

Establishing Participation: The Case of Empowering Communities in Wetland Fishery Management

S. M. Nazmul Alam and Anwara Begum

Caritas Fisheries Program, 1/C, 1/A, Pallabi, Section-12, Mirpur, Dhaka-1221, Bangladesh
Email: cfp@bangla.net

KEYWORDS Conservation. Environment. Institution. Involvement. Resource Users. Sustainable.

ABSTRACT Participation of local fishing communities in conservation measures for enhancing fish populations has been established in Ashur beel, a large perennial wetland in northeast Bangladesh. Caritas, a national NGO engaged in government led partnership arrangement Community Based Fisheries Management project to organize and motivate fishers with integrated approach towards understanding and implementing development initiatives. The study period encompassed since the project inception in 1996 to 2002. As the concept was new therefore, it was justified to select the study period in the subsequent years during the project period to investigate the outcome of community based management effort launched by the project. This gave an opportunity to critically see how the fishers acquainted themselves with the concept of the project approach in terms of fisheries management, sustainable use of resources, equity, building up community organization, and at the same time how effectively they apply these in their work. The major areas for the study were related with the development of human resources, capital resources, and fisheries management. After a year of deal 25 Village based fisher groups with 527 members are organized. Cohesiveness among the members and a sense of ownership on the resource has been generated with diversified activities. A network interconnecting the organized groups has happened to form an institution and ensuring the fisher rights. Fishers established a fish sanctuary for enhancing natural fish population that has become the ever-largest functional sanctuary in Bangladesh. With NGO support backed by government, fishers have been empowered resulting in more sustainable and productive fishery management.

INTRODUCTION

Environment and development issues often mentions people's participation as a prerequisite for successful sustainable development. Resource management projects, as currently implemented, depend heavily on broad-based co-operation and collaboration because they often rely on the combined actions of individuals which, whether such actions are planting trees or refraining from overfishing, by their nature cannot easily be coerced or enforced. The willingness of people to undertake the required activities – what is commonly understood as their participation – is therefore essential for the success of the project.

COMMUNITY PARTICIPATION AND EMPOWERMENT

There has been increasing interest in recent years in community-based management of natural resources or where government is responsible for management, in public participation. Community

involvement can thus range from autonomous management by the community of a resource or area to some form of shared responsibility with state agency. It also results in the development of a sense of responsibility and concern for the resource. The World Conservation Strategy, for instance, lists the lack of awareness of the benefits of conservation and of its relevance to everyday concerns as one of the problems to be overcome before sustainable development can be attained. The document calls for addressing this problem by public education on environmental issues, and more community involvement in conservation projects (IUCN/UNEP/WWF, 1980).

Participation can be seen as a process of empowerment of the deprived and the excluded. This view is based on the recognition of differences in political and economic power among different social groups and classes. Participation in this sense necessitates the creation of organizations of the poor, which are democratic, independent and self-reliant (Ghai, 1990). Participation is a process through which stakeholders' influence and share control over development initiatives and the decisions and resources, which affect them. (World Bank, 1994).

Participation is seen as a process whereby local people cooperate or collaborate with

Corresponding Address: S. M. Nazmul Alam, 169-West Agargaon, Shere Bangla Nagar, Dhaka-1207, Bangladesh.
Telephone: 880-2-8117258;
E-mail: smnazmul@bdonline.com

externally introduced development programmes or projects. In this way participation becomes the means whereby such initiatives can be more effectively implemented. People's participation is sponsored by an external agency and it is seen as a technique to support the progress of the programme or project (UNDP, 1998). The term 'participatory development' is more commonly used to describe this approach and it implies externally designed development activities implemented in a participatory manner. This approach would appear to be quite widespread and essentially promotes participation as a means of ensuring the successful outcome of the activities undertaken.

Participation is seen as a goal in itself. This goal can be expressed as the empowering of people in terms of their acquiring the skills, knowledge and experience to take greater responsibility for their development. People's poverty can often be explained in terms of their exclusion and lack of access to and control of the resources, which they need to sustain and improve their lives. Participation is an instrument of change and it can help to break that exclusion and to provide poor people with the basis for their more direct involvement in development initiatives.

