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Coastal Management: Using Community Based Projects to Test Locally Appropriate Technologies



Abstract: The regional project for the Implementation of the Strategic Action Program (SAP) for the Red Sea and the Gulf of Aden aims to improve the coastal and marine environments of the Red Sea and Gulf of Aden. The SAP project was executed by the Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden (PERSGA) in Jeddah, Saudi Arabia, and involved the countries of Djibouti, Egypt, Jordan, Saudi Arabia, Somalia, Sudan, and Yemen. The project was jointly implemented by the United Nations Development Program (UNDP), the United Nations Environment Program (UNEP), and the World Bank. This note highlights how testing of locally appropriate technologies has proved to be cost effective and self-sustainable through the implementation of Community Participation Projects (CPPs) in various communities within the region. Targeted populations included fishermen, women and youth in close coordination with Government and Non-governmental support.

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Coastal Management: Using Community Based Projects to Test Locally Appropriate Technologies

Experience of the GEF - sponsored

Regional Project for the Implementation of the Strategic Action Program for the Red Sea and Gulf of Aden

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PROJECT DESCRIPTION

The Red Sea and the Gulf of Aden supports some of the world's most significant marine and coastal species, habitats, and related marine resources due to its globally distinct oceanographic and geologic evolution and location. The average width of the Red Sea is 280km; its depth ranges from 500m to 2000m. The Gulf of Aden itself possesses depths exceeding 3000m, but is heavily influenced by seasonal upwelling. The Gulf is bound by 1,400km of coast on the northern side and 800km along the southern coast. The project actions collectively addressed the transboundary nature and sustainable development of marine resources for the RSGA region as a whole.

The development objective of the project was to improve the coastal and marine environments of the Red Sea and Gulf of Aden through a range of activities under the Strategic Action Program (SAP), of which two would be carried out under the GEF/World Bank administered project: a program to reduce navigation risks; and support for Integrated Coastal Zone Management (ICZM).

The Strategic Action Program (SAP) for the Red Sea and Gulf of Aden was conceived as a framework for the long-term protection of the region's coastal and marine resources. In a region that contains one of the world's busiest shipping lanes, the SAP's role was viewed as particularly important as those coastal and marine resources remained relatively pristine and under-exploited in comparison with other parts of the world. The GEF Project to implement the SAP was designed as a first step towards meeting the SAP's overall objectives.

The SAP was prepared by the Regional Organization for the Protection of the

Environment of the Red Sea and Gulf of Aden (PERSGA), which also serves as the secretariat of the 1982 Jeddah Convention. PERSGA is mandated by its members to facilitate regional cooperation and coordination toward the conservation and protection of the Red Sea and Gulf of Aden's resources. PERSGA executed the project as an integrated activity by augmenting its core staff with a Project Management Team (PMT).

The project was executed jointly between the three GEF implementing agencies UNDP, UNEP and the World Bank. It benefited from the World Bank's comparative advantage and experience in dealing with trans-boundary water issues and Integrated Coastal Zone Management (ICZM).

THE EXPERIENCE

The transboundary water management issue addressed was the testing and adoption of locally appropriate technologies to both improve coastal zone management. These technologies can be defined as both technical improvements as well as improvements in education methodologies.

In both of these cases, the basis for testing and adopting locally appropriate technologies came through establishment of an active community participation program. This community participation program included "eco-clubs" established in over 150 schools throughout the region (reaching 4000 students), conducted largely through local NGOs and teaching groups. Each of the three countries had a total budget of US\$3000 to establish their clubs (which meant that each club would cost between US\$200 and \$300). The clubs sustain themselves currently and there is no need for more money. The WHO is currently funding the eco-clubs in Djibouti with an annual budget of

US\$7500 dollars per year to open about 30 clubs. UNDP in Sudan has provided each club with a solar energy unit. Additionally, **Community Participation Projects (CPP)** have allowed a range of trailing different Public Awareness and Participation approaches and self/local management that has been welcomed in all regions. 26 CPP's were funded through micro grants which have been based on very small amounts of money. Each grant ranges between US\$5,000 and \$25,000. It is important to note here that these activities changed in their name to CPPs funded through microgrants so that the focus could be on the activities and not only on the amount of the grant.

