not permit clear analysis of the determinants of changes seen in the project context. This was not a rigorous research study with comparison groups, and available data did not include baseline information (e.g. incomes) that could be compared with the post-project situation. The PMP, however, does allow for an analysis of targets and outcomes over time (*Appendix I*). PMP data

did shed some light on specific evaluation questions, but our understanding of causality was based largely on the insights offered by key informants and FGD participants.

Most of the questions are formative evaluation questions geared toward understanding how well the project was delivered; therefore, the question of causal inference becomes irrelevant. Causal inference is aided by the availability of PMP programmatic data, which are available on an annual basis. Repeated measures help to build the case for causality for easier defined outcomes, such as quantifying increased economic growth or biodiversity health for project activities.

Second, neither the sites chosen for field visits nor the individuals interviewed at those sites were the result of rigorous sampling methods. Thus, the evaluation findings will not be statistically representative. Findings are of necessity founded on an understanding of how project activities fit into the social, economic and natural context, how they operated and what resulted. While the interest of the evaluation is clearly to learn lessons and derive recommendations for future coastal management program design, both the evaluation team and USAID staff using the evaluation must be aware that its conclusions may not be entirely applicable to other social, economic or environmental contexts.

Given these caveats, rigor and validity of findings in the methodology was ensured through systematic triangulation of KII, FGD and document sources by asking the same questions of a range of informants and by assessing the consistency of the information obtained from different types of sources. This reduced, insofar as possible, the bias inherent in our reliance on qualitative rather than representative quantitative data.

Evaluation limitations were minimized in order to enhance the quality of the evaluations as much as possible. However, due to time constraints and the need to visit two villages per day (some of which were far apart), conduct FGDs and DOs, not all of the originally intended methodology could be implemented. Nevertheless, an enormous amount of data was collected through village FGDs, especially on strengths, weaknesses and recommendations of project activities and with equal representation by men and women.

Finally, key informants constituted a significant source of information. Although the team triangulated as much of the data as possible, interview data is subject to personal biases, opinions and sometimes faulty recollection.

C. FINDINGS

This section summarizes responses from a great variety of stakeholders (through conducting KIIs and FGDs) to issues that were guided by the PWANI evaluation questions identified by USAID. Responses are structured according to the Nature, Wealth and Power paradigm.¹⁴

I. Nature: Sound Natural Resource Management

The goal of sound natural resources management is to increase the number of hectares of biological significance and/or natural resources showing improved biophysical conditions as a result of the project. *Table 2* provides PMP indicators, targets, baseline data and results for natural resource management.

¹⁴ WCS (undated). TransLinks: Promoting Transformation by Linking Nature, Wealth and Power. Wildlife Conservation Society with the Earth Institute at Columbia University, Enterprise Works/VITA, Forest Trends, the Land Tenure Center at the University of Wisconsin and USAID.

Table 2: Indicators, Targets, Baseline and Results for Sound Natural Resource Management ¹⁵

Indicator	Illustrative Target from Program Statement	Baseline Data (2009)	Years 1-4 Results to August 2013	Years 1-4 Expected LOP Results
Number of hectares of biological significance and/or natural resources under improved natural resource management as a result of USG assistance (maintained)	Not in program statement	180,117	225,717	225,717
Number of hectares of biological significance and/or natural resources under improved natural resource management as a result of USG assistance (new)	497,000	180,117	225,717	Likely increase
Number of hectares of biological significance and/or natural resources showing improved biophysical conditions as a result of USG assistance	5,300	26,734	1,334	5,161
Number of person hours of training in natural resources management and/or biodiversity conservation supported by USG assistance (SO 13, Indicator 4.8.1-29)	Not in program statement	0	32,729	32,729

The project has reported 1,334 hectares showing improvements in biophysical conditions. These are from three "old" no-take zones on Zanzibar that have been improved. There is one no-take zone that has not yet shown improvements, and the hectares for that no-take zone are not included. The PWANI Project is expecting to report an additional 3,827 hectares by the end of the project. This would bring the LOP total to 5,161 ha, which is nearly the original target of 5,300.

Table 3 provides a summary of terrestrial and marine hectares under improved management due to PWANI initiatives. The project has met the LOP target for this indicator. The project is low on new hectares to be reported for Year 4, i.e. hectares under improved management as a result of the Pangani mariculture permitting procedures. CRC-URI is recalculating the total hectares and is likely to see an increase in the number for the final reporting period.

Table 3: Summary of terrestrial and marine hectares (ha) under improved management due to project initiatives

Field Site	Total ha	Marine ha	Terrestrial ha	Comments
Pangani Ha's: community-based turtle monitors	595		595	
Pangani Ha's: turtle monitoring program	55,819	55,819		
Pangani terrestrial portion of SANAPA improved through elephant tracking	57,855		57,855	
Bagamoyo terrestrial portion of SANAPA improved through elephant tracking	44,191		44,191	
Ha's: Bagamoyo mariculture zoning plan	10,271		10,271	
Ha's covered by Menai Bay Conservation Area improved because of dolphin management	45,040	45,040		
Ha's covered by Pangani mariculture zoning plan	11,946		11,946	CRC-URI is recalculating the total hectares and is likely to see an increase in the number for the final reporting period.
Total reported	225,717	100,859	124,858	

¹⁵ Extracted from Appendix I: Performance Monitoring Plan with Indicators, Targets and Results

Field Site	Total ha	Marine ha	Terrestrial ha	Comments
Wami Mbiki WMA hectares	250,000	250,000		CRC-URI did not count these ha's because they are outside the project area but were part of the illustrative target in the program statement. The area can be said to be under improved management because the project now knows better how elephants are moving within and outside the area. Also, rangers have been trained in monitoring and elephant/human conflict resolution.
Total Ha's including Wami Mbiki	475,717			
Illustrative target according to program statement: 497,000 ha				
Life of Project Target of cumulative hectares according to CRC-URI current PMP: 213,176 ha				
(Source: CRC-URI)				

An integrated approach focuses on addressing the root causes of behavior that lead to biodiversity degradation. According to KII and FGD respondents, the project has been effective in addressing an integrated coastal ecosystem conservation program approach for sound natural resource management.

Pangani and Bagamoyo mariculture zoning permitting procedures are assisting the two districts in protecting mangrove resources. Mariculture zoning protects mangrove ecosystems, and the established mariculture zones in these districts have contributed to improving management of the mangrove ecosystem as evidenced by improved mangrove quality and coverage.

No-take zoning on Zanzibar in Fumba, Ugunja Ukuu and Kigungwi villages has contributed to improved management and eventual conservation of marine resources (e.g. cockles) and improved biophysical conditions inside and outside protected areas. Many species considered rare are on the increase, and many of these are of economic importance; protection of no-take zones will serve to replenish commercial marine resources in areas outside the zones.

During the CRC KII, it was noted that sea turtle conservation efforts have contributed to increasing hatching and survival rates of juvenile turtles, however, data was not available for the evaluation team to cross reference or confirm this assertion.

Introduction of energy-efficient stoves and baking ovens in the project area has contributed to the reduction of deforestation and promoted conservation of forest resources. For example, according to TaTEDO in Saadani village there has been about a 75% reduction of wood use by users of these technologies and greater reliance on charcoal. However, here again, data was not available for the evaluation team to cross reference or confirm this assertion.

According to Alfred Kikoti, who implemented the elephant telemetry study, elephant tracking activities have informed sound biodiversity conservation between SANAPA and Wami Mbiki. The telemetry study has helped identify movement of elephants in the National Park, and findings are being used by planners for allocating land resources so as to minimize wildlife and human conflicts. Further, after the project's elephant telemetry study, changes in the areas covered for patrols outside the park boundaries and how they involve other authorities such as district councils to handle wildlife conflict issues has become apparent. SANAPA management has reduced human-elephant incidences because of seasonal elephant movement information, which caused staff to become more proactive. For example, they now know during which months elephants venture into village crop fields and can deploy several teams to affected villages and work with them to chase elephants before they enter fields. From the elephant telemetry information, park management now has a strong basis to justify why communities such as Buyuni and Uvinje might have to be relocated for their safety from elephants and large carnivores such as lions and leopards; both villages fall in the Park core area.

Although not part of the USAID-funded project but very relevant to Mlingotini village in Bagamoyo, the *State of Mbagani Bay* report and scenario documents are informing decision-makers about sound natural

resource management and strengthening local capacity to engage in decision-making on future development scenarios

2. Wealth: Strengthened Resilience and Assets

Goals of strengthened community resilience and assets are to increase the number of individuals with increased economic benefits from project interventions and increase the proportion of female participants with increased access to productive economic resources.

Table 4 shows PMP indicators, targets, baseline data and results for strengthened community resilience and assets. The project has exceeded all targets from the original Program Statement with the exception of the “proportion of female participants in USG assisted programs designed to increase access to productive economic resources” (60% target, 56% result).

