



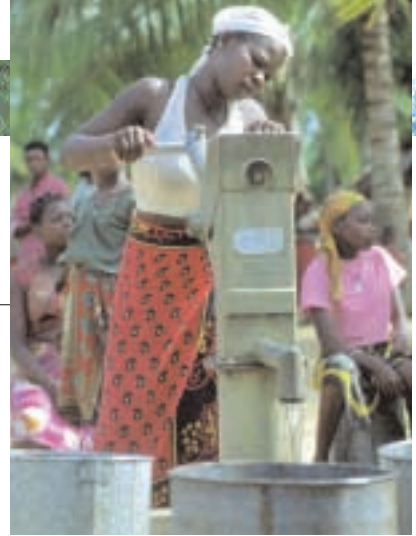
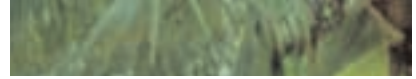
The picture below shows Marisa at a well equipped with a pump, built by the project in Moma. The surroundings of the well are very clean and tidy, and the buckets properly lined. A five-member committee was elected at a community meeting attended by all the families sharing the well and it now looks after the well, taking care of everyday operations and maintenance, with each family contributing mzm 1000 per month to the well maintenance fund. The committee was elected before the well was built and collaborated with the project in deciding on the precise location, based on its experience and knowledge of local conditions and water availability. Marisa told the completion evaluation mission that the well and pump have had a major impact on her and her family's overall standard of living.



A total of 122 such water committees have been formed in 42 fishing communities to manage and maintain the 122 wells constructed or rehabilitated by the project. Beneficiaries play an active part in management committee deliberations and contribute readily and willingly to pump maintenance expenses. Four other community committees—microproject committees elected in the same way as the water committees—have been actively involved in the construction of health centres and schools. These committees were not only involved in planning these microprojects and then worked closely with the project and the contractor in implementation, but also contributed 25% of the total project costs in the form of labour and local materials. In addition, the project promoted the formation of 14 local fishery resource management and co-management committees made up of boat- and net-owners. Working in close collaboration with the Fisheries Administration, these committees are striving to discipline fishing activities by and within fishing communities, with a view to sustainable exploitation of the country's valuable marine resources.

The Nampula project facilitated the formation of community committees and organizations by (i) focusing on the creation of enabling conditions, such as access to credit and savings facilities and linking fishing and other economic activities with markets through private traders and microenterprises, thus helping beneficiaries to improve their household incomes, and (ii) creating conditions for satisfaction of the communities' basic needs—water supplies, primary health and sanitary care, and education—in accordance with the ideals of sustainable human development. The experience shows that community development is a slow and complex process and that it is important to understand the complex socio-political fabric of the communities in the project area. In the initial stages of group formation, there is an important learning and adapta-

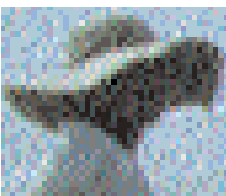




tion phase which may be negatively affected by over-ambitious targets, lack of transparency or unrealistic expectations. The members of all committees have received training from project extension staff, who continue to act in an advisory capacity to the committees. The early involvement of the project beneficiaries in planning and implementing each microproject catalysed a sense of membership and ownership, and provided a firm basis for sustainable participatory development. The NAFP has progressively empowered communities by promoting their awareness of development prospects and by building the capacities and skills needed to ensure their effective present and future participation in decision-making processes affecting their well-being. The establishment of institutional dialogue and linkages between committees, fishermen's associations and formal management bodies, including the Fisheries Administration, has played a large part in empowering stakeholders and may provide a model for other communities and other areas of the country.

Recommendations

- * New associations and organizations require considerable assistance with the bureaucratic process of formalization and registration. Institutional support and training for such bodies is important not only in capacity development but also in the establishment of realistic aims and objectives.
- * No participatory activity should be started until the community has understood and endorsed each step in each phase from planning to implementation.
- * Training, strong communication links and dialogue between extension staff, credit agency, target communities and other institutions in the sector are essential if beneficiary participation and ownership of project activities are to be increased. There is a clear need to train extension staff in effective communication and to improve the overall competence and capacity of the extension service.
- * The empowerment process still requires formalization, in the form of a legal status and official recognition. The institutional and legal framework for the establishment of co-management organizations must be improved and spheres of authority defined.





"We used mosquito nets for years and thought we had good catches, even though they contained many low-value juveniles and very small fish. We didn't know that by catching juveniles and small fish we were in fact damaging our future fish harvests and incomes." "Trawlers were another major problem. They would destroy our nets so that we caught nothing, and we couldn't get any compensation." Fishermen Abaca and Abdalla from the coastal village of Larde started to understand the dangers of the use of mosquito nets when they joined a fishery resource co-management committee. Now they use 12-mm mesh for their beach seine nets and catch mostly marketable fish without harming marine resource sustainability. Following the legal approval obtained by the project for extension of the trawler coastal exclusion zone from one to three nautical miles, Abaca and Abdalla are helping the Fisheries Administration to reduce encroachment.

The project has made progress on the marine resource management issue and demonstrated that by working in a co-management partnership with fishing communities, fishery institutions and the Fisheries Administration, the foundations can be laid for long-term sustainable exploitation of the valuable natural marine resource, to the advantage of artisanal, semi-industrial and industrial fisheries. The resource management issue encompasses development of strategies for fishery resource research, improvement of fishery statistics, monitoring and surveillance activities, and development of institutional arrangements to translate resource management information into operational management action. By creating awareness of fishery management issues and acceptance of the need to impose discipline on fishing activities by and within the communities, the project has shown how fishery management mechanisms can be developed and implemented in close collaboration with fishermen, fishery institutions and the Fisheries Administration.

Surveillance and policing by the Ministry of Fisheries alone are not capable of imposing regulated management of fishery resources and disciplining fishermen. The active participation of the fishermen themselves and their organizations is vital. The Fisheries Administration acknowledged this and made good use of the resource management/co-management committees to create awareness of fishery management issues and develop a co-management framework for judicious and sustainable use of local marine resources. The fishermen and their committees and associations agreed to cooperate and play a role in the management of marine resources when they realized that such actions directly served their own interests, whereas they would not undertake them in the interests of the State or because the law required it.

The participatory research trials on different types of fishing equipment and practices conducted by the IDPPE in partnership with the fishermen convinced the latter that this equipment can improve their results by allowing them to catch better-quality fish, which will assure favourable economic returns through higher prices and also entail less risk to the resource base. The NAFP has also helped by providing incentives to borrowers in the form of credit to purchase trammel nets, purse seines, drift or gill nets and long lines for open-sea fishing, thus making fishery production more efficient.

The presence of trawlers close to the shore inevitably leads to conflicts because of the destruction of fishing equipment, particularly gill nets and long lines. It also harms the substrate and fish stocks, to the detriment of sustainable use of the resource. The co-management committees are now fighting alongside the Fisheries Administration to control encroachment and enforce the

three-nautical-mile trawler exclusion zone, because it gives them a wider area for their fishing activities and reduces coastal harvesting pressure. The establishment of the Artisanal Fishermen's Associations of Moma and Angoche has brought further empowerment of fishermen and boosted co-management of fishing initiatives and programmes.

Co-management committees provide a forum where fishermen discuss regulation issues with fishery institutions and the Fisheries Administration and reach a consensus on measures to be taken. Subjects discussed and dealt with by fishery co-management committees include: sensitization of fishermen regarding protected species; regulation of the intensity of fishing activity, including definition of the permissible number of fishing units for migrant fishermen, length of fishing periods, mesh size for fishing nets and control of exploitation based on projected thresholds for size of catch in view of the number of fishermen; prohibition of underwater spear fishing and of the use of toxic substances and explosives to harvest fish; delineation of areas of local jurisdiction; resolution of conflicts between artisanal fishermen and between artisanal and semi-industrial fishermen; confiscation of prohibited fishing equipment; and management of licences for fishing equipment.

The project has helped the Fisheries Research Institute (IIP) to establish a successful monitoring system for the collection of data from the many artisanal fishery centres in the area. A total of 250 aquatic species has been encountered in catches. Three studies have started and others will be undertaken in order to assess the biological parameters of all commercial species, including maturity size, reproduction periods and spawning and migratory cycles, and to estimate the volume of the resource. Greater knowledge of the resource is needed in order to guide development action and resource management measures that will safeguard long-term sustainability of the country's fishery resources. As a result of these studies, the project was able to obtain a legal ban on mosquito nets, as well as extension of the trawler exclusion zone to three nautical miles from the coast. The establishment and successful development of a fishery data collection system is now being replicated in other parts of the country through a programme supported by French Cooperation.



Recommendations

- * The establishment of institutional dialogue and the creation of a favourable environment for artisanal fisheries are extremely positive steps in the process of regulation through empowerment of both fishermen's organizations and fishery institutions.
- * The project should continue its efforts with local authorities to accelerate legal recognition of co-management organizations and associations, including the definition of spheres of authority.
- * A fishery data collection system was successfully developed and established, and the model is now being applied in other parts of the country through a programme supported by French Cooperation. Stock assessment studies will be more effective if the study area, at present limited to the narrow northern coast of the Sofala Bank, is extended southwards to cover both the Zambezia and Sofala areas of the bank.



LESSON



Participatory Adaptive Research, extension and marketing



"Before the project, we didn't know about trammel nets for shrimp fishing. Thanks to the project, experienced fishermen came all the way to Mozambique from India and worked with IDPPE extension staff to introduce this new technology to us. Trammel nets have improved our shrimp catches." Saide is from the village of Moma in northeastern Mozambique and has been a fisherman all his life. Using traditional nets, he caught almost no shrimps, whereas he now catches between 20 and 30 kg of good-quality shrimps per day, significantly increasing his income. The picture below shows Indian fisherman Anthony showing Saide how to use a trammel net.

In partnership with fishermen, the project tested different types of fishing equipment at various fishing centres, with the main aim of finding efficient, low-cost fishing techniques appropriate for the various commercial species found in the project area. The project also tested various processing and preservation methods in order to solve physical problems in fish handling, collection and delivery systems, all with the aims of encouraging fishermen to adopt sustainable fishing practices and promoting efficient fish production.

Participatory adaptive trials benefited from fishermen's knowledge and needs, providing vital feedback in technology design in response to fishermen's suggestions and contributing to increased awareness of artisanal fishery development potential and constraints. Before the end of these trials, participating fishermen knew the results/benefits and spread the word among their community, several members of which pursued the positive experience. Several examples from the project's evaluation may appropriately illustrate the above. After trials of trammel nets for shrimp harvesting were successful, many fishermen adopted this technique. Similarly, a number of fishermen took up gill nets, long lines and trammel nets as best suited to their own fishing activities. These nets do not catch the same type of fish or the same size and amount of pelagic as beach seines. The new fishing methods also allow fishermen to catch demersals, which in most cases fetch higher prices and target the 5 to 10% high-income sector of urban markets in Nampula. Furthermore, a number of fish processors in Moma and Angoche have shown their appreciation of the upgraded smoking kiln: modified by the project on the basis of the 'chorkor' method, it is a low-cost smoker with a higher production capacity, better efficiency in wood consumption and easier working conditions.

With the involvement of local fishing communities in research and technology development, the NAFP has shown the relevance of the adaptive experimentation approach, with rapid dissemination and adoption of the technological innovations generated. Participating fishermen have



Participatory Adaptive Research, extension and marketing

not only contributed to more efficient and cost-effective research, but have eased the strain on extension workers, also contributing to the dissemination of research results. However, the process of dissemination and the adoption rates of research results by beneficiaries could be improved, and more attention should be paid to strengthening the extension service as a whole, including the development of technical extension messages in the project area.

Experience shows that the development and successful introduction of fishing techniques and practices is dependent on many factors apart from the technology in question, including access to inputs and financial services, market opportunities for new products, and processing and storage techniques.

With regard to market development, the project has been successful in facilitating and boosting the availability of fishing equipment in the project area, not by direct importation but by influencing duty and tariff levels and by linking private sector marketing networks with fishing communities. Experience also shows that the establishment and maintenance of a market information system to support associated project activities (especially fishery technology and processing) are relevant and useful, although sustainable development of such a system still requires further refinement. Encouraging fishermen's associations to become involved in marketing activities—including the supply of fishing equipment and other inputs, as well as the marketing of fish and fish products, and gradually the development of shore marketing infrastructures—will be an appropriate step towards enhancing the sustainability of fishing operations.



Recommendations

- * The process of disseminating research results in the project area and strengthening the extension service as a whole, including the development of technical extension messages, should be given further attention and support.
- * Future project designs should incorporate more active policy and planning roles for beneficiaries, and include support for further improvement of the macro-economic framework for the trading of fishery outputs and inputs (taxes, tariffs, protection levels and imports) and the building of effective linkages between fishermen and the private sector, directly through project initiatives and/or indirectly through non-governmental organizations (NGOs).
- * The project should promote market development initiatives, including, for instance, the establishment of shore infrastructures, landing facilities and auction halls, the supply of market information and the provision of credit for the development of ice-making and cold storage facilities by the private sector.
- * The project should provide institutional support to build the capacities of fishermen's associations in the trade and marketing spheres.

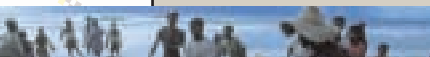


Although Momade, from the town of Angoche, had a boat, his fishing equipment was very old and he could buy neither replacements nor repair materials. Prevailing prices were very high, and even if he had the money, purchases could be made only in Nacala, some 250 km away. Thanks to the project, supplies of fishing gear and spare parts for boats are now stored in Angoche and sold at lower prices than before, owing to competition and the lowering of taxes and tariffs. Momade received a loan through the Small Industry Development Fund (FFPI) and replaced his old equipment, leading to an increase in catches, and hence in income.

The NAFFP has evolved during its implementation, in terms both of components and of the profile of activities within individual components. This process approach to planning has allowed it to adapt in view of accumulated experience and changing economic and social conditions. In terms of its general approach, the NAFFP has repeatedly demonstrated the effectiveness of the integrated cross-sectoral method by simultaneously targeting technical, commercial, social and institutional components.

Institutional targeting focused on promoting the formation of community-based organizations and strengthening their capacities as a way to self-mobilization for development purposes. The project has been instrumental in the formation of 142 community organizations (14 fishery resource management and co-management committees, 2 fishermen associations, 122 water committees and 4 microproject committees) with an estimated 950 members, who play an active part in project activities aimed at improving the living conditions of communities in the project areas. The project has directly targeted the poorest in the communities through the Small Industry Development Fund (FFPI) credit scheme and the CARE/ Rural Enterprise (CRER) microcredit programme, by organizing 131 savings and credit groups among the poorest sectors, including women. The microfinance programme has proved a very good way of addressing the financial needs of the poorest target groups. The stamp-based scheme has proved more effective in targeting women, as well as in establishing a simpler and more comprehensible system. The project maintains regular coordination meetings with the CRER and FFPI to improve targeting of the poorest members of the communities further.

Functional targeting focused on removing single or multiple critical constraints on artisanal fishery development by boosting the supply of inputs, the provision of credit and the development of infrastructures. The project used formal credit to target small- and large-scale traders in order to improve marketing facilities and the availability of fishing equipment and





sub-sector investment Programme

other inputs in the area. It was able to access the whole target group through the rural infrastructure rehabilitation component and Community Development Fund microprojects. Most notably, the water supply and road rehabilitation schemes have contributed significantly to raising the standard of living in the targeted communities. Road rehabilitation has also benefited many people living outside the project area. Infrastructure development means that the whole population of the targeted areas is benefiting from the project.

The third ingredient is the importance given to market linkages between fishermen and the private sector in input distribution and the marketing of fish and fish products. The establishment and maintenance of a market information system to support associated project activities (especially fishery technology and processing) have been seen to be relevant and useful. The project has also benefited traders living outside the project area, who now use the rehabilitated roads to market their goods in the fishing communities and to buy fish to sell in the interior of the country. Sustainable methods of information collection still require refinement. The project systematically tapped local knowledge and experience, blending it with 'modern' technical knowledge to produce answers suited to the context and environment in which the fishing communities live and work.

Through the judicious application of targeting approaches, the project has been able not only to motivate fishermen with regard to the development and expansion of their fishing activities, but also to promote a wider integrated development within the fishery sector. The experience illustrates that development investment would have a more far-reaching effect and impact if the focus shifted from a narrow project perspective to a wider sectoral integrated programme approach. Such a shift in the artisanal sub-sector investment programme is consistent with current concerns in IFAD, with development planning adopting a wider programme approach.



Recommendations

- * The NAFP has repeatedly shown the effectiveness of the integrated cross-sectoral method by simultaneously targeting technical, commercial, social and institutional components. Future development interventions should shift from a narrow project focus to a wider sectoral integrated programme approach, with individual projects addressing specific objectives within the larger programme.
- * IFAD-supported projects based on the general programme approach should make good use of experience accumulated from the NAFP, making sure that stakeholder participation and empowerment are incorporated into the process.

LESSON



women's empowerment



Anchita is from the town of Angoche. Rather shy, she has five children and has always lived in poverty, hardly ever managing to save anything. She told the evaluation mission that she joined a savings club about eighteen months ago, very reluctantly at first, and gradually learned how friends could get together and use savings to finance small income-generating activities. She borrowed from her group and started a micro-business selling small domestic items such as soap, cooking oil and matches, as well as cakes that she makes herself. Anchita is now in a position to send her children to school and buy books for them.

The project has made a serious effort to empower women by integrating them into community committees and other project activities. Each of the 122 water committees formed by the project in the 42 communities has at least two women members, and in many cases more than two women were elected, assuming any of the relative duties, ranging from controller to mechanic and collector to cleaner. Similarly, women belong to the microproject committees for schools and health posts and participate actively along with men in carrying out the duties expected of these committees. In the past, it was assumed that adult males were responsible for decisions on borehole siting and the management of wells. However, field surveys indicated that children and women were often primarily responsible for issues concerning water in the family. This means that it is not always correct to claim that programmes have followed a participatory approach because adult males were consulted in community meetings, when children and women, who are most affected by decisions about water, were often excluded from deliberations. The Nampula project recognized this weakness and ensured that participation involved the full range of opinions and inputs, in a *truly* participatory approach.



women's empowerment



Women were also able to join credit and savings associations and have been particularly active in savings, so that 75% of the members of the 55 savings clubs are women. Women members of these groups have been able to save and borrow in order to buy food commodities for trade within their communities. Active participation of women in the committees is a clear sign of a sense of ownership of social services. The NAFP created community awareness of development prospects through women's empowerment, and also developed skills needed to ensure that women in fishing communities participate effectively in decision-making processes affecting their well-being. In a society traditionally dominated by men and in which women have no voice, the participation of women in water committees is considered a very important and potentially far-reaching project achievement.



Recommendations

- * With a view to further alleviating the social and economic constraints encountered by women, a gender study should be carried out to review the current demand for services for women in fishing communities, assess the availability of these services from existing institutions and NGOs, and develop a programme to meet local needs, including adult education and vocational training for income-generating activities.
- * Strategies to accelerate the process of women's empowerment should include building awareness of the economic and social benefits accruing from women's participation in income-generating activities, including access to employment opportunities and credit facilities as well as the satisfaction of basic needs in terms of health, education, etc.

