

CAN AFRICA BENEFIT FROM ASIA'S EXPERIENCES? IN PURSUIT OF SUSTAINABLE FISHERIES AND POVERTY ALLEVIATION

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ABSTRACT

In Africa, there is a growing awareness of the need to learn from the fisheries experiences of Asia, where the fisheries conditions are similar, to solve the deepening crisis in fisheries and poverty in the continent. As a response, technical assistance in the areas of fish stock assessment, fisheries management and rural development has been provided by the Japanese government and, under a World Bank project, study tours to Japan, the Philippines and Thailand had been organized for local staffs to obtain knowledge on fisheries co-management. To address the question of which of Asia's experiences can actually be used in Africa, two of Asia's successful intervention efforts, community-based fisheries co-management and livelihood projects, have been adopted. In areas of Africa where these intervention efforts have been introduced, positive changes have been witnessed. This is the case of Nianing, Senegal. Local residents have organized a management committee to control fishing for octopus and *Cymbium* sp. through the introduction of voluntary closed seasons and launched new types of economic activities such as the commercialization of marine products and chicken farming for poverty reduction. As a result, 80% of the local residents who have been interviewed experienced "an increase in their income despite the introduction of closed seasons." While it is true that many African countries are in search of ways to changing policy direction towards decentralization, the slow decentralization of fisheries administration in Asian countries prompted people to question its applicability in Africa. It raises question whether or not Asian countries have a technological advantage compared to Western countries to assist African fisheries. If efforts to assist Africa are to be divided between Western countries and Asian countries, one viable way may be for the former to lead in institutionalization of policies while the latter, in provision of practical technologies.

Keywords: Africa, Asia, fisheries co-management, poverty alleviation, international cooperation

COMMON PROBLEMS OF AFRICAN AND ASIAN FISHERIES

There is a growing need in Africa to learn from Asia's experiences of fisheries reform (Table I) to solve its own deepening problems of a slump of fisheries and poverty. Africa's reasons for turning its attention to Asia are three-fold: (i) the existence of a large variety of fisheries, ranging from small-scale fisheries to large-scale fisheries; (ii) the prospect of effectively promoting African fisheries through learnings from Asia's rich experiences (Asian fisheries are believed to be 20 years ahead of African fisheries); and (iii) the failure to solve current problems based on methods introduced by Europe which has been providing assistance to Africa for a long time. As a response, technical assistance in the areas of fish stock assessment, fisheries management and rural development has been provided by the Japanese government. International aid organizations have also noted the value of Asia's experience and are attempting to utilize it in their aid work in Africa. One recent example is a World Bank project in Senegal where local staff members were sent on study tours to Japan, the Philippines and Thailand. The number of Africans studying the development of fisheries in Asia has been increasing in recent years.

One problem faced by both Africa and Asia is the tragedy of the commons in artisanal fisheries (Lim et al. 1995, Watanuki 2004, NEPAD 2005). The top-down fisheries management system adopted by

Table I: Asia's experiences and comparative advantages

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1. From top-down management to bottom-up management
 2. From open access to limited entry
 3. Organization of fishermen
 4. Decentralization of the fisheries administration
 5. Integrated coastal area management incorporating poverty reduction measures
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governments may be the cause of this tragedy. Without regard to the differences and characteristics of regions or fishing villages, governments have formulated fisheries management rules in a top-down manner and demanded that fishermen abide by these rules. The effectiveness of these rules has been low, as fishermen have largely refused to abide by the system. This situation resulted in a decline of fishery resources whose access has remained, in practice, open to any users. Poor people find themselves in a vicious cycle where stagnation of fisheries forced them to exploit the already depleted fishery resources. In some countries in Asia, this problem is being taken seriously and active efforts are being exerted to reform the system from centralized fisheries management system to one that is participatory, decentralized or community-based fisheries co-management. Some positive results have already been achieved in some countries (SEAFDEC-DOF 2002, Pomeroy and Viswanathan 2003, DA-BFAR 2004, Satria and Matsuda 2004). While this type of bottom-up fisheries management has been tried in some African countries, such as Malawi and South Africa (Normann et al. 1998, Hara and Nielsen 2003), it has yet to become the trend in Africa.