Table 4: Indicators, Targets, Baseline and Results for Strengthened Resilience and Assets¹⁶

Indicator	Illustrative Target from Program Statement	Baseline Data (2009)	Years 1-4 Results (2010-2013)
Number of stakeholders with increased capacity to adapt to the impacts of climate variability and change as a result of USG assistance	Not in program statement	0	2,316
Number of institutions with improved capacity to address climate change issues (adaptation) as a result of USG assistance	Not in program statement	0	42
Number of climate vulnerability assessments conducted as a result of USG assistance	Not in program statement	0	6
Number of households implementing energy efficient measures as a result of USG assistance	Not in program statement	0	314
Number of people with increased economic benefits derived from sustainable natural resource management and conservation as a result of USG assistance ¹⁷	740	0	4,840
Number of households with improved access to finance, including those receiving community credit and start up grants	300	0	903
Gender: Proportion of female participants in USG assisted programs designed to increase access to productive economic resources	60%	0	672/1209 (56%)
Number of persons reached through community outreach that promotes HIV/AIDS prevention	32,000	44,385	203,017 (incl. repeat individuals)
Number of the targeted population reached with individual and/or small group level HIV prevention interventions that are based on evidence and/or meet the minimum standards required (PEPFAR P8.1.D)	Not in program statement	0	21,247
Number of fishermen (mobile men with money) reached with individual and/or small group level preventive interventions that are based on evidence and/or meet the minimum standards required. (PEPFAR P8.3.D)	Not in program statement	0	6,805
Number of targeted condom service outlets (PEPFAR P8.4.D)	Not in program statement	62	1,190

(Source: CRC/URI)

Perhaps the greatest project strength is that it used an integrated approach to livelihoods improvements, economic growth, biodiversity conservation, gender inequity and HIV/AIDS prevention. The project considered this combination of factors to be necessary because an integrated approach made sense to local communities and encouraged them to become more interested. While health and economic growth initiatives provided immediate gains, conservation activities provided gains that take longer to materialize.

¹⁶ Extracted from Appendix I: Performance Monitoring Plan with Indicators, Targets and Results.

¹⁷ Target represents direct individual beneficiaries and not households. However, LOP results indicate direct and indirect, i.e. family members, benefiting from interventions. If a multiplier of 5 is applied to the target, then the result would be 3,700 people; the result exceeded the target.

In Kizongo village, for example, the project has helped women entrepreneurs to diversify and improve production and marketing of shell crafts for local and international sale, helped provide access to capital and improved connections between the producers and marketers in Stone Town, Zanzibar's main tourist area. Village producers see the need to protect and sustainably harvest marine resources that had not previously been valued.

However, the majority of both KII and FGD respondents acknowledged implementing an integrated approach is a slow process and needs some considerable time. In some villages, the short time frame to achieve project targets was a limiting factor for seeing results from this approach in those villages.

The establishment and use of multi-sectoral working groups and task teams when developing and implementing activities has been a project strength. UZIKWASA has noted that village multi-sectoral HIV/AIDS committees in Pangani have been the point of entry that lead to members becoming engaged in economic activities (e.g. SACCOs, CBDs). This NGO's radio station in Pangani has been educating on the importance of integrating issues of climate change, natural resources management and HIV/AIDS.

Behavior change communication (UZIKWASA and CVM) has contributed to decreasing risky sexual behaviors and addressing root causes of those behaviors as well as gender inequity. The population, health and environment (PHE) approach has changed people's attitudes. Analyzing the data from a 2012 impact survey (see *Insert*), it was found that for condom use and HIV/AIDS testing, women in project villages are doing significantly better than women in control villages. This indicates that the behavior change communications campaign implemented to address the root causes of high-risk behaviors has been effective in raising the status of women in Pangani and Bagamoyo communities.

A core aspect of the project's PHE work, which was implemented in collaboration with the BALANCED project, was to integrate conservation and health volunteer responsibilities to deliver integrated messages on how to protect the environment and one's health. Volunteers working on conservation activities and/or who were members of SACCOs were trained as peer educator (PEs) and community based distributors (CBDs). Similarly, PEs and CBDs also became members of SACCOs and became involved in conservation activities. In Pangani, PEs have strengthened their communities by discussing integrated issues and behavior changes that can help people improve their lives. As a result of this intervention, most PEs are engaged in multiple PHE-related activities, including community-based distribution of FP commodities, SACCOs, medical stores, fuel-efficient technologies, HIV/AIDS prevention and livelihood activities (e.g. beekeeping).

Analysis of village-based surveys conducted by the project in 2009 and 2012 found that in project villages, the dependence on natural resource based livelihoods has been reduced. In 2012, 61% of all respondents reported their main source of income as fisheries, farming or aquaculture, a drop from 2009 when 67% reported they were engaged in those livelihoods. The survey also found that project

participants were more likely to save money than non-project participants. Although the standard of living is low in most coastal communities, there are indications that the standard of living improved between 2009 and 2012 and that more households have more money left after covering basic needs.

Village and district/coast-wide climate change vulnerability assessments identified vulnerabilities and potential adaptation actions. The project has assisted communities (Kitonga, Mlingotini, Sange and Mwembeni on the mainland and Paje and Jambiani on Zanzibar) to develop and implement climate change adaptation plans including identifying adaptation actions. For example, Kitonga village is now using mixed farming methods to increase rice production after years of significant climate variations. A 12-person Village Climate Change Committee (VCCC), with an equal number of men and women, was formed to implement vulnerability and adaptation assessments. The chairperson of the Kitonga VCCC, Yahaya Bakari, said that the project distributed more than 2,000 mango tree seedlings to farmers who each planted them in their 2 ha plots of rice paddy. This was aimed at implementing a mixed farming method that benefited the farmers as the trees retained moisture and enabled the paddy to grow during periods of drought. In addition to increasing rice crop yields, after three years, the mangos can be harvested; in the event rice yield declines the farmers will also have mangoes to sell. Amina Ali, a female member of the VCCC, said that prior to this initiative when rice crops failed farmers resorted to making charcoal that requires considerable tree cutting and leads to worsened affects from climate variations. She further said that she has come to understand that poverty alleviation can be addressed without eliminating the trees and is looking forward to the income generated from increased rice yield and mango sales.

Through the introduction of energy-efficient stoves and baking ovens, a source of income for empowered women in Saadani, Mkange, Kitonga and Mkalamo has been created, and they have improved their financial situation by establishing small restaurants, coffee shops and bakeries. By training Zanzibar communities in Fumba, Bweleo, Nyamanzi and Ugunja Ukuu on jewelry making and strengthening their marketing skills, women in particular have been empowered economically and general household income has increased. The Chaza Cooperative Society, based at Fumba and built by the project, has been significant for promoting marketing and establishing linkages with distributors as well as enhancing incomes and a sense of community pride and empowerment.

Table 5 summarizes project livelihood initiatives, target villages and direct beneficiaries in those villages.

Table 5: Project livelihood direct beneficiaries

Livelihood	Village	Direct Beneficiaries ¹⁸
Baking Stoves	Gongo, Bagamoyo	4
	Mkange, Bagamoyo	3
	Kitonga, Bagamoyo	7
	Mihuga, Bagamoyo (additional)	3
	Mkwaja, Pangani	no data
	Mlingotini, Bagamoyo	11
	Saadani, Bagamoyo	7
Banana Farming	Mwembeni, Pangani	20
Beekeeping	Kipumbwi, Pangani	18
	Mkalamo, Pangani	34
	Sakura/Kwakibuyu, Pangani	12
	Mlingotini, Bagamoyo	25
Conservation	Sange & Ushongo, Pangani	64
Energy Saving Stoves	Mkalamo, Pangani	88
	Mkwaja, Pangani	

¹⁸ Disaggregated gender data may be available from TCMP but was not available to evaluators.

Livelihood	Village	Direct Beneficiaries ¹⁸
Jewelry Making	Sange, Pangani	
	Ushongo, Pangani	
	Saadani, Bagamoyo	
	Bweleo, Zanzibar	32
	Fumba, Zanzibar	36
	Kikungwi, Zanzibar	23
Mango and Rice Farming	Kizingo, Zanzibar	30
	Nymanzi, Zanzibar	34
Pearl Farmers	Unguja Ukuu, Zanzibar	31
Sesame Farming	Kitonga, Bagamoyo	12
Solar Energy	Bweleo, Zanzibar	13
	Nymanzi, Zanzibar	7
	Sange, Pangani	21
	Mapinga (Changwahel), Bagamoyo	3
	Kitonga, Bagamoyo	7
	Mihuga, Bagamoyo (additional)	8
(Source: CRC/URI)	Mkange, Bagamoyo	5
	Saadani, Bagamoyo	2
Total		560

Savings and Credit Associations (SACCOs) have allowed for diversified and supplemental livelihoods, especially for women, which in turn have increased resilience. SACCOs and ecotourism support sustainable development and increased resilience of populations. The project facilitated the establishment of SACCOs in Mlingotini, Saadani, Mkange, Sange, Mkalamo, Sakura, Ushingo and Mwembeni on the mainland and Kikungwi, Fumba, Bweleo and Nyamanzi on Zanzibar. Direct beneficiaries of SACCOs interventions and members in project villages are shown in Table 6. SACCOs have assisted the community to become more resilient to economic shocks from climate variations. The communities are now able to access financing, and some have managed to considerably increase their assets and annual income.