Empowerment is the process of increasing the capacity of individuals or groups to make effective choices and to transform those choices into desired actions and outcomes. Central to this process are actions, which both build the individual and collective assets of the poor, and improve the efficiency and fairness of the organizational and institutional context, which govern the use of these assets (World Bank, 1996). Although there is no single institutional model for empowerment, experience shows that certain elements are almost always present when empowerment efforts are successful. These four key elements are:

- *Access to Information.* Informed citizens are better equipped to take advantage of opportunities, access services, exercise their rights, negotiate effectively, and hold state and non-state actors accountable. Information and communications technologies can play important roles in connecting poor people to these kinds of information, as well as to each other and to the larger society.
- *Inclusion and Participation.* An

empowering approach to participation treats poor people as co-producers, with authority and control over decisions and resources devolved to the lowest appropriate level.

- *Accountability.* Accountability refers to the ability to call public officials, private employers or service providers to account, requiring that they be answerable for their policies, actions and use of funds.
- *Local Organizational Capacity.* Local organizational capacity refers to the ability of people to work together, organize themselves, and mobilize resources to solve problems of common interest.

NATURE, NEED AND REQUIREMENTS FOR EFFECTIVE FISHERIES MANAGEMENT

Natural resources provide a wide variety of benefits to society, from purely aesthetic values to the provision of the physical inputs that satisfy material needs. Some resources, such as minerals, are exhaustible (depletable) while others such as fisheries and forests, are renewable (replenishable). Wetlands are extremely important ecosystem in terms of fish abundance, diversity and productivity. Many important fish species use wetlands for shelter, breeding and feeding ground. The daily, seasonal and annual movements of many wetland dependant fish may take them from headwater to sea, between watersheds or amongst habitats. These offer a major opportunity for income, nutrition and livelihood to the poor round the year, supplementing wage income from supplying agri-culture labour. Continued loss of wetlands, reduction of biodiversity and decline of food and material resources have also led to the gradual displacement of human occupation and socio-economic activities based on wetland common property (Sadeque and Islam, 1993).

On the other hand, destruction of habitats and loss of many of the natural breeding and nursing grounds have caused fish stocks to reach at a critical low level and recruitment at a low level for many of the important species such as major caps (Tsai and Ali, 1985; Rahman, 1993). In fisheries, traditional emphasis of management programs and research has been on managing the resources rather than managing the people who make use of the resources (Aguero and Lockwood, 1986). Management of a fishery usually involves interfering in the fishery process

with the objective of changing the process towards the most desired social benefit from the resources. Thus an essential component of fishery management is people, and necessary component for rational and effective management is the accurate consideration of people's reaction to the management program itself.

The concerns for a rational approach to exploiting the country's inland fishery resources have been shown by various quarters since the 1970s. Bangladesh's Department of Fisheries (DOF) has been arguing for quite some times for management of publicly owned waterbodies along the principles of sustainable fishery production and promoting the well-being of fishing communities. However, it was not until 1986 when the government initiated the New Fisheries Management Policy (NFMP) that aimed to improve and sustain openwater fisheries production to provide traditional and full-time fishermen a greater share of the direct benefits from the fisheries and to ensure fishery resources conservation (Aguero and Ahmed, 1990).

On the other hand, NFMP had the potential of bringing a significant reform in fisheries policy. Like any other progressive measures, it faced early oppositions and challenges from the traditional power structure. It became apparent that institutional support mechanisms had to be put in place to perform the useful functions served by middle agents (Capistrano et al., 1994). The DOF made an attempt to forge partnerships with NGOs to complement DOF's effort to reach out to fishermen (Ahmed et al., 1992). The exclusion of equally poor and needy part-time fishermen from fishing rights under the NFMP has also become a significant source of conflicts in fisheries managed under the guidelines of NFMP. This would involve inclusion of subsistent and part-time fishermen as parts of the stakeholders and putting in place mechanisms that would serve to foster closer DOF, NGO and community linkages (Capistrano et al., 1994).

In view of the priority on poverty reduction, especially of the fisher community, Bangladesh government has taken initiatives to ensure their access to fisheries resources not only for the improvement of their livelihood but also for augmenting the resource. There is every prerequisite to meet the conditions to increase inland fisheries production significantly involving fisher community which should be an important approach for sustainable management of fisheries

in Bangladesh. Currently Community Based Fisheries Management (CBFM) has been implementing since 1995 for improvement and management of inland open-water fisheries. DOF initiated this approach highlighting the relationship between fisher communities with fisheries resources in an integrated system ultimately developing sustainable fisheries management based on scientific norms. This proposition forms the basic concept of CBFM project.

In order for communities to assume responsibility for conservation, these need to be made further aware of the importance of biodiversity; both to themselves to society at large, and to future generations. This paper focuses on how the communities get involved in the process of fish biodiversity conservation in their nearby wetland.

