

**CAMEROON: Promoting Biodiversity Conservation through Sustainable Livelihood Options:
Women in Freshwater Prawn Farming**

Project No:

CMR/SGP/OP4/CORE/08/06

Grantee: Organisation pour
l'Environnement et le Développement
Durable (OPED)

Location: Coastal area of Kribi-Campo

SGP Contribution: USD\$ 24,090

Cash Co-Financing: US\$ 20,457

In-Kind Co-Financing: \$US 10,368

Project Duration: 12/2008 – 4/2010

Number of people served: 900

Focal area: International Waters

Background

Communities in the buffer zone of Campo Ma'an National Park in Southern Cameroon depend heavily on freshwater ecosystems for their livelihoods. Freshwater prawns are a highly valuable fishery resource because they are a delicacy consumed in local and western dishes. It is primarily local fisher women who make a living off prawn using traditional fishing techniques. Traditional capturing techniques using conic baskets are, however, unsustainable as they tend to capture very young, mature and even pregnant prawns. This has contributed to a decline in the prawn population and generated an insufficient amount of income for the fisher women.

In support by SGP, OPED initiated a project with the aim of rehabilitating the local prawn species with large reproduction rate, to strengthen technical and organizational capacities of women and improving women's income from aquaculture freshwater prawns. Adaptive management allowed for the adjustment of project strategies throughout the project, to better accommodate

local circumstances. The approach of the project was innovative in that it combined modern technology and local knowledge into new activities that would reduce the loss of biodiversity and improve the living conditions of the local population. The project has directly touched 139 women, 11 men and more than 190 youth (from primary and secondary schools); which represent more than 900 indirect and direct beneficiaries in the three (03) communities targeted by the project.

Strengthening the prawn population and farming techniques were important, given that nearly 3,500 people grouped in 11 fishing communities live and struggle every day to find income-generating activities. Fishing forms the basis of livelihoods (70%), followed by agriculture in corn, pistachio kernels and yams (20%) and livestock (10%). But unsustainable fishing practices and overexploitation of traditional bush meat has reduced those resources and contributed to a significant loss in biodiversity. In addition, access and rights to use natural resources have been restricted by forestry legislation and the establishment of the National Park.



Project Implementation and Key Activities

The project was specifically requested by women fishers to curb the problem of seasonal catches and to increase their productivity, incomes and livelihoods. A preliminary study conducted by OPED and the World Fish Center confirmed the existence of an important market for freshwater prawns. The project employed several strategies: For one, the project capitalized on local prawn species with large reproduction rates. In order to strengthen women's technical and organizational capacities, the project also sought to design a training tool kit for freshwater prawn aquaculture, train women's groups in fishing practices, support the building and management of aquaculture ponds, and to organize a freshwater prawn marketing campaign. The project was designed to be in line with the forestry policy, which aimed both at involving local people in biodiversity conservation, and increasing natural resources as a share of GDP. It was thought that these activities can easily be replicated in similar situations across the Congo Basin forests.

Environmental Impact

One of the key impacts of the project was its contribution to the sustainable management of biodiversity in coastal areas. The project reduced post harvest loss of prawns by almost 100%. Because of the innovative prawn cages developed through the project, prawns can now be conserved until they have reproduced and young prawns have sufficiently matured for sale.

Before the project, the prawns bearing eggs were sold and their eggs eaten, while young prawns were simply disposed of by the rivers. This practice had been contributing to the reduction of some prawn species, especially those that are captured by women fishing close to the coastal shoreline.

In order to promote a change in fishing techniques, 178 fishermen including 44 men, 104 women and 30 youths actively participated in information and awareness activities. A practical guide on aquaculture was developed for the community on a participatory basis. Subsequently, 100 copies were distributed during participatory exercises that also involved experts in the field. The community also organized 30 environmental education sessions in which 197 youth, 192 women and 159 men participated.