Table 6: SACCOs members in project villages

Village	Current SACCOs members	Former SACCOs members	Total SACCOs Members ¹⁹
Fumba, Zanzibar	83	0	83
Kikugwi, Zanzibar	75	4	79
Kizingo, Zanzibar	60	0	60
Mkalamo, Pangani	52	8	60
Mkange, Bagamoyo	64	10	74
Mlingotini, Bagamoyo	52	3	55
Mwembeni, Pangani	55	0	55
Saadani, Bagamoyo	30	0	30
Sakura, Pangani	98	27	125
Sange, Pangani	70	1	71
Stahabu, Pangani	45	10	55
Ushongo, Pangani	51	1	52
(Source: CRC/URI)	Total		799

Ms. Mashavu Saidi, Chair of the Umawke SACCOs at Mkange village in Bagamoyo, said that this association began in 2009 with TSh. 100,000 and only five members. The project then disbursed TSh. 1 million in the first phase and later an additional TSh. 1.5 million. She said that current capital held by the SACCOs is more than TSh. 14 million and about 74 members (65 women and 9 men). In addition, Ms.

¹⁹ Disaggregated gender data may be available from TCMP but was not available to evaluators.

Mwanahamisi Ramadhani Kitivo, a member of the Umawke SACCOs, has used the credit and savings system very well. She said that through a loan she was able to cultivate three acres of corn and two acres of *simsim* (sesame) and from the profits was able to set up two small stores and purchase an additional 15 acres to increase cultivation. In Mkange village, the Chair of the village SACCOs, Ms. Mashavu Saidi Ramadhani said that through loans she has been able to buy three acres planted in *simsim*, and from the profits has built a new house and a small hotel in the village. She said that the village SACCOs was established by a group of women entrepreneurs who later invited some men to join in the association. In Mlingotini, villagers formed the Msichoke SACCOs, which currently has 52 members. Mlingotini villagers are primarily fishers, with farming being a secondary activity, and the SACCOs has helped some to expand their livelihoods to beekeeping and seaweed soap making.

3. Power: Improved Governance

The goal of improved governance is to strengthen local government, organizations, communities and individuals to improve the delivery of livelihoods improvements and the management of natural resources. Table 7 provides PMP indicators, targets, baseline data and results for improved governance. The project has exceeded all targets from the original Program Statement.

Table 7: Indicators, Targets, Baseline and Results for Improved Governance ²⁰

Indicator	Illustrative Target from Program Statement	Baseline Data (2009)	Years 1-4 Results (2010-2013)
Number of laws, policies, strategies, plans, agreements or regulations addressing climate change (mitigation or adaptation) and/or biodiversity conservation officially proposed, adopted, or implemented as a result of USG assistance.	3 additional	5	27
Number of local organizations strengthened to manage endangered ecosystems, and to support sustainable livelihoods and cross-cutting issues such as HIV/AIDS and gender	11	0	70
Number of individuals trained and/or certified in coastal governance, MPA management, HIV/AIDS action planning, and other cross-cutting issues (SO 13, indicator 4)	490	1,166	4,238

According to the majority of KII and FGD respondents, the project has been effective in addressing an integrated coastal ecosystem conservation program approach for improved governance. A summary of the most common responses regarding accomplishments follows:

- Through the established District ICM Working Group members, the project has initiated two subgroups; namely, a Mariculture Task Force and Climate Change Task Force with the responsibility of providing technical support to villagers.
- Spatial planning and mariculture activities have improved local governance by providing new decision-making tools and procedures.
- Elephant tracking (radio-telemetry collaring) has provided information for improved decision-making concerning human-wildlife conflict. For example, after the project's elephant telemetry study, changes in the areas covered for patrols outside the park boundaries and how they involve other authorities such as district councils to handle wildlife conflict issues has become apparent. SANAPA management has reduced human-elephant incidences because of data on seasonal elephant movement, which has caused staff to become more proactive.
- No-take zoning has strengthened governance of the Menai Bay Conservation Area.

²⁰ Extracted from Appendix I: Performance Monitoring Plan with Indicators, Targets and Results.

- Training marine protected area professionals and integrated coastal managers has improved local management capacity.
- Various trainings that the project has undertaken have strengthened the capacity of the village and District staff to manage natural resources in Pangani and Bagamoyo. This has resulted in many trainees who now experience improved coordination between communities and LGAs. For example, leadership training in Pangani has strengthened District and village governance capacity. In addition, training Community Conservation Officers in Pangani has strengthened governance capacity for marine mammal and turtle conservation.
- A climate change adaptation planning workshop in partnership with the Vice President's Office and with national government agencies and NGOs promoted improved understanding of climate change adaptation governance.

Additionally, there was significant project (staff) participation in a number of national and regional initiatives. The project participated on the Vice President's Office team during the annual Parliament sessions in Dodoma in July 2013; the PWANI Senior Policy Advisor assisted in reporting and discussing policy and budgetary issues related to coastal and marine areas. Project staff also participated in the core team responsible for finalizing a draft regional protocol on Integrated Coastal Zone Management (ICZM) for the Eastern African Region, including the island states of the Western Indian Ocean Region. This protocol intends to replicate the USAID-supported integrated coastal management efforts in Tanzania in the wider Western Indian Ocean region. Project staff also worked with the National Environment Management Council (NEMC) Technical Working Group in mainstreaming climate change adaptation in the national ICM Strategy. Finally, the project provided data and maps to the NEMC to support the process of mapping of the Marine Environment Sensitive Areas.

Communities and district LGA staff are involved in project activities like mariculture zoning and climate change adaptation. PWANI also works closely with central and Zanzibar government agencies. Subcontracted partners (UZI KWASA, Sea Sense, CVM, TaTEDO) know the local communities very well and have specialized knowledge that contribute greatly to meeting the project's objectives and goals. A strategic selection of project partners with extensive experience of community engagement has meant that each partner has been able to work successfully with communities from the outset. Bagamoyo and Pangani LGAs, in particular, have also collaborated with the project for designing and implementing activities. UZI KWASA has stressed the importance of its good link with local partners through its FM radio station broadcasts and holding meetings with them to discuss issues, and knowledge and experience sharing.

One weakness or constraint of working with local partners noted at the Districts was that the timing of project activities does not coincide with District planning cycles. There has been a high funding expectation of local partners from the project, and some government respondents have stated that because funds do not go through government there is a lower level of support and coordination. PWANI has tried to overcome this through frequent meetings and increased engagement and coordination with national government agencies to increase understanding and awareness of project progress and opportunities. The Zanzibar Environment Department has noted that it was not adequately involved in project design and considers that it generally has inadequate participation in the project.

Addressing gender issues requires improving gender equality, empowerment and the roles of both women and men. Gender has been a cross-cutting project theme. For example, in the HIV/AIDS prevention and economic growth program, the project has addressed gender by explicitly focusing on gender inequities and increasing women's access to credit and entrepreneurship opportunities. Women's involvement has improved project results significantly since women are critical to family livelihoods, education and health. By targeting interventions that minimize or remove gender inequity

and inequality, the project has facilitated women becoming more active and vocal in village development activities compared to the situation before project intervention.

Gender empowerment is particularly evident in SACCOs, fuel-efficient baking ovens and stoves, sea weed farming, soaps and jewelry making. Bagamoyo District government noted that in the past men and women did not meet together and talk but because of project intervention that has included training there has been a positive change; women are now involved in meetings and decision-making. In the work on village-level climate change adaptation, local committees of 12 members were intentionally composed of 6 men and 6 women. It is significant that women trained to apply for loans are engaging in sustainable economic activities. TaTEDO has noted that their village groups are composed of about 75% women and are among those performing the best.

Women in project activities have become more confident, empowered and able to disseminate messages in an integrated way by using theater and radio. Community dialogue about gender is more evident through the Pangani community FM radio. During community debates, women have become more active than men in arguing about gender rights and advising on how men and women should take responsibilities equally.

Twenty-one among 33 Village Multisectoral AIDS Committees (VMACs) have been trained by UZIKWASA to review their village plans so as to address gender and leadership challenges. This has made the community more aware and empowered to take action against gender violence. Gender aspects are addressed in a multimedia manner involving Theatre for Development, Community radio, mobile video shows as well as IEC materials.