Given that the communities became more engaged broadly in coastal zone management, these communities became avenues for testing both: 1) technical improvements and 2) educational methodologies.

Two good technical solution examples are worth highlighting:

a) In **Yemen**, a CPP promoted conservation of lobster traps in conjunction with a local NGO, "The Friends of Environment Society in Shuhair-Mukalla". In the past artisanal fisherman were using gill nets in their lobster fishing practices. Such nets, adversely affect small sizes, graved females and lobster in molt. The use of lobster traps as an alternative tool allowed the fisherman to then return illegal sizes, soft shelled individuals and females with eggs back to the sea alive, thereby strengthening the stocks and increasing the percentage of survival of new recruits. Local fishermen were trained on how to build and repair their own traps. At the same time, they became active inside the NGO, and they replaced their nets with the lobster traps. As a result, they also became more aware of acceptable levels of by-catch, and improved their standards without external enforcement. Currently, they are being hired by the NGO to produce the lobster traps. This alternative both results in local fisher employment, as well as significant cost-savings relative to contracting with a commercial provider at a significantly higher cost. It is important to highlight how this is a cost-saving idea. The reason behind it is that originally in the SAP the idea was to buy the traps and distribute them directly to the fisherman, then the idea change and the raw materials were bought and distributed to a local NGO who then through a "soft loan" sold it to the

fisherman. This was a type of revolving fund and it is still in use by the farmers. Before they acquired twenty traps with US\$100,000, and now, fisherman get a new trap every 8 months and the traps cost US\$100 dollars. This project is an example of various benefits: in the case of the NGO various exercises to help them build their capacity where conducted, including training for their staff to work closely with fisherman as well as improvement of their facilities and equipment to help disseminate this alternative. In the case of the lobster traps, exercises were conducted for manufacturing and distribution of the traps, including public awareness campaigns and trainings. PERSGA provided the NGO with the money to purchase the raw materials for trap manufacture. The NGO then sold the traps to the fisherman and with the money collected from such sales they purchased more raw materials for the production of the next traps. Hence the initial grant of capital was renewed and enabled the fishermen to continue the process over a long period of time. And finally, this little project also allowed for the establishment of an Eco-tourism site, called, "The Fishing Landing site at Shuhair". This site is being used a place for general public awareness as well as a recreation area used by the local community. Users are being charged a very small entrance fee by the local NGO and these fees are also being used for the revolving fund and the manufacturing of the lobster traps.

b) In **Sudan**, the nomination of a new Marine Protected Area (MPA) fostered fear and uncertainty in the local community; they saw the MPA as a mean to lose access to marine-based resources for their regular subsistence. Again, a CPP invested in micro income generating projects such as small sewing machines for women to use in income generation purposes and as a supplement to their marine-based livelihoods. This activity also diversified income generation in the family, as fishing is predominantly a male activity and sewing a women's activity. This activity was carried out with the support of ACORD, a British- Sudanese NGO. The community participation strategy did indeed alleviate the fear and uncertainty and the protected area was established.

Examples of local refinements in educational methodologies include:

a) **Dissemination of conservation of coastal areas** in Djibouti, where computers were given and a computer lab was created for the community to obtain access to international sites on coastal protection and other environmental issues. Communities with little previous experience using computers were trained using materials (e-learning CDs, dedicated home pages, posters, etc.) which used information on coastal zones as content materials for becoming computer-literate. This in turn promoted a community-wide base-level of knowledge on conservation of coastal zones, which in turn enabled communities to make better decisions regarding coastal zone management and;

b) **Innovations in environmental learning materials:** An initially designed environmental education learning kit entitled "I Love the Sea" was modified to become "Because I Care", an educational program for sustainability. This modification allowed for a value-based statement, which reflects more the dedication and interest to the resource to help preserve it. The kit includes an e-learning version. This learning kit was adapted as needed for use with environmental school groups in the Red Sea and Gulf of Aden region, with higher and lower technological applications. Initial successes attracted private sector financing to underwrite further reproduction of learning materials. Additionally, USAID is expanding the use of the learning materials to a national-level in Djibouti. The private sector in Saudi Arabia has shown deep interest in the reproduction of the kit and the expansion of the programme.

RESULTS AND LEARNING

The regional social marketing study prepared early in project implementation was tasked with how to link the microgrants to the Strategic Action Program objectives. In the course of this social marketing study, the microgrants program was linked to an initially-separate community participation component. The social marketing study also identified regional priorities for testing and technology adoption through the preparation of a subsequent road-map for CPP implementation. Whereas the initial emphasis on the microgrant program was the disbursement of seed funds to eligible applicants, this idea of CPPs became community participation projects (CPPs) as sustained by microgrants. This de-emphasized the monetary value of the intervention and

elevated the community-level learning involved. As a result, the microgrant component of this GEF project, which was initially \$100,000, was increased to \$300,000.

It also became apparent that this CPP component could serve as a useful vehicle for testing locally-based innovations on a small scale. Whereas similar projects may have initiated technical improvements relating to coastal zone management through a "top-down" process, starting with the preparation of national and regional strategies as prepared through consultancies, this approach used participation from the community to identify particular activities and technologies where they wanted to experiment or improve existing use. The communities were able to become more knowledgeable about their own resources, to learn more about how to make use of them as well as how to preserve them. Once they understood this, they themselves have been the best disseminators of the strategies used in their areas. These projects have become examples in their region and have helped capture the attention of policy makers, in turn influencing local and national strategies.

REPLICATION

(i) **Public participation:** this element was seen as an integral part of both the ICZM and the poverty reduction agenda. All **community participation projects** reflected this aspect. The ICZM component was seen not only as an environmental or technical exercise but also as a community engagement mechanism.

(ii) **Enhancement of local systems at the local level:** PERSGA worked in full collaboration with local administrations, taking into account their capacity instead of relying only on foreign models;

(iii) **Regional Agency:** PERSGA faced challenges to better involve the countries in project implementation. This country-to-regional link was made stronger by local-level successes in the CPP component;

(iv) **Partnerships:** various public and private partnerships were created among institutions and with PERSGA, either as local partners in supporting implementation of the CPPs (e.g. ACORD), or as financiers to scaling up

successful technologies (e.g. USAID, ARAMCO).

Things to Improve

Documentation and International dissemination: the project has faced a lack of experience exchange with other regions. This note intends to promote the lessons learned and best practices of this project to also allow for further dissemination.

SIGNIFICANCE

This project promoted environmental management at the local level by setting up participative mechanisms at the municipality and community level for decision-making, implementation, and management of natural resources. This is a significant feature given the tradition of centralization in the region.

The project is a pioneer in the region. It is an example on how a complex transnational project can work efficiently even in the face of cultural and institutional challenges. The project is unique in the region and has allowed for the establishment of a consolidated regional institution that continues to work in the region even after project implementation.

REFERENCES

World Bank Documents:

- ◆ Implementation Completion Report (ICR)
- ◆ Strategic Action Plan (SAP) Terminal Evaluation Report

Interviews with PERSGA Officers:

- ◆ Khulood Tubaishat
khulood.tubaishat@persga.org
- ◆ Mohamed Satti

Interview with WB project Task Team Leader:
John Bryan Collier Jcollier@worldbank.org

Useful Websites:

World Bank external website for project
<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/ENVIRONMENT/EXTCMM/0,,contentMDK:20538188~menuPK:1261636~pagePK:148956~piPK:216618~theSitePK:407926,00.html>

SAP site

<http://wbln0018.worldbank.org/essd/redseaworkspace.nsf/pages/homepage>

PERSGA site:

www.persga.org

KEYWORDS

- ◆ Integrated Coastal Zone Management
- ◆ Microgrants
- ◆ Community Participation Projects (CPP)
- ◆ Locally Appropriate technologies
- ◆ Environmental Education and Awareness

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