This paper presents the experience of a project in Senegal aimed to implement community-based fisheries co-management, which has been successful in Asia, and to improve livelihood activities of poor local residents. Even though the management of fisheries in Senegal is said to be the most difficult in the world because of disorderliness, the project in question has so far steadily produced positive outcomes with the observance of fisheries management rules by fishermen, diversification of income sources other than fisheries, and employment of participatory approach. While Africa can benefit from the experiences of Asia, its applicability appears to be limited in terms of providing assistance for fisheries management policies. The reasons for this are the slow development of viable fisheries management policies in Asian countries and the weaker influence of Asian countries on the governments of African countries relative to Western's influence. To overcome these weaknesses, combining the community-based approach adopted by Asian countries and the government-based approach of Western countries is believed to be necessary to develop effective assistance for Africa.

APPLICATION OF COMMUNITY-BASED FISHERIES CO-MANAGEMENT TO SENEGAL

Located in West Africa facing the Atlantic, Senegal's marine products are important foodstuffs and sources of foreign earnings. The fisheries industry accounts for 17% of the working population and plays an important role in the national economy. In recent years, however, concern over the declining fishery resources emerged. Fisheries production peaked in 1997 at 450,000 tons (of which 80% were produced by artisanal fisheries) and has since showed a declining trend (Ministry of Economy and Finance 2003). Even though accurate data on the current level of the fishery resources is unavailable, the declining catch of demersal fish and the decreased size of the fish caught clearly demonstrated the impoverishment of the fishery resources.

In this context, the Government of Senegal revised the Fisheries Law in 1998, formulated detailed rules for fisheries management and called for the cooperation of Western donors while strengthening the guidance and supervisory mechanism to prevent illegal fishing as well as over-fishing. However, fishermen did not adhere themselves with this Western top-down fisheries management and the problems of local fisheries have steadily worsened. To counter this trend, the Government of Senegal requested the Japanese assistance in introducing a new approach. In June 2003, the Japan International Cooperation Agency (JICA) commenced a Study on Fisheries Resources Assessment and Management in Senegal.

In the initial stage of the study, the Japanese experts tried to establish the causes of the decline of the fishery resources. While the Government of Senegal attributed the problem to “over-fishing by fishermen”, the Japanese experts argued “although the fishermen were partly to be blamed, the principal causes were the government's tolerance of free access to fishery resources and the inappropriateness of fisheries management system devised by the government with the actual conditions of local fisheries.” In response to this pressing problem, the Japanese experts proposed the introduction of fisheries co-management by the government and fishermen as seen in Asian countries. What was emphasized when this proposal was made was that fishermen and local communities should play the principal role in fisheries management and that the government, a supporting role (Figure 1). The Japanese team argued that the voluntary participation of fishermen is crucial because: (i) regardless of age and geographical locations, fishermen are resistant to dictates by the authorities, especially when told not to fish, but abide by rules which they have decided for themselves; (ii) it makes sense to use the experience and knowledge of fishermen in fisheries management; and (iii) the participatory approach to fisheries management is more advantageous than the centralized approach in terms of labor cost and thus, appropriate for developing countries experiencing severe public financial difficulties. The proposal of the Japanese experts was received with skepticism by the Government of Senegal and Western donors being unfamiliar with the principles behind the new management system.



Figure 1. A catchphrase used in JICA project in Senegal (original phrase is in French). The captions try to explain the desired role of fishermen and the government in fisheries management which is the opposite in actual situation where the government is the player and the fishermen are the supporters

To demonstrate the effectiveness of community-based fisheries co-management, a pilot project was implemented. The goal of this project was the understanding of a fisheries co-management model of fishermen and the government by fisheries stakeholders in Senegal while the higher goals were “extension of the fisheries co-management model to other fishing villages” and “reflection of the positive outcomes of the pilot project on the national plan.” The implementation period of the pilot project was from March 2004 to March 2006 but was sustained by the Government of Senegal and local fishermen, after it officially ended. Two sites, Nianing with a population of some 6,000 people and Yenne with a population of some 18,000 people, were selected based on the willingness of fishermen to participate in the project, the cohesiveness of the existing fishermen’s organization and the suitable size of the fishing village. Three Japanese experts and three Senegalese counterparts were deployed. The budget per site was approximately US\$50,000, relatively small compared to those given by other donors. Small though it was, it did not pose a problem as the project enabled the team to use available local resources (skills, manpower and equipment, etc.) and promote the active participation of villagers in various activities relevant to ensuring sustainability of the project.

In Nianing, a closed season was introduced for octopus and cymbium, both of which were facing the problem of depletion. Although local fishermen proposed the enforcement of a closed season, this was not immediately acted upon, as this would have a devastating effect on the lives of poor fishermen with the fall in their income. With the assistance of the project team, local fishermen developed alternative sources of income, including commercialization of octopus and cymbium, chicken farming and a fuel supply service. On its part, the local government introduced new regulations which would make it easier for local fishermen to impose a closed season. Meanwhile, local fishermen and staff of the Dakar-Thiaroye Oceanographic Research Center (CRODT) jointly conducted a survey on the spawning season of octopus and cymbium, for proper implementation of a closed season (Figure 2).

These efforts resulted in almost all fishermen adhering to the closed season and fishermen in neighboring villages (Pointe-Sarène, Mballing) conducting their own fisheries management activities. Such fisheries management involving more than one fishing village is unprecedented in Senegal.

The strategy of this community-based fisheries co-management introduced by the Japanese experts is shown in Figure 3. For the planning and implementation of fisheries management, the principal emphasis was placed on empirical knowledge and skills of fishermen but with the assistance of government in terms of scientific survey and fisheries ordinance which are beyond the capability of fishermen. The experience shows that fisheries management activities could start in one fishing village and replicated in a wider scale in other parts of the country. To ensure recovery of fishery resources, it is important that, at a later stage, a policy of expanding fishermen/community-based management and the control of industrial fisheries by the government be put in place.

HOW DID SENEGALESE FISHERMEN VIEW JAPAN’S COOPERATION?

In the questionnaire survey conducted at the end of the pilot project, nearly 90% of the respondents in Nianing said that the pilot project was good and more than 80% claimed that their income increased, despite the closed season. Eighty seven percent (87%) of the surveyed fishermen expressed that they would like to continue the practice of a closed season for octopus and cymbium while only 5% said that they would not. These figures clearly indicated Nianing’s support for Japan’s intervention.

Reasons for the active participation of the residents of Nianing in the pilot project were the following:

Activities by local residents

Fisheries management



Closed season for octopus and cymbium



Octopus spawning pots



Decrease of gillnet number



Closure of beach seine



Releasing of baby cymbium



Development of fisheries statistics

Livelihood improvement



Commercialization



Fuel supply service



Chicken farming

Support by the government



Generation of scientific data



Enactment of ordinance

Support by Japan

Technical advice

Equipment supply

Figure 2. Activities under the pilot project in Nianing, Senegal

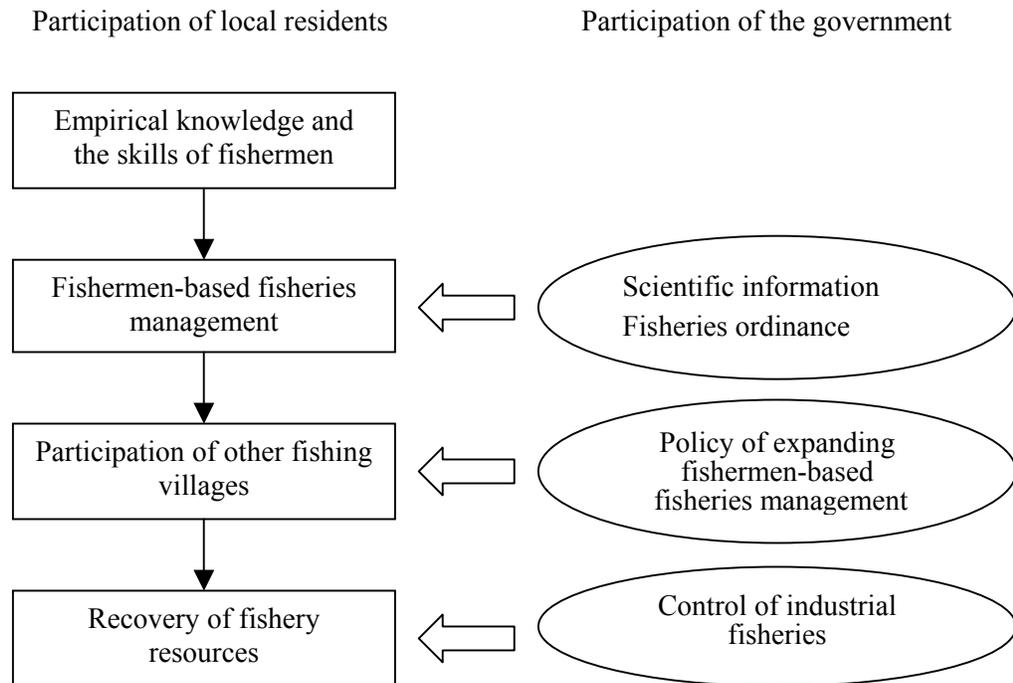


Figure 3. Fisheries management strategy tested by Japanese Study Team in Senegal

- (1) Fishermen were placed at the center of the pilot project and were given the responsibility as well as authority to implement fisheries management. Conventional fisheries management is predominantly based on leadership with the government having the idea that “fishermen lack a sense of responsibility.” Under the pilot project, the principle that the key players are the fishermen themselves with the government playing a supporting role was thoroughly enforced and fishermen were given the responsibility and authority to decide for the management of their fisheries.
- (2) Emphasis was placed on the empirical knowledge and skills of fishermen instead of forcing fishermen to accept ideas from the government or donor. To cite, in introducing the closed season for the octopus, fishermen insisted on imposing the regulation from September to October, in time for the spawning season. The findings of the subsequently conducted biological survey corroborated the fishermen's knowledge and skills. Fisheries management has often failed in the past in many parts of the world because of the insistence by the government or donors that fishermen comply with projects designed by the former. In the case of the pilot project in Senegal, the opinions of the fishermen were respected and integration of these opinions into the administrative policy and scientific facts was attempted with the cooperation of the government.
- (3) Livelihood improvement activities through commercialization of octopus and cymbium eradicated the economic unease associated with fisheries management. Efforts were made to enhance the value of fish by means of improving the quality of octopus and cymbium for commercialization so that the overall income of the fishermen would not decrease. Fuel supply facilities and chicken farming also provided alternative sources of income to fisheries and the economic benefit enjoyed by the fishermen actually far exceeded their loss (Table II). What the project has demonstrated was that for

reforms to take place in the fisheries, it must emphasize both the stick (fisheries management activities) and the carrot (livelihood improvement activities). A project which simply intends to forcibly enforce fisheries management is destined to fail due to the resistance of fishermen.

**Table II: Economic effect of the pilot project in Nianing, Senegal (OAFIC 2006)
(Amount in CFA franc)**

Activities	Monetary values affected
Closed season of octopus	- 16,640,000
Closed season of cymbium	- 3,610,000
Decrease of gillnet number	- 7,020,000
Commercialization of octopus	50,760,000
Commercialization of cymbium	45,150,000
Total	68,640,000

Note: Exchange rate as of July 2006 is 510 CFA franc to one US dollar.

- (4) The government supported fishermen/community-based fisheries management through appropriate ordinance and other measures. When the government formally approved fisheries management by the fishermen, the sense of responsibility and tension among the latter increased. Rules were more readily observed. The pilot project provided the opportunity for the government to understand the concept and practicality of community-based fisheries co-management. Most of the local residents came to understand that ideal fisheries management is joint management by themselves and the government.
- (5) The CRODT and fishermen jointly conducted a biological survey which provided an understanding of the spawning season for target species which later became the basis for fisheries management. Such a biological survey was seen as a response to the fishermen's need to have their knowledge and skills validated by a scientific method. A scientific survey in a fishing village can be expected to have the effect of fishermen agreeing with the survey findings.
- (6) Various tools and equipment were provided to implement the new fisheries management and livelihood improvement activities. These include: information boards, T-shirts and nameplates to further encourage the participation of the local residents, spawning pots for the octopus and tools for the release of baby cymbium, a shed for the storage of cymbium, cold boxes for the storage of octopus and a fuel supply system. Local resources were tapped to keep the initial investment and operating costs of the pilot project as low as possible. Chicken farming materials were procured with the support of the local residents.
- (7) The Japanese experts frequently visited the target fishing villages to engage the local residents in a discussion concerning fisheries management and compensation – something that is rarely done by government representatives in Senegal or donors. Local fishermen commented that Japan was the first donor to closely involve local residents in a project. For the experts, the real needs of the

fishermen cannot be understood without such visits. Under the pilot project, close communication with the fishermen was maintained to establish a relationship of trust between the fishermen and the Japanese experts.

- (8) A local staff member of the Fisheries Bureau devoted himself day and night in support of the pilot project. He patrolled the fishing villages on a daily basis, participated in the meetings of local residents, (in behalf of the local residents) engaged in negotiations with fishing companies for marketing of products, and helped out in the preparation of ordinance and coordination with other government officials. He built the trust of the fishermen and jointly developed the fisheries management system in the area.
- (9) A staff member of the FENAGIE-PECHE, a federation of organizations engaged in artisanal fisheries, played an important role in the operation and management of a fishermen's organization. When the organization was still at infancy stage, he supported the formulation of the code of conduct. When pilot project commenced, he taught the fishermen how to run and manage the operation of an organization.
- (10) Media release of information concerning the pilot project enhanced the motivation of the fishermen. Journalists were invited to Nianing to obtain news materials on the pilot project for publicity in newspapers, radio and on television, attracting public attention nationwide. The positive publicity of the project by the media encouraged the fishermen to continue their activities and the pilot project became a source of pride.

SUPPLEMENTATION AND MULTIPLICATION EFFECT OF COLLABORATION WITH OTHER DONORS

Prior to the commencement of the pilot project, the NGOs were practically the only body which showed any understanding and appreciation of community-based fisheries co-management. No cooperative relationship had been established with international organizations and Western donors which insisted on a top-down approach. Both donors and the people involved in fisheries in Senegal were skeptical of the idea. But their skepticism was short-lived. The Japanese experts were vindicated when positive outcomes, in the form of adoption of similar management system by the neighboring fishing villages, among others, began to appear. Later, requests on exchange of information with the Japanese team and visits to pilot projects were made by the World Bank, Food and Agriculture Organization, European Union, France and Switzerland which were implementing or planning the implementation of a similar project. The Japanese experts believed that this situation provided a good opportunity to extend community-based fisheries co-management to other regions and villages and thus, decided to actively cooperate with the projects of other donors. Recently, the project team has concluded a cooperation agreement with the Integrated Coastal and Marine Resources Management Project (GIRMaC) of the World Bank, the OCEANIUM (NGO) which collaborates with the French Development Agency and the ENDA-GRAF (NGO) involved in activities supporting women in fishing villages.

Among these programs/organizations, the GIRMaC (2005–2010) has been most closely cooperating with the project team. The latter finds similarity with GIRMaC which puts emphasis on the participation of local residents, initiatives of local communities and willingness to learn from Asia's experiences.