Police gender desks were established by GoT, but staff remained untrained and almost inactive in many parts of the country. In Pangani, UZIKWASA collaborated with the desk officers so that they built their capacity to take appropriate action when people reported cases. UZIKWASA publicized this through radio to community members, who have reported offenders to the gender desk.

A summary of policy development resulting from the PWANI project is found in *Table 8*. The project has helped establish nearly 30 policies, strategies, plans, agreements and regulations addressing climate change (mitigation or adaptation) and biodiversity conservation. The project has reported 24 already and will likely report at least five more for the final quarter, including two Pangani climate adaptation plans. Policies and agreements are of varying strength, ranging from no-take zones and mariculture permitting procedures being the strongest to SACCOs agreements, which are smaller in scope.

Table 8 Policies resulting from the PWANI project

No.	Field Site	Policy, Bi-law, Agreement, etc.	Year & Month Adopted
1	Zanzibar	Dolphin Tourism Agreement (KIDOTOA)	September, 2010
2	Bagamoyo, Saadani	SACCO agreement that includes NRM and Conservation	March, 2011
3	Bagamoyo, Mlingotini	SACCO agreement that includes NRM and Conservation	March, 2011
4	Bagamoyo, Mkange	SACCO agreement that includes NRM and Conservation	March, 2011
5	Zanzibar, Fumba	SACCO agreement that includes NRM and Conservation	March, 2011
6	Bagamoyo, Kitonga	Kitonga Village Council agreement to offer land to Climate Change Committee	June, 2011
7	Bagamoyo District	Bagamoyo Mariculture Permitting Procedures	February, 2012
8	Bagamoyo	Mlingotini Climate Change Adaptation Plan	
9	Bagamoyo	Kitonga Climate Change Adaptation Plan	
10	Zanzibar	Paje climate change adaptation plan	
11	Zanzibar	Jambiani Climate Change Adaptation Plan	
12	Bagamoyo	3 TaTEDO energy agreements	June, 2012
13	Pangani	3 SACCO agreements	June, 2012
14	Zanzibar	1 SACCO agreement	June, 2012
15	Pangani	MOU with Pangani District Council on the implementation of small doable adaptation options	August, 2012
16	Bagamoyo	TaTEDO MoU on solar multi-chargers	August, 2012
17	Bagamoyo	Agreement with solar multi charger group in Gongo village	October, 2012

No.	Field Site	Policy, Bi-law, Agreement, etc.	Year & Month Adopted
18	Zanzibar	An agreement between the Kizingo SACCOS and the PWANI Project	October, 2012
19	Pangani	Pangani Mariculture Permitting Procedures	March, 2013
20	Zanzibar	Two No-Take Zone Bylaws	March, 2013
21	Bagamoyo	Agreements with Bakeries in Mkanga and Kitonga	June, 2013
22	Pangani	Kipumbwi Waste Management Bylaw	June, 2013
23	Pangani	Sange Climate Change Adaption Plan	August, 2013
24	Pangani	Mwembeni Climate Change Adaptation Plan	August, 2013

(Source: CRC/URI)

4. Project Management

Partners and beneficiaries from central to village level, represented in both KIs and FGDs, overwhelmingly stressed that overall project support has been appreciated as local capacities, women's empowerment, and income levels have increased as a result of project interventions. Local staff have a strong commitment to the goals of the project, valuable local knowledge and technical skills. Staff numbers are even higher when considering that the larger team includes all the subcontracted partners. While staff capacity, skills and abilities are generally high, there is room for improvement with increased and appropriate on-the-job training that would improve job performance even further.

5. Monitoring, Reporting and Documentation

Table 9 shows PMP indicators, targets, baseline data and results for monitoring, reporting and documentation. The project has exceeded all targets from the original Program Statement.

Table 9: Indicators, Targets, Baseline and Results for Monitoring, Reporting and Documentation²¹

Indicator	Illustrative Target from Program Statement	Baseline Data (2009)	Years 1-4 Results (2010-2013)
Number of individuals reached through community outreach and planning that promotes biodiversity conservation and improved gender equity	1,000	2,506	8,162
Number of success stories documenting key actionable findings about best practice approaches and lessons learned published in local media reports, radio shows, conference papers, and research studies	68	0	190

The program monitoring system appears to have been very effective. There is good coordination between CRC-URI and the TCMP field team with oversight, reporting and documentation. Project activities are monitored on three levels: (i) by project staff assigned to specific areas, (ii) by project partners subcontracted to implement specific activities, and (iii) by the project's monitoring and evaluation team who conduct routine monitoring either on their own or with the Data Quality Assessment Team contracted by USAID.

Monitoring findings are discussed weekly by the team, and project staff receive feedback and advice on how to address key issues. Implementation progress is documented in routine field trip reports, Monday meeting minutes and in monthly and quarterly reports; the latter are made available to project partners as is a newsletter.

It is significant that the project has made information available to Parliament, which has acknowledged this support for policy development. The Zanzibar Environment Department has noted that the

²¹ Extracted from Appendix I: Performance Monitoring Plan with Indicators, Targets and Results.

communities are very well organized and engaged through good networking and that the project has brought the involvement of the department into the monitoring and evaluation process. Bagamoyo District government noted that communication among stakeholders for project monitoring is very good. UZIKWASA noted an increased awareness among Pangani District communities and that there has been improved project monitoring due to a collective energy of the partners working together. In Pangani, it has been shown through UZIKWASA's monitoring that their FM radio station is a powerful instrument for educating and reaching people, and they were providing feedback.

Only a few constraints to effective program monitoring, oversight, reporting and documentation were noted by several KII respondents. The Zanzibar Environment Department maintains that during the beginning of implementation there were some unspecified barriers to the department's involvement. The Bagamoyo District government involvement with conducting monitoring visits could have been increased. A few respondents said that report feedback from the USAID, conveyed through URI, may have been inadequate and that monitoring results were not always communicated back to project partners. Monitoring dictated by USAID's reporting requirements, DQA procedures and data entry systems were seen by some as a hindrance.

D. CONCLUSIONS

I. EQ1: Approach Effectiveness

EQ1: How effective has the coastal ecosystem conservation program approach been in achieving intended outcomes of the program in the key programming areas: a. sound natural resources management (Nature), b. strengthened resilience (including community resilience to adapt to climate change impact) and assets (Wealth) and c. improved governance (Power)?

The integrated coastal ecosystem conservation program approach has been very effective in achieving intended project outcomes in the Nature, Wealth and Power key programming areas.

For sound natural resources management, improvements in biophysical conditions are largely on target as are the associated livelihoods improvements intended to reduce pressure on the environment and natural resources. The project has exceeded all targets from the original Program Statement in terms of number of hectares of biological significance and/or natural resources under improved natural resource management and showing improved biophysical conditions. Many initiatives have had an impact of conserving biodiversity. For example, the introduction of energy-efficient stoves and baking ovens in the project area has contributed to the reduction of deforestation and promoted conservation of forest resources. In Saadani village there has been about a 75% reduction of wood use by users of these technologies and greater reliance on charcoal.

For strengthened resilience and assets, the project has exceeded all targets from the original Program Statement with the exception of the "proportion of female participants in USG assisted programs designed to increase access to productive economic resources" (60% target, 56% result). SACCOs, for example, have allowed for diversified and supplemental livelihoods and women's empowerment very significantly. The project has established eight village SACCOs benefiting more than 900 households with livelihoods that have emphasized support of sustainable development and have increased average family incomes.

For improved governance, the project has exceeded all targets from the original Program Statement. Capacity building has been a major focus. Training has been provided in natural resources management and biodiversity conservation for LGA decision-makers and community groups and has strengthened capacities of village and LGA staff to manage natural resources. This has resulted in many trainees who now experience improved coordination between communities and LGAs. Leadership training in Pangani has strengthened District and village governance capacity and capacity building of local Climate Change Committees has strengthened the adaptive capacity of whole communities. In addition, the project has

helped establish close to 30 policies, strategies, plans, agreements, bi-laws and regulations addressing biodiversity conservation and climate change mitigation or adaptation.

2. EQ2: Strengths and Weaknesses

EQ2: What have been the strengths and/or weaknesses of the project approach and why? a) working with local partners b) to address gender issues and c) using an integrated approach (integrating HIV/AIDS, climate change, biodiversity, and economic growth activities). In addition, how relevant are the project targets and are they at an appropriate scale (e.g. coverage, geographic focus, target beneficiaries) for achieving impact?

The main strength of the project approach for working with partners has been its strategic selection of partners with extensive experience in community engagement, and this has meant that each partner has been able to work successfully with communities from the beginning. One weakness, as stated by several respondents, was that by having many local partners the project had the potential to appear like several smaller projects working independently. It is not apparent, however, how this negatively impacted the project if at all.