Socio-Economic Impact

The project achieved significant improvement in the income generating capacity and livelihoods of community members. 85 Fishers, of whom 58 were women, participated in training workshops on aquaculture techniques, marketing, accounting and financial management. Through the project, beneficiaries also received logistical, financial and technical support to help with the implementation of their prawn aquaculture initiatives including nursing, food processing, feeding, and maintenance of prawns in cages. The fishers learned to master the technology for freshwater prawn farming and established 10 cages with about 180 freshwater prawns each. They also managed to formulate and process 20 kg of food suited for the nutrition of prawns. Partnerships with buyers were also established.



Gender Impact



the culture of freshwater prawn.

Strengthening women's capacity in aquaculture was a key goal of the project. As the socio-economic impact section above indicates, more than two thirds of the beneficiaries were women. More than 103 fisher women actively participated in training workshops on aquaculture techniques, marketing, accounting and financial management. As part of the training, women also gained knowledge on those types of prawns that offer high reproduction potential but also meet environmental requirements and market conditions. About 50% of these women continue to practice

Of those women who continued with shrimp farming, income improved by more than 20%. Incomes improved because women can capture and keep their prawns in cages during the period of prawn abundance and sell them at a higher price during dry days when prawns are scarce. One of the direct beneficiaries stated that with the deferred sale of the prawns, she was able to pay the school fees for her children without waiting for help from others.

Overall, the project benefited from the deep involvement of women and youth as well as two disabled persons. Originally, the project had been conceptualized for women only but eventually included a small number of men for logistical reasons. In particular, it was necessary to include some men (youth) to collect bamboo for the construction of the cages. They also helped the women put the prawn cages in the rivers. Furthermore, the project inspired the creation of two women-led community-based organizations, - that is common initiative groups of active prawn fisher women. These women groups also received fishing equipment and support for the implementation of the new aquaculture techniques.

Policy Impact

The project on freshwater prawn farming complements Cameroon's National Strategy for biodiversity conservation. This has been highlighted by the fact that the Ministry of Environment, Nature Protection and Sustainable Development selected this project to mark activities for the celebration of the International Day for Biological Diversity "Marine Biodiversity" day in May 2012. Two ministers, one parliamentarian, several senior government officials, and many representatives of local and international NGOs active in biodiversity conservation were among the visitors that came to see how women practiced sustainable prawn fishing and biodiversity conservation. The government's selection of this project was seen as an appreciation for the project's quality contribution to raising awareness about conservation and sustainable management of the rich marine and coastal biodiversity in Cameroon.



Replication and upscaling

In November 2009, officials of the Congo Basin Forest Fund (CBFF) paid an appraisal visit to the SGP-funded project site. Professor Wangari Maathai, Nobel Peace Laureate and Goodwill Ambassador for the Congo Basin Forests, Right Honorable Paul Martin, a Former Canadian Prime Minister and the Secretary General of Cameroon Ministry of Forest and Wildlife had also joined the visit, which was covered by the Cameroon Radio Television (CRTV). Following the appraisal, OPED, the implementing NGO, received a grant of EUR 274,315 from the CBFF which covers the construction of 300 prawn aquaculture facilities in the project area.

Besides promoting freshwater prawn farming, the new project promotes the adoption and development of an improved smoking technology for fish drying. Thus, improved ovens for fish and prawn smoking have been developed. They serve as a tool to conserve prawns, which are difficult to keep fresh in certain communities. But they also use less fuel wood and thus contribute to the conservation of mangroves, which are in turn the reproduction site of prawns.

Lessons learned

The project was initially conceptualized for women only but chose to include a small number of men for logistical reasons. In particular, it was necessary to include some men because the local material (bamboos) needed for the construction of the cages could only be collected by men who also helped the women put the cages in the rivers. An agreement was eventually made to have some youth (men) join women for the implementation of this project. Furthermore, the cages that had originally been designed in participation with the community, appeared to be too heavy for women to carry. Later, the women and OPED conducted a participatory trial to test lighter and smaller cages until a satisfactory design was determined. Programming activities for project replications should also take seasonal conditions into account. For instance, feeding prawn cages in full rivers during the rainy season provides a challenge, as is attending to prawn farming during the harvesting season, when women need to focus on their crops. The adaptive management style of the project allowed for these adjustments throughout the project and thus managed to overcome most of those challenges.

OPED has been selected as a winner of the coveted 2014 Equator Initiative Prize.