

Success story:  
Mangrove Restoration in West Africa



Mangrove in Liberia

**ECO ECOLO** – Benin;  
**FACE** – Liberia;  
**REDO**– Ghana; and  
**WAMME and WABSA** – Gambia and Senegal

Mangrove Restoration and Conservation across West Africa

*Give local communities ownership over project activities; find a willing partner and use them to convince others; offer alternative income generating activities; educate resource users in creative, participatory ways.*

This story brings together the successes realized by four projects independently restoring and conserving mangroves across West Africa.

The lessons learned collectively by ECO-ECOLO (Benin), Farmers Associated to Conserve the Environment (Liberia), Resource and Environment Development Organization (Ghana) and WAAME and WABSA (Gambia and Senegal) indicate how to truly influence resource use and change environmentally destructive behaviour in a target group. These projects were all supported by the Netherlands Committee of the World Conservation Union (IUCN NL).

Background and context

The coast line of West Africa is magnificent. Beautiful beaches and biodiverse mangroves line the entire coast from Senegal to Benin. The biological resources found along this coast are one of the reasons why West Africa's nature is significant at the global level – some of the species and ecosystems in this region are both highly unique and under intense pressure.

Mangroves provide a number of important services both locally and globally including soil stabilization, coastal protection, fish habitats and nurseries and vital sources of protein resources for coastal communities. Mangroves are also one of the most productive ecosystems on the planet. They are invaluable natural filtration systems for pollutants.

However, mangroves are quickly disappearing in West Africa. One of the urgent threats to mangroves is deforestation which is largely done at the local level, by coastal communities who require fuel wood for domestic consumption. An underlying reason for deforestation of mangroves is poverty meaning local communities heavily rely on locally available natural materials to produce energy.

Encroaching urban development, climatic change and unsustainable shrimp farming also negatively impact the health of mangrove ecosystems.

Challenges to success

Each of the four projects involved the communities living in the proximity of the mangroves. One of the greatest challenges to conservation in West Africa is overcoming the often extreme poverty experienced by the resources users – often the people destroying the mangroves are also highly vulnerable populations who lack viable alternatives to environmental destruction and knowledge of the importance of ecosystem services.

The paradox is if environmental resources are destroyed – in this case mangroves – the communities' impoverished life tends to suffer more.

For example, coastal communities heavily rely on fishing as an income generating activity as well as a source of protein. Yet, the shrimp, shellfish and other fish caught by fishermen can only survive in a healthy, functioning mangrove system. Spices, vegetables and medicines are also harvested from the mangroves.

Mangroves stands also provide structural support to communities by acting as natural barriers between coastal storms and homes. Thus, as the mangroves disappear, these ecosystem services are also lost. This has negative economic and social impacts in the affected communities.

Unfortunately, the link between a healthy mangrove and better quality of life is rarely immediately clear to communities whose primary concern is often income generation today. It is not that communities ignore the future, but present needs are so great that making money today at the expense of tomorrow is a price they are willing to pay. Confronting this notion is an environmental organization's number one challenge when trying to achieve sustainable mangrove conservation. These four organizations found creative and adaptive solutions to this challenge and achieved remarkable success at the local level.

Strategies to overcome the challenges and realize success

All organizations employed the following strategies to halt mangrove destruction and create enabling conditions for successful conservation:

- Education and public awareness raising tailored to a community's social, political and cultural makeup;
- Identification of willing community members who in turn educated and demonstrated the benefits of conservation to those community members who initially resisted the project;
- Presenting viable income-generating alternatives to the harvesting of fuel wood from the mangroves; and
- Placing ownership of the project in the hands of community members early on in the project.

While each project implemented its activities in a unique way to meet the needs of the specific area, each successful project employed these four strategies during implementation.

Education and Public Awareness Raising

Working in Benin, Eco Ecolo was concerned about the high demand for wood from mangroves. Many sites along Benin's short coast had been harvested for more than five years without any form of integrated management or rehabilitation. Separated by seven countries, WAMME and WARSA faced the same destruction in the Sine-Saloum transborder region

between the Gambia and Senegal.

For these three organizations, education and sensitization to mangrove ecology was a prerequisite for rehabilitation and lasting conservation. Without education that was tailored to the communities' specific situation, it was impossible to demonstrate why the mangroves were important.