A strength of the project has been its approach to address gender issues by explicitly focusing on gender inequities and increasing women's access to credit and entrepreneurship opportunities as well as empowerment and health advocacy. Women's involvement has improved project results significantly since women have become more empowered and are critical to family livelihoods, education and health. PWANI did not have an in-country staff member specifically assigned to work on gender mainstreaming; neither did it have an explicit gender empowerment statement approved by government and NGO stakeholders to ensure gender would become even more mainstreamed. These could have become potential weaknesses if not for the fact that partners (e.g. UZIKWASA, CVM, TaTEDO) took the lead on addressing and integrating gender issues into the project.

The strength of using an integrated approach to project interventions was its focus on addressing the root causes of behavior that lead to biodiversity degradation and gender inequity. For example, UZIKWASA's FM radio station in Pangani has been educating on the importance of integrating issues of climate change, natural resources management and HIV/AIDS. Behavior change communication has contributed to decreasing risky sexual behaviors and addressing root causes of those behaviors as well as gender inequity.

The project operated at a scale (e.g. coverage, geographic focus, target beneficiaries) where it was able to achieve impact at both the community and LGA levels and to a smaller but significant extent at the national policy level. Project activities and targets are to some extent dictated by USAID mandated indicators, and, in the opinion of PWANI staff, the targets were appropriate. The project has piloted several activities (e.g. mariculture permitting procedures) that are now ready for coast-wide scaling-up. Some activities (e.g. dolphin tourism) were implemented at a scale that may have been too small for significant ecosystem level impact.

Under the *Nature* key programming area, the target improved management of areas of biological significance. The project focused its activities in areas around SANAPA, mangrove forests and MBCA. These ecosystems are of high biological significance, and project interventions that were developed aimed at putting in place management that ensures natural resources are sustainably utilized. For example, after the project's elephant telemetry study at SANAPA, changes in the areas covered for patrols outside the park boundaries and how they involve other authorities such as district councils to handle wildlife conflict issues has become apparent. SANAPA management has reduced human-elephant incidences because of seasonal elephant movement information, which caused staff to become more proactive.

Under *Wealth*, the project introduced sustainable livelihood activities for coastal communities such as SACCOs, ecotourism (dolphin tourism, viewing turtle hatching), jewelry making, bakeries, small flour

mills, restaurants and shops. Through the introduction of these activities, the project has managed to increase the wealth of a number of beneficiaries in the landscape and seascape of SANAPA and Menai Bay. For example, establishment of eight village SACCOs has benefited approximately 900 households with natural resource and environmental livelihoods that emphasized support of sustainable development. This has translated into women's empowerment and improved family incomes.

Under *Power*, the target assisted to put in place and adopt policy and regulations aimed at addressing climate change and biodiversity conservation as well as building local stakeholder capacities to manage natural resources and adapt to climate changes. Capacity has been built at a scale in line with management mechanisms in place and enforcement. For example, 21 out of 33 VMACs in Pangani District have been trained by UZIKWASA to review their village plans so as to address gender and leadership challenges. This has made the community more aware and empowered to take action against gender violence. UZIKWASA collaborated with the police gender desk officers so that they built their capacity to take appropriate action when people reported cases.

It was crucial to project success and local buy-in to engage Pangani and Bagamoyo Districts on the Tanzania mainland. PWANI established an ICM team in each district. From that ICM team, task forces were created of between five and 10 members who collaborated with PWANI staff on specific tasks related to spatial planning, mariculture zoning and climate change. Task teams also ensured that policy documents (e.g. mariculture permitting procedures) were submitted to the LGA for approval. The task teams proved a good opportunity for different sectors within the districts to work together. For example, the Land and Fisheries Departments worked closely together to provide a better management system for mangrove areas, including determining precise village boundaries for mangrove areas and salt flats. This was essential when verifying which village should issue a mariculture permit for a specific area. It is recommended that TCMP continue to serve as a catalyst for engaging LGAs but that the ICM Working Groups established through PWANI be strengthened as the primary means of engaging LGAs and integrating district coastal development planning.

3. EQ3: Monitoring, Reporting and Documentation

EQ3: How effective is the program monitoring system and oversight, reporting and documentation?

Frequent monitoring schedules, including participatory monitoring, have provided important opportunities for feedback and input from project beneficiaries. Reporting and documentation have been very thorough and captured many of the subtle behavioral changes among project beneficiaries. Some constraints pertaining to funding and procedures were noted; however, this can be expected in any successful project.

4. EQ4: Constraints and Opportunities

EQ4: What are the underlying key constraints/opportunities (internal/external) that have potentially impacted performance of the program (e.g. capacity, staffing, organizational support)?

The underlying project key constraints and opportunities focus primarily on staff capacity, skills and abilities, staffing types and numbers as well as organizational support. Partners and beneficiaries from central to village level have stressed that overall project support has been appreciated as local capacities, women's empowerment, and income levels have increased as a result of project interventions. While staff capacity, skills and abilities are generally high, there is room for improvement with increased and appropriate on-the-job training that would improve job performance even further.

Capacity Constraints: PWANI staff are technically strong but their capacity and confidence in analysis, technical writing and project administration could be improved. The Mlingotini VEO noted that while the project gave good training to village group members, it did not put enough effort into building the capacity of village leaders. The Ministry of Livestock and Fisheries staff acknowledged the inadequacy of

its own village extension officers, yet the project relied on their assistance and that of district staff resulting in some minor coordination difficulties.

Capacity Opportunities: Through mentoring, capacity building and incentives (e.g. appropriate skills training, peer-to-peer exchanges), there is great potential to improve local capacity. Village FGD participants expressed their appreciation of the good skills, cooperation and assistance from project staff. The consensus was that project staff are effective with diverse skill sets and that the project has staff with a high capacity level at the policy level (e.g. influencing decision-makers). The subcontracted partners appear to be strong, effective and competent. Bagamoyo LGA noted what others have said, that there is a need to strengthen coordination between the project and LGAs by considering increasing LGA capacity and thereby increasing their contribution to implementation. MoLF noted that there is no clear focal person in the Ministry dedicated to the project.

Staffing Constraints: No significant staffing constraints were noted.

Staffing Opportunities: Local staff have a strong commitment to the goals of the project, valuable local knowledge and technical skills. Staff numbers are even higher when considering that the larger team includes all the subcontracted partners. There is the availability of competent District staff on the mainland and on Zanzibar to provide technical support for implementing project activities. To this end, there is an opportunity for officers from relevant Ministries and the Districts to be involved more so as to support project activities in line with their missions.

Organizational Support Constraints: CRC-URI bears a substantial share of project administration and performance, and it was noted that the TCMP team should become more independent. Constraints in terms of incentives for staff performance include low salaries and the burden of commuting from Dar es Salaam to the Bagamoyo office (road construction and increasing traffic can result in a trip of several hours). Currently, there is no ICM Working Group in Zanzibar although plans to establish one are underway.

Organizational Support Opportunities: TCMP is a technically competent local partner for future projects as evidenced by responses from central government and LGA representatives, who have noted a high level of staff competency and valuable support they have received. The functioning of the Bagamoyo and Pangani ICM Working Groups is adequate, and there are opportunities for additional capacity building and networking in these districts and in Zanzibar.

5. EQ5: Lessons Learned

EQ5: What are some identified key recommendations and lessons learned which could enhance project performance? Which approaches have the potential for being scaled-up?

An overriding lesson is that integrated approaches are more effective in strengthening gender, for example, as well as overall project success than sector-based approaches because one development issue cannot be separated from another. Implementing projects using an integrated approach need to bring together a well-qualified consortium of partners with relevant skills and expertise. Integrating livelihood interventions in the project will help to ensure the support of communities for biodiversity conservation.

Nature: Promoting Sound Natural Resource Management

Spatial planning: The PWANI Project made a decision to shift from the Wami estuary to Mbegani Bay, Bagamoyo, because more or less the same need of assisting the district was met. Providing critical information that balances both local, ecological, economic and government interests with development needs was critically important, and the *State of Mbegani Bay* report provides a description of the values and characteristics of the area. When the details of a newly announced port development are finally released, local officials may wish to take steps to conserve or mitigate its potential social, environmental and economic impacts.

Elephant telemetry is an effective, but expensive, technology: Tracking elephants using GPS satellite collars enabled the project to monitor individuals wherever an Internet connection existed. However, the technology is quite expensive. To fit and remove collars the project spent approximately US \$150,000, which was a substantial portion of the project budget in years one and three.

Terrestrial protected area boundaries are not ecological: From the telemetry study it was observed that elephants consistently use village lands and private ranches. This implies that any conservation strategy must be holistic, managing protected and unprotected areas as one ecosystem with a spectrum of spatial uses and conservation rules. It is also essential to include the local community in planning, especially around the establishment of wildlife corridors and reducing human-wildlife conflicts.

Wealth: Strengthening Resilience and Assets

Use of interactive theater and radio for sea turtle conservation and HIV/AIDS prevention: One of the major successes of the Sea Sense program was the use of Theater for Development (TFD) as a tool for community-wide education and awareness on endangered marine species. Sea Sense received advice and guidance from UZIKWASA on TFD methodologies and successfully implemented TFD projects in four villages. Community debates surrounding the TFD performances ensued for several hours with hundreds of villagers in attendance. Through the debates and discussions, participants became increasingly able to recognize the impacts of illegal fishing practices and poor waste management and to understand the link between resource conservation and sustainable livelihoods. Following the TFD in Kipumbwi village, which focused on poor waste management, village leaders implemented a weekly village cleanup and have committed to enforcing local by-laws related to waste management. The combination of interactive theater and radio programming has been equally successful in getting out HIV/AIDS behavior change communication. The HIV/AIDS prevention campaign has successfully inspired people to speak out about problems related to high-risk sexual behaviors, gender rights and other problems.

Ecotourism: The sea turtle ecotourism initiative has proven to be hugely successful in helping communities to recognize the value of live sea turtles. Intentional slaughter of sea turtles for meat and poaching of eggs has been eliminated in both villages that engage in sea turtle ecotourism. Communities involved in sea turtle ecotourism now have a greater understanding of the importance of endangered marine species and habitat conservation and of the potential economic benefits associated with conservation. It is imperative that conservation initiatives deliver tangible economic outcomes for communities to drive long-term behavioral change.

Implementing climate change adaptation actions: The project found that it is easier to get good results when selecting simple adaptation actions that use local skills rather than selecting complex activities that require new skills. Also, those involved must have the desire and interest to engage in the adaptation action. Those living in coastal Pangani and Bagamoyo have adopted a livelihoods strategy that includes several income streams to reduce their vulnerability to stresses and shocks. This increased interest in adaptation actions were connected to strengthening or diversifying livelihoods. However, it was found that the adaptation actions that were linked to livelihoods worked best when the livelihoods were managed by individuals. Sales cooperatives in which entrepreneurs grow or prepare their own products that they then sell as a group can be successful.

SACCOs help vulnerable groups and reduce reliance on natural resources based livelihoods: Overall, the established microfinance and livelihoods supported by the project have increased livelihood options and self-confidence among poor households. SACCOs memberships have helped individuals expand and diversify their enterprises, decrease risks, improve financial and business management, increase productivity and incomes, obtain returns on savings, decrease exploitation and conduct their businesses with dignity. As a result, their quality of life has improved. SACCOs have particularly benefited women and HIV/AIDS-vulnerable households, and benefits go beyond economics. For example, some

respondents reported that women who engaged in transactional sex in fishing camps as barter for fish now have the funds to buy fish and are now less vulnerable. Through the SACCOs, individuals have been trained in environmental conservation and have accessed capital for environmentally friendly activities. This has been a step towards reducing people's dependence on natural resource-based and sometimes destructive livelihoods.

The population, health and environment (PHE) approach has changed people's attitudes: The behavior change communications campaign implemented to address the root causes to high-risk behaviors has been effective in raising the status of women in Pangani and Bagamoyo communities. Volunteers, the majority of whom were women, working on conservation activities and/or who were members of SACCOs were trained as peer educator (PEs) and community based distributors (CBDs). Most PEs are therefore engaged in multiple PHE-related activities, including community-based distribution of family planning commodities, SACCOs, medical stores, fuel-efficient technologies, HIV/AIDS prevention and livelihood activities (e.g. beekeeping).

Power: Improving Governance

Working with local government staff, and coordination with central government, in project implementation ensures government engagement: The assumption is that when the project ends, the government partners have the capacity and tools they need to continue following up on the activities and can buy in to the projects. However, implementers must be aware of disconnects of policy, planning and power between national and local governance. For example, the ill-advised Bagamoyo port and city development plan at the national level has no connection with and input from District and village leadership. This informs the project that regular dialogue (e.g. meetings, workshops) must be held to coordinate central and LGA planning. This in turn would serve to reinforce project targets and successful implementation.

6. EQ6: Sustainability

EQ6: Is progress being made toward sustainability of the coastal ecosystem conservation program (e.g. Government engagement, Private sector, community ownership of no-take zones)?

It is clear that progress is being made toward sustainability; interventions have been made to put proper management systems in place to ensure use of natural resources is at a rate that does not reduce the ecosystem's ability to provide those products and services to future generations. However, this goal takes considerable time and there remain challenges. At a broader scale, there is much work to do. The level of illegal resource exploitation is immense (e.g. wildlife, fisheries, forest resources) and will continue to be a major threat to sustainability of coastal ecosystems without a concerted effort to address governance and accountability issues.

Progress towards sustainability may be seen through many project interventions:

- By cross-training champions and peer educators in several different areas (e.g. SACCOs, fuel efficient technologies, community-based distribution of family planning commodities, HIV/AIDS prevention), the volunteers working with the project will have the incentive to sustain their activities after the project ends. The likely reason is that they are benefiting economically from some of these activities.
- By linking ecotourism and sea turtle conservation, the project has ensured that the trained Community Conservation Officers will continue with the conservation of endangered species.
- The village CC Committees will continue and provide continued capacity for CC adaptation.
- Local communities are establishing and diversifying economic activities to reduce their reliance on marine and forest resources, and there are improved natural resource management systems.
- On a local scale, many coastal communities are slowly starting to recognize they have a major role to play in resource management and conservation and are linking resource conservation with livelihoods.

- Behavioral change requires inputs across many environmental, social and economic levels, and the PWANI approach has provided strong support leading toward sustainability of initiatives.
- Community-based resource management plans are increasingly being developed and adopted.
- When project support ends, village FGD respondents have indicated they want many current income-generating activities to be continued by the community, but preferably with additional project support, for SACCOs, fuel-efficient baking ovens and stoves, solar multi-chargers, beekeeping, mariculture (e.g. seaweed farming), soap-making from seaweed, mango planting and shell handicrafts.

Government Engagement

- The project engaged the Bagamoyo and Pangani District Councils through working with the ICM Working Groups and their specific Task Teams, i.e. the Mariculture Working Task Force and Climate Change Task Team. Involvement of these teams is strategic for ensuring continuity of activities beyond the project.
- National level mainstreaming of the ICM Strategy will influence policy in coastal areas.
- Pangani and Bagamoyo Districts are working to coordinate project activities after PWANI project phase out. To make the program sustainable, the Councils will review the possibility of budgeting for some activities.
- Communities are starting to demand greater responsiveness from LGAs in relation to resource exploitation. For example, a case of turtle slaughter was reported to the District Council by members of community, and the DC mobilized marine police to attend the incident and successfully rescued the remaining turtles.
- Government involvement is increasing as a result of the project, but there needs to be a mechanism for long-term implementation requiring budgetary support and increased capacity building for LGA staff.
- Addressing the root causes of risky behaviors and at the same time strengthening leadership have led to permanent positive behavior changes in the Pangani communities. UZIKWASA is committed to continue working with the LGA and local communities, and the gains should be sustained.
- SANAPA management has expanded their patrols to include areas outside the park because of the elephant telemetry data provided by the project.
- SANAPA has budgeted for other protected areas such as Msubugwe and Kisa Forest Reserves and Kiaa after learning that elephants utilize them in dry season.

Private Sector

- Involvement of hotels in climate change adaptation (e.g. planting erosion resistant beach plants), dolphin tourism and conservation of endangered marine species as assurances of continuation of the activities beyond the project.
- Connecting the Zanzibar village entrepreneurs involved with jewelry making, an activity linked to conservation at Menai Bay, to the wholesale market and ensuring that their products are bought and continue generating income.
- The private sector has been involved throughout the project and several companies have contributed resources.
- In SANAPA, tourist satisfaction has been improved because the project has been updating safari operators on which areas are frequented by elephants and other wildlife to make game viewing more interesting.

Community Ownership of No-take Zones

- Village community members have been trained and are involving in participatory monitoring of marine no-take zones.

- During identification of suitable sites for zoning, local communities were fully involved in the process and had the mandate to make decisions on which sites were to be zoned, all of which promoted sustainability.
- Local communities have been trained how to monitor and manage the no-take zones on Zanzibar. They feel ownership of the no-take zones and are seeing the benefits of maintaining them; they have understood the need for continuing to monitor the zones after the project ends.
- Formally approved mariculture zoning guidelines have influenced policy and are sustainable and transferable to other Districts.
- Community ownership of resources is increasing. For example, at the start of the project turtle nests in Kikokwe were all poached; by end of the project this village has formed its own turtle conservation group, which is now one of the most active turtle conservation groups across the whole Tanzanian coastal zone.

E. RECOMMENDATIONS FOR COASTAL MANAGEMENT

EQ5: *What are some identified key recommendations...which could enhance project performance? Which approaches have the potential for being scaled up?*

The Coastal PWANI Project is of particular interest for contributing to the development of an integrated coastal and water resource management program for the Wami-Ruvu and Rufiji River Basins. The Wami-Ruvu and Rufiji River Basins have been the subject of several situation analyses and management planning efforts^{22,23}. The Wami and Ruvu situation analyses considered the status, conditions, challenges and key issues affecting ecosystems of these sub-basins. The analyses provide information on natural resources, socio-economic issues and water resource management governance structure. Priority themes and areas for actions for proposed project interventions were identified for each sub-basin according to objectives of Tanzania's Water Sector Development Programme. Between 1998 and 2003, the Rufiji Environment Management Project worked through the Rufiji District Council to develop participatory village-level environment management plans. The project oversaw effective transfer of central government resource management responsibility to four pilot villages in the Rufiji floodplain downstream of the Selous Game Reserve and in the delta areas affected by flooding.

Recommendations are based on findings and conclusions. *Appendix J* provides a table showing linkages among findings, conclusions and recommendations. Linkages show that the Nature, Wealth and Power paradigm has effectively led the project to its overall goal *"to sustain the flow of environmental goods and services, reverse the trend of environmental destruction of critical coastal habitats and improve the wellbeing of coastal residents in the target areas"* in support of USAID/T SO 13, *"Biodiversity conserved in targeted landscapes through livelihood driven approaches."*

For the current project and as background for developing a future integrated coastal and water resource management program, recommendations are presented according to the Nature, Wealth and Power key programming areas. Consolidated recommendations include those of the greatest relevance as noted from respondents, CRC-URI ²⁴ and by the evaluation team, which has identified additional recommendations.

²² Ngana, J. et al. (2010a). *Ruvu Basin: A Situation Analysis*. IUCN Eastern and Southern Africa Programme, Nairobi, Kenya. & Ngana, J. et al. (2010b). *Wami Basin: A Situation Analysis*. IUCN Eastern and Southern Africa Programme, Nairobi, Kenya.

²³ UNDP (2012). *Rufiji Environment Management Project*. Equator Initiative Case Study Series, New York.

²⁴ CRC, URI (2013). *Briefing Packet for the Evaluation of University of Rhode Island's Conservation of Coastal Eco-Systems in Tanzania: the PWANI Project*, Coastal Resources Center, University of Rhode Island, Kingston.

I. Nature: Promoting Sound Natural Resource Management

Increase Capacity and Resources to Enforce Bans on Unsustainable Fishing Practices: Overexploitation of near shore marine resources and destructive fishing practices are problems that have continued unabated over the past two decades and continue to reduce fish abundance, the size of fish caught and total catch, resulting in excess demand for fish and rapidly rising fish prices. Collaborative, co-management small-scale fisheries management initiatives of many donors have not succeeded in altering the downward spiral of the fisheries sub-sector and tropical reef degradation. MoLF has not been allocated the resources to manage fisheries in a sustainable manner. The continued open access nature of the fishery means it will remain over-fished with low incomes for fishermen. It is recommended that rights-based approaches to fisheries be piloted as this has become an important and effective practice elsewhere. This requires moving from open access to managed access. There are several approaches where groups of fishermen or communities are granted exclusive rights to the reef fishery in a geographically distinct area of the sea. These groups would then be responsible for establishing rules for harvesting fish in this area, consistent with existing national laws. A careful institutional analysis is recommended to determine whether there is a strong enough legal basis and supportive policy framework for moving to managed access approaches and whether a national policy and legal reforms track are required. It is recommended that MoLF identify its requirements for addressing capacity and resources to adequately enforce bans on unsustainable fishing practices and that this is followed with technical and financial support to address these requirements.

Expand the Use of Energy-efficient and Alternative Energy Technology to Reduce Deforestation and Promote Energy Independence: The introduction of energy-efficient stoves and baking ovens in the project area has contributed to the reduction of deforestation and promoted conservation of forest resources, resulting in some cases of significant reductions of wood use and greater reliance on charcoal. It is recommended that this initiative be expanded as it not only assists to conserve forest resources but also provides a means for new livelihoods (e.g. restaurants, bakeries). Solar cell phone chargers were prompted by the project as an income-generating activity; however, this can be expanded to other income activities as well as reducing communities' reliance on fossil fuels. Alternative energy technology (e.g. solar, wind) should be promoted with most new initiatives. It is recommended that NEMC take the lead on expanding alternative energy technology by developing an actionable program through coordination on the ground with DoE, District Environment Departments and the Village Environment Committees established through the PWANI project.

Support Radio Telemetry/Elephant Tracking: Continue to collar and monitor elephants to fully understand their movement patterns the factors that influence those patterns. Explore to what extent cattle influence elephant distribution in the ecosystem. Use the data to guide park ranger patrols and predict human elephant conflicts before they happen by using geo-fencing technologies. Through this technology, alert messages are sent to authorities when an elephant enters a village, allowing park/management staff to chase the elephants away before they cause any damage. Use remote sensing images to detect the rate of land-use changes within the Wami and Ruvu River basins. This data can be used to identify landscapes and areas with low density of human activities and the right environmental conditions for becoming wildlife corridors between protected areas. It is recommended that the SANAPA Park Warden take the lead in establishing the specific requirements for continuing this activity and with a view towards how it will improve Park management.

2. Wealth: Strengthening Resilience and Assets

Use Spatial Planning with Mariculture as a Focus: A new coastal program should consider developing Special Area Management Planning (SAMP) for areas where 1) there are conflicting interests related to natural resources, 2) jurisdiction is clear, 3) a district or other authority is able to adopt the plan, and 4) a public server for free and open-source coastal spatial data is available. SAMP helps users make better informed decisions using the same high-quality information. Mariculture zoning and permitting

procedures should be replicated and expanded geographically. Areas with extensive mangrove forests, (e.g. Rufiji River Delta) and where mariculture development interests are likely to conflict with conservation goals are well suited. Mariculture zoning and permitting, if well implemented, tends to protect mangroves; fishponds are usually prohibited in these areas, thereby reinforcing REDD+ related objectives. Small pond operators need to be provided with sound technical advice and extension services to help instill best practices and insure financial viability. It is recommended that MoFL take the lead with program development and expansion and developing an action plan that could be supported financially and technically.

Promote the Means for Climate Change Adaptation: Scale-up climate change adaptation planning to district and/or ecosystem level to create a stronger framework for addressing the unique conditions and needs of individual villages. Villages share some common needs, such as early warning systems, that are best provided at the district or regional level. Coast-wide LGA-level adaptation capacity analyses should be conducted to build capacity within districts and villages for climate change adaptation. Tools and information for climate change decision-making and preparedness should be developed and provided. For example, coastal districts and villages need improved weather forecasting, flood maps and directions to safe areas when flooding occurs. National attention should be drawn to the material, organizational and policy requirements for successful implementation of local adaptation plans. A risk response and emergency preparedness manual and training curricula for coastal communities should be developed. Training-of-trainer workshops should be held coast wide to strengthen existing emergency response teams, to make them better able to address climate change and its impacts. Collaboration with research institutes that support innovative agricultural practices (e.g. the International Rice Research Institute, the CGIAR centers) should be emphasized to implement climate resilient coastal agricultural crops. It is recommended that NEMC take the lead on promoting the means for climate change adaptation by first identifying an actionable program that expands that developed by PWANI. Implementation and coordination on the ground should be through DoE, District Environment Departments and the Village Climate Change Committees established through the PWANI project.

Link Economic Growth to Climate Change Adaptation: This includes increasing livelihood opportunities for the most vulnerable groups. When selecting the type, complexity and scale of livelihoods, consider the level of skill required of the entrepreneur, the amount of information needed to get started, the availability of inputs to the production or services, ease of transportation or the product or service and the ease and level of access to markets. Support should be given to promote livelihood activities that help communities adapt to climate change, including introducing livelihoods that are not vulnerable to climate change. Entrepreneurs should be organized into marketing groups, where each member is responsible for their own production but other business activities are conducted jointly. It is recommended that NEMC take the lead on integrating economic growth to climate change adaptation and develop the means to do so.

Promote SACCOs as a Tool for Increasing Local Access to Credit: Build capacity among new and existing entrepreneurs for business management and planning and identify appropriate partners that can contribute to developing sustainable enterprises. Engage in strategic partnerships with government, universities, the private sector, technical support providers, credit and financial institutions and buyers. Together these groups can provide organizational and management capacity, technical skills and market knowledge. It is recommended, based on its successes with PWANI, that TCMP intensify this activity by developing an action plan that could be supported financially and technically.