Upon GIRMaC's request, the project team provided technical training on community-based fisheries co-management. The training had three components: (i) lessons and on-the-job training on community-based

fisheries management; (ii) planning and implementation of a study tour on fisheries co-management; and (iii) the deployment of a Japanese expert. Under the first component, lessons on the theory and method of community-based fisheries co-management were given to facilitators of the GIRMaC. They were, later, invited to Japan's pilot project sites for on-site training. Under the second component, a six-week study tour to selected sites in Japan, the Philippines and Thailand was conducted with the staff members and facilitators of the GIRMaC for them to gain insights on the above countries' fisheries co-management experiences. Learning from the experiences of fisheries management in Asia where the conditions of fisheries are similar with those in Senegal was highly significant, especially in comparing three countries with different levels of fisheries co-management (developed, developing and under-developed). Under the third component, the Senegalese staffs of the GIRMaC have been trained by the Japanese expert to ensure that the pilot projects under the GIRMaC would produce positive outcomes.

Collaboration between Japan and another donor means the establishment of a relationship which will benefit both parties (rather than one) so that maximum effects of their own projects can be achieved. Japan's technical assistance for the World Bank and Western donors will not only benefit the latter but may provide opportunity for the outcomes and know-how of the pilot project in question to be replicated in other areas, or shared to the government and aid organizations. Through replication in various parts of Senegal, the effectiveness of the Japanese model can be validated. This prospect is highly beneficial for Japan which cannot validate its own intervention efforts because of geographical and time constraints. The use of the influence of the World Bank and Western donors with a long history of technical assistance in Africa open up the possibility of accelerating the global development of fisheries management. It is essential for Japan's assistance in Africa in the coming years to continually seek collaboration with other donors.

FOR BETTER OUTCOMES OF ASSISTANCE FOR AFRICA

It is believed that Japan's cooperation with Senegal using its experiences in Asia has been quite useful in that the Government of Senegal and other aid organizations have now recognized the importance of "fisheries management led by fishermen." The author is convinced that the idea of the bottom-up approach, i.e. "to change the practice of fisheries from the front line", is fully applicable in Africa. However, full application of Asia's experiences is difficult and not advisable given the differences in the history, society and culture. Any attempt to introduce advanced techniques in Africa such as territorial use rights in fisheries and fish stock enhancement as practiced in Japan is doomed to fail. It is also not advisable to copy fisheries cooperatives operating in Japan. As fisheries management in Africa is still at infancy stage, the best course of action would be to start with a simple form of fisheries management with a view to gradually advancing to a more complicated practices. For example, the targets of fisheries management can start with stationary resources, small fishing villages and local fishermen and then expand to include migratory resources, large fishing villages and migratory fishermen. The selection of appropriate technologies is necessary with full consideration of the technical level and financial capability of Africa instead of simply clinging to Asia's experiences.

One important issue for fisheries management is the need for joint management involving several fishing villages as the continuity of fisheries management cannot be achieved unless fishermen actually feel the effects (recovery of fishery resources) of such management. This requires administrative support from the government. Any assistance for the capacity building of the government requires the establishment of a partnership with another donor(s) if Asia's experience, influence and/or voice are found not to be strong enough. What is required is collaboration with clearly divided responsibilities in that Asia, Western donors and Africa use their own strengths and perform accordingly to achieve a common goal.

The problem of poverty in Africa is much more serious than it is in Asia and has led to indiscriminate fishing (Neiland and Béné 2004). Cooperation for sustainable fisheries must be linked to the question of eliminating poverty. Fishermen in Africa are anxious about the fisheries crisis and their own future, feeling the need for fisheries management. The reason why they have been unable to follow the path towards fisheries management is that fisheries management leads to a reduction of the catch and, therefore, a reduction of their income. In Nianing, Senegal, the commercialization of higher quality octopus and cymbium, an idea raised by a Senegalese, has resulted in increased income for local fishermen. When considering fisheries and poverty in Africa, it is essential to listen to African people although the use of overseas examples as references is also necessary.

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