Thus, before any type of on-the-ground work replanting mangroves could take place, ECO ECOLO and WAAME and WABSA both conducted educational workshops and campaigns that tied the ecosystems and the natural services provided to the people's daily lives.

ECO-ECOLO especially focused its efforts on reaching out to the women in their three target communities. Salt production is the second largest income generating activity in the area, after fishing. Led entirely by women, salt production requires a substantial amount of wood to dry the raw material and produce refined salt – which is in high demand throughout the country.

Wood from the mangroves is highly desirable for drying salt as well as producing baskets, building huts and cooking. The wood burns easily and does not emit a lot of smoke.

ECO-ECOLO involved the women in the communities, as well as the men, at every stage of the project. In addition to the general environmental education on the importance of mangroves and the laws governing this resource, women were invited to learn about fuel efficient stoves. ECO-ECOLO predicted that 30 improved stoves would be introduced in the villages but in fact the demand was so high for the new stoves that by the end of the project 50 stoves had been built and the women continue to build their own stoves as needed.

The result of this one change alone has dramatically reduced the demand for wood and pressure on the mangroves. Also, because less wood is required for the production of salt and drying of fish, the women report earning higher incomes for their efforts.

For WAAME and WABSA, long-term conservation of mangroves along the Senegalese and Gambian coast line was impossible without ongoing education for the younger generations – who will one day be the decisionmakers in this area. Thus, they advocated for the incorporation of mangrove and mangrove bird conservation into school curricula at the national level.

REDO also spent a considerable amount of time raising awareness about the importance of mangroves and their own intentions to rehabilitate and conserve the area for the benefit of the people and the environment prior to any field activities.

REDO assessed the political and societal systems within the local culture and determined that the development chief in the area had the largest impact on whether or not the communities would accept or reject the organization's ideas. Nearly a year was spent gaining trust and educating community leaders in the Sankor and Nsuekyir coastal communities, part of the Awutu-Efutu-Senya district in Ghana.

At the community level, REDO created awareness by holding workshops at durbars (community meetings), giving the project media coverage on local radios and newspapers, and showing films about mangrove conservation. Interestingly the films depicted

successfully community-level mangrove conservation in Malaysia. Even though Malaysia is on the opposite side of the world from Ghana, REDO found that the films inspired villagers to support the project's efforts. In fact, the films were key to demonstrating how a mangrove's ecosystem services benefit the community.

#### Identification of Willing Community Members

When FACE entered the Lake Piso communities in Liberia they encountered resistance to their proposed project to rehabilitate and conserve the mangrove ecosystem. Many of the adult members in the communities felt that since their ancestors had survived on Lake Piso's resources, they too could continue to use them at unsustainable levels. There was a longstanding belief that the mangroves would continue to provide a source of income regardless of how much the communities took from the natural system. Project leaders recognized that the youth; however, showed great enthusiasm in the project and ideas.

Youth were taken on canoe trips to see the difference between a healthy mangrove and a destroyed mangrove. FACE explained the importance of mangroves for the environment and in the context of life at Lake Piso. The youth were able to see with their own eyes the messages explained by the environmental organization.

Within a few weeks of the canoe trips, project leaders heard community members throughout the area discussing mangrove conservation issues.

Youth again proved to be a valuable ally when FACE was introducing alternative income-generating activities such as beekeeping, tree nursery management and fuel wood lot development. The communities were told that the infrastructure and tools used for the activities would become community property during the course of the project. However, many community members were sceptical that the resources would in fact become their own and thus, were reluctant to participate.

The younger members jumped at the opportunity to learn new skills and became active participants. Although the primary goal to engage a wide range of community members in the income-generating activities was not met, FACE did succeed to influence a sub-section of the society. In fact, the trainings were so inspiring a community-based environmental organization (CBO) was created by the community members themselves.

The Piso Conservation Forum (PCF) is now the local partner for the international and national organizations operating in the Lake Piso area. PCF members are now independently raising awareness about conservation throughout the area. Mangrove destruction is nearly non-existent in 35 of the 38 communities around Lake Piso.

#### Presenting Viable Income-Generating Activities

Mangrove deforestation is a direct result of a need for fuel wood and income. For an organization, especially a national NGO who is not living among the local people, it is impossible to stop the harvesting of mangroves without providing a viable alternative income-generating option.

Typically before an organization approaches a coastal community to carryout a conservation project, local people have been profiting from the natural resources. Even if the ecosystem is degraded it may still be providing income to some members of the group and thus there will

be opposition to changing a behaviour that is meeting needs today.

Education is key to creating awareness about the sometimes “invisible” benefits of a healthy mangrove ecosystem (increased fish populations, protection from coastal storms, less susceptibility to malaria). Yet, awareness must be followed by a presentation of alternative behaviours that continue to meet the economic, social and cultural needs of the local caretakers and often, owners, of the mangrove resources.

In Sankor and Nsuekyir, Ghana, REDO proposed a new system for producing fuel wood in designated woodlots outside the fragile mangrove ecosystems.

REDO chose a fast growing, highly tolerant tree species – cassia – to plant in the community woodlots. The project duration allowed REDO to remain involved in the area while the first trees matured and the communities could see the benefits of the alternative.

A 30 hectare woodlot was created with each family responsible for a specific section. Giving specific families a designated area within the community woodlot was crucial to its success. Without clear individual-level responsibility, a community project often flounders and the blame rests on no one.

As the trees were planted (from seedlings), community members also started planting vegetable gardens in the space between the small, growing trees. While the trees mature they only provide a small amount of fuel wood from pruning. A family must wait three years before the trees are ready for harvesting. However, the vegetable gardens could provide food and income nearly immediately. The vegetable planting was initiated by the families themselves without support from the REDO; however, REDO is quick to say the woodlots were dramatically more successful because of the communities’ ingenuity.

While some community members were reluctant to participate at first, the results after just one year, inspired more families to join. Each year thereafter the total number of families grew. It is now estimated that an additional 70 hectares should be added to the original 30 hectares of woodlots to adequately supply demand for participation in the woodlot.

At the same time, the mangroves were rehabilitated and the communities noticed an increase in crab catches and the size of tilapia, shell and finfish from the Oyibi lagoon during the life of the project.

#### Placing Ownership of the Project in the Hands of the Community Early On

Creating a sense of ownership among community members over both the mangroves and the conservation projects led not only to project-level objectives being met, but also to a long-term conservation ethic among the target population.

FACE used workshops to first introduce the idea of mangrove conservation to the communities around Lake Piso. The educational workshops were followed up by training for some community members to carry out awareness raising activities on their own. By creating an active community group trained in doing advocacy work, the community members became the voice of conservation in the villages around the mangroves.

As described earlier, this approach led to the creation of a CBO which continues to support

conservation on its own around this important ecosystem.

FACE also made it clear the villages involved in the project that their livelihood activities such as the creation of woodlots and beekeeping facilities were in fact community property. Halfway through the project, FACE handed over the equipment and responsibility for the management of the activities to those individuals who had shown interest and commitment to the work.

After ownership was transferred to the communities, tree planting and maintenance of the woodlots in particular was carried out by the communities without pay even after funding expired.

Gaining such strong support for project activities is difficult to achieve. However, FACE's strategy to talk about community ownership early on and commit to actual transferring of responsibilities and equipment proved successful in this case.

Keys to Success – strategies and why they worked

The successes realized by these four projects make it clear that conservation can not take place without a real awareness, on the part of project implementers, of the underlying reasons for destruction of the resource in question. Each organization designed its project to change behaviour at the most basic level through education and participation.

An organization must be flexible and adapt to situations as they unfold. For example, FACE realized early on that some groups within the communities were not willing to participate in woodlot creation and replanting the mangroves; however, the organization saw that their youth were very interested. Harnessing the youths' enthusiasm, FACE was able to take a challenging situation and turn it into a success.

REDO did not underestimate the importance of gaining trust from within the communities. The long hours spent educating, talking and listening to community leaders paid off in the end because the project was owned by the communities just as much as by REDO.

These four examples illustrate the necessary features of a successful site based conservation project. Each project activity must be carefully planned to ensure efficient implementation on the ground and acceptance by the target group.

Everything from which mangrove species to plant, identification of community-level partners, and a true understanding of the underlying motivations for mangrove destruction must all be clearly thought through before embarking on rehabilitation.

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