Expand the Population, Health and Environment (PHE) Program: Focus behavior change communications on the root causes to high-risk behaviors. This includes addressing issues related to poor leadership and gender inequity. Take a multi-sectoral approach and involve both formal and informal leaders, and create spaces where people are comfortable discussing PHE-related issues. Adult and youth peer educators have been shown to be effective as they are non-threatening and can speak easily with fellow community

members. Create integrated champions and role models that become “living examples” of integrated PHE, and cross-train volunteers so that each has more than one task to perform in this integrated cross-sectoral approach to addressing community problems. It is recommended that greater coordination be established between the Department of Health and the NGOs UZIKWASA and CVM to expand the PHE program and to secure the financial and technical support that will be required to increase local capacities.

3. Power: Improving Governance

Establish an Interagency Coordinating Mechanism: Formal establishment of an interagency or inter-ministerial council is important for coordinating many activities and for achieving approvals. Creation of a special central-level coordinating commission or committee would serve to promote and strengthen interagency and inter-sectoral collaboration, reduce interagency rivalry and conflicts, minimize duplication of functions of line agencies, provide a forum for conflict resolution among sectors, review monitoring and evaluation progress and approve actions resulting from the evaluation exercise. There are many key functions that are normally beyond the management responsibilities of individual line agencies. It is important that not only communities and LGAs but also central government agencies as coastal stakeholders become intimately involved in the development and implementation of the ICM process to the point that they feel an “ownership” in the process. Much of the drive and momentum necessary to initiate and sustain an ICM process must ultimately come from the central government, and generating the “political will” to take action among the government policymakers is critical for program sustainability and replication. It is recommended that NEMC take the lead on establishing an interagency coordinating mechanism, i.e. interagency committee, which identifies roles and responsibilities among the agencies with the goal of integrating and coordinating coastal development plans.

Incorporate the ICM Program in National Development Plans: From an economic development perspective, the ultimate objective of an ICM program is that it will become an integral part of economic development plans both at central and local levels. Achieving this objective will require the support of policy or decision-makers and line agency officials. Most government programs are formulated through their respective planning agencies, all of which tend to have cross-departmental functions. This recommendation is important for gaining support and possible sustainability for local grass-roots initiatives. It is recommended that an Interagency Coordinating Mechanism, previously described, be the vehicle for ensuring that a future the ICM program is incorporated into national development plans.

Engage LGAs through Technical Task Teams: It was crucial to project success and local buy-in to engage Pangani and Bagamoyo Districts on the Tanzania mainland. PWANI established an ICM team in each district. From that ICM team, task forces were created of between five and 10 members who collaborated with PWANI staff on specific tasks related to spatial planning, mariculture zoning and climate change. Task teams also ensured that policy documents (e.g. mariculture permitting procedures) were submitted to the LGA for approval. The task teams proved a good opportunity for different sectors within the districts to work together. For example, the Land and Fisheries Departments worked closely together to provide a better management system for mangrove areas, including determining precise village boundaries for mangrove areas and salt flats. This was essential when verifying which village should issue a mariculture permit for a specific area. It is recommended that TCMP continue to serve as a catalyst for engaging LGAs but that the ICM Working Groups established through PWANI be strengthened as the primary means of engaging LGAs and integrating district coastal development planning.

Engage the Private Sector: The elephant telemetry study at SANAPA, for example, received support from government counterparts and community-based organizations. Key stakeholders were local hotels (e.g. Tent with a View and the Saadani Safari Lodge), which together contributed valuable materials and other inputs to the elephant collaring and de-collaring exercises. It is important that the private sector be involved throughout the whole exercise, from planning to collaring to tracking and finally de-collaring

the elephants. They considered themselves part of the project, and they were willing to contribute to its success. Data about the elephants' location was useful knowledge when taking tourists on a safari. Local hotels in Ushongo have supported the sea turtle conservation activities and are actively engaged in protecting turtle nests and monitoring eggs on Maziwe Island. In Bagamoyo, Bomani Bungalows are supporting local entrepreneurs (e.g. dance troupes) for visitors. Finally, the project worked closely with shopkeepers in Stone Town, Zanzibar, to market shell craft jewelry and half pearls produced by project-supported entrepreneurs. It is recommended that TCMP and WIOMSA continue to serve as catalysts, bringing local communities together with private sector businesses to achieve sustainable livelihood strategies.

Increase Local Capacity for Mariculture Development: The capacity for mariculture is generally low in villages, and the few existing entrepreneurs operate fish ponds with only basic knowledge. Hence, the failure rate is high. LGAs are unable to provide adequate support as they often lack the technical and financial resources to provide needed assistance. A potential solution to this problem is a future program to help mainstream mariculture extension support into district (LGA) development plans. It is recommended that MoLF identify its requirements for addressing capacity and resources to adequately develop community mariculture and that this is followed with technical and financial support to address these requirements.

Implement Information, Education and Communication Campaigns: A good IEC campaign is essential for sustaining project initiatives and establishing support for conservation efforts and creating an awareness of the linkages to other sectors. Targeting school pupils has proved to be an effective means of raising awareness about environmental issues and the importance of a clean and healthy environment. However, many others (e.g. fishers, decision-makers, hoteliers) need to be the focus of specially tailored IEC campaigns. It is recommended that the Department of Education, working with support from TCMP, develop an action plan for a widespread IEC campaign in support of integrated coastal management.

Improve Local Capacity and Knowledge about Climate Change Adaptation: Even though most are aware of climate change, LGAs and villagers are not clear about which stresses are climate related and which are not. Working with local villagers and district staff to tease out what changes are climate induced and which are caused by over-exploitation, for example, has helped deepen the understanding of what climate change is and how to best design local adaptation actions. The project has increased the capacity of village level climate change committees and the climate change task forces through regular trainings and mentoring on climate change and impacts on livelihoods. Committees have received technical assistance on safe adaptation and, acting as change agents, they are sharing their experience and information with other members of their villages. It is recommended that NEMC take the lead on improving local capacity and knowledge about climate change adaptation by identifying an actionable program that expands that developed by PWANI. Implementation and coordination on the ground should be through DoE, District Environment Departments and the Village Climate Change Committees established through the PWANI project.

Expand and Strengthen Village Multisectoral AIDS Committees (VMACs): The participatory, bottom-up planning model implemented by PWANI through UZIKWASA has strengthened the capacity of VMACs to lead the coordination of village HIV/AIDS-control activities and helped villagers feel empowered to plan for and implement their own activities. For example, the annual VMAC competitions and leadership trainings have contributed to increasing the commitment among the VMACs. It is recommended that greater coordination be established between the Department of Health and the NGOs UZIKWASA and CVM to develop and implement an action plan that will expand and strengthen VMACs in coastal communities.

Empower Women through Conservation-based Livelihoods: Women on Zanzibar and the mainland have become empowered through participating in SACCOs and conservation-based livelihoods (e.g. shell

craft making combined with no-take zoning). Obtaining new technical skills have been important. Equally important is learning to be an entrepreneur and gaining business skills (e.g. how to add value to current products, how to market and price them). Through entrepreneurship, many women have become the major household earner. An example of an entrepreneurial woman who has seen her stature in her community change is Mkasi Kombo in Zanzibar. Before becoming a shell craft jewelry entrepreneur, Mkasi was not recognized as a leader. She has since been appointed leader of a group that manages a new windmill producing electricity for the Fumba Mzambarauni village. Membership in SACCOs has enabled the coastal poor to save their income in a safe place and provides a buffer against economic shocks. Women have started new enterprises, including bakeries, restaurants, kiosks and shops as well as keeping bees and livestock. Revenues are used for household expenses and renovations and for reinvestments into their enterprises. It is recommended, based on its successes with PWANI, that TCMP and WIOMSA intensify this activity by developing an action plan that could be supported financially and technically.

Support and Strengthen the Role of Women through Behavior Change Communication that Focuses on Root Causes of High-risk Sexual Behavior: The “Banja Basi” communications campaign implemented by PWANI with UZIWKASA in Pangani has inspired people to speak out about problems related to high-risk sexual behaviors, gender rights and other problems; people have begun to take action to change their behaviors. There has been increased condom use and an overall reduction in transactional sex among both women and men. It is recommended that greater coordination be established between the Department of Health and the NGOs UZIKWASA and CVM to develop and implement an action plan that will expand, support and strengthen the role of women in coastal communities through behavior change communication.

4. Monitoring

The results of any ICM program should be subject to regular monitoring and evaluation as a way of continually improving the process. It is especially important, therefore, that overall ICM goals and the goals and objectives of individual initiatives or action projects be specified as clearly and as quantitatively as possible. The monitoring procedure should include identification of expected performance, indicators as measurements of performance, and procedures for communicating changes to pre-established targets to appropriate management or implementing authorities. It is recommended that TCMP and URI establish a monitoring program for any future coastal management project based on experiences from PWANI.