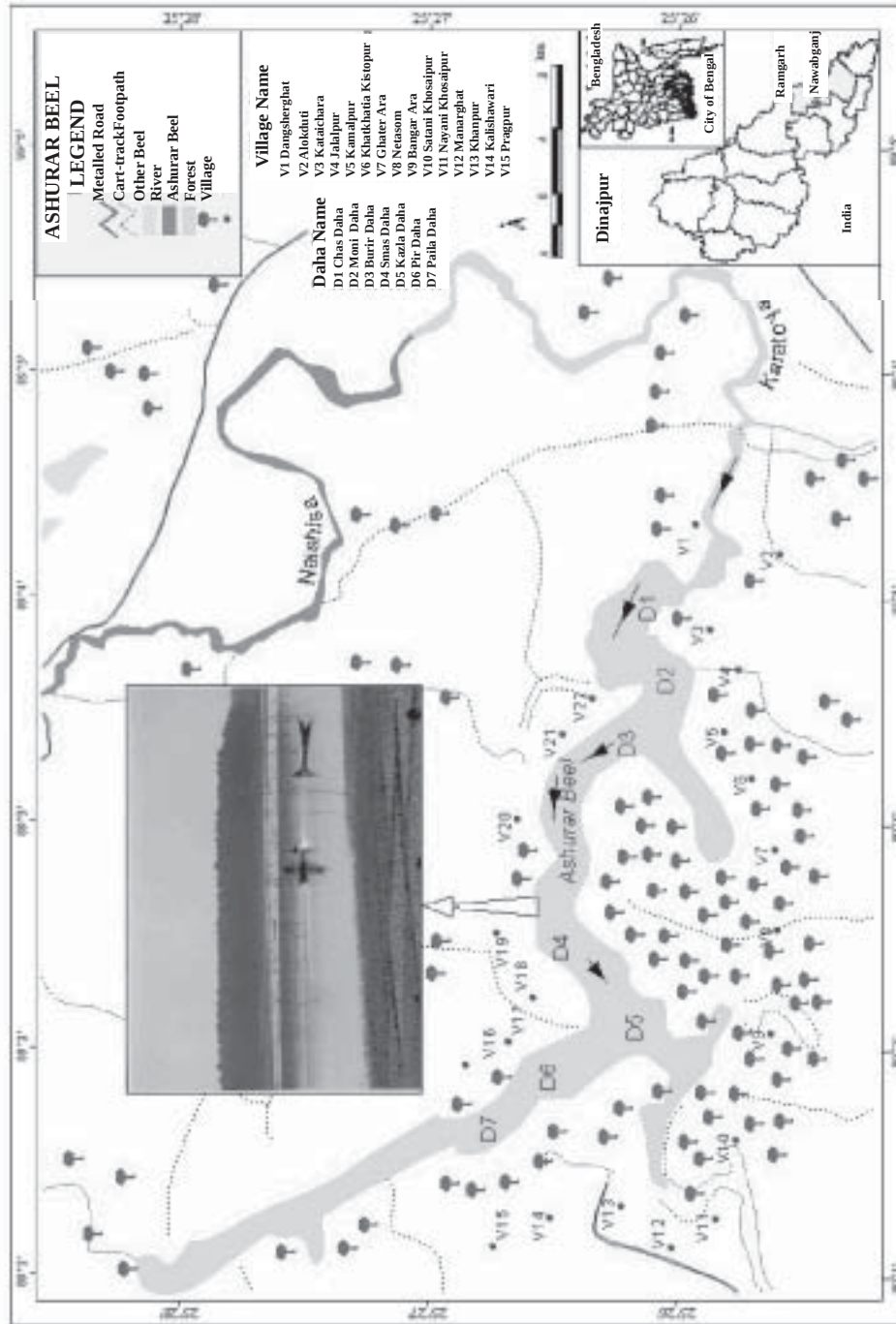
THE CHARACTERISTICS OF THE STUDIED WETLAND

Ashurar beel, a criss crossed river like perennial waterbody of 400 hectares is situated at 25°25' to 25°29' N and 89°00' to 89°05' E within the administrative jurisdiction of Nawabgonj and Birampur upazilas under Dinajpur district in northwest Bangladesh (Fig. 1). The beel is bounded on the south by metalled road. On the north, northeast and west there are 14 villages and earthen road. The forest of *Shorea robusta* is located along the southern side of the beel. Besides, there are some other forests plantations on both sides of the beel.

Seasonally the water depth ranges from 0 to 10 meters in different places in the beel. During the dry season water is left isolated in eight deeper depressions locally known as dahas¹. The name Ashurar is derived from the Bengali word *ashi* meaning eighty. The beel has eighty openings where water flows in and out. The beel originates from the Karotoa river and water flows through the beel from the river during monsoon season. People from the distant villages also occasionally fish in the beel. Most of the households are Muslim and majority of them fish for income.

TENURE RIGHTS AND PREVIOUS MANAGEMENT STRATEGY

Schlager and Ostrom (1992) suggested that



tenure is a bundle of rights and duties that consists of access, withdrawal, management, exclusion and alienation. Among the five kinds of tenure rights, access and withdrawal are the most basic rights on which the later rights are based. Only people with access and withdrawal rights can exercise the other rights. Lynch and Alcorn (1994) suggested that tenure defined social relations between people. Those with tenure rights have a certain social status vis-a-vis natural resources in comparison to those without tenure rights to resources. Tenure is the institutional system that includes processes for establishing and allocating property rights to groups or other resources within a community territory.

Historically, Ashurar beel has been a capture fishery. Fishing rights were leased out but there was also free access for small-scale fishing during monsoon. People of two different tribes (Saontal and Orao) claim to be the original fishers in the area. People displaced by the river erosion from different parts of the country, migrated to the beel area during 1960s and become dependent on fishing in the beel. People of some villages have privatized the nearby dahas by placing Kathas² (brush piles) and thus used to keep hold of their mastership in the locality. People of one village could not get entry for fishing into the dahas close to another village and resulted conflict in case of violating this norm. There were 17 kathas in the beel, which often caused contention among the resource users. Respect and neighborly attitude were rarely followed among the villagers because of different cultures and customs. Fishers from outside the locality also fished in the beel.

Once the beel was blessed with an abundant and diverse fish fauna. The most common fishes were *Mystus tengra*, *Puntius shophore*, *Channa striatus*, *Channa marulius*, *Channa punctatus*, *Wallago attu*, *Clarius batrachus*, *Heteropneustes fossilis*, *Aorichthys aor*, small shrimp, smaller number of major carps and common carps. Fishers used different gears either individually or collectively including current net, cast net, seine net, gill net, bottom trawl, dip net, bamboo trap, long line, hook and spear. In 1989-90, an outbreak of fish disease caused mass mortality of fish and the existence of some indigenous fishes were under threat.

During the regime of Pakistan, the beel was leased out for Rs. 5,000³ a year and the fishers paid Rs. 5/net/year for fishing. In 1975, a group of 7-8 people who used to fish in the beel formed

a cooperative society and took the lease through auction and other fishers then paid the society for the right to fish. Leasing continued up to 1986 when the beel came under New Fisheries Management Policy and the DOF issued fishers with individual licenses against payment. In 1995-96, the beel came under the Third Fisheries Project of DOF. The project released a huge number of carp fingerlings into the beel largely through subsidy and added part of the costs of this to fishers license fees.

In 1995, the Thana Fisheries Officer (TFO) prepared a list of 339 fishers and placed under four leaders before stocking program. Those leaders were responsible for beel management and liable to the Beel Management Committee (BMC) which comprised with the District Fisheries Officer, TFO, Assistant Commissioner, Union Parishad Chairman, NGO representative and two fishers representatives. Similarly in 1996, a list of 452 fishers was prepared and was placed under 16 leaders who acted on the instructions of a similar BMC. The UP chairman supervised the stocking system constantly.

In 1995, after the stocking, DOF announced and imposed a fee that 20% of the total value of the stocked fish should be collected as cost recovery from the listed fishers. The fishers were disappointed of the message and explained that they caught the stocked fish as soon as it released and before being grown out to a marketable size. Moreover, there was a severe flood into the region, which swept away the fish through the openings. There are about fifteen major openings in the beel through which the fish escape away from the beel during monsoon. Again in 1996 stocking, a fee of Tk. 600,000⁴ (30% of the total value) of the stocked fish was imposed on the fishers, but the fishers were unable to pay because of insufficient harvest. Thus stocking program resulted poor performance. Fortunately the revenue collected by the government from this fishery was lower. The annual lease increased from Tk. 5,798 in 1992 to Tk. 11,798 in 1998. Even at the present moment the beel is treated as an open water fishery and some disputes continue over fishing access among the people around the beel.

The fishers of Ashuar beel were dissatisfied with the new CBFM approach as they reflected their bad experiences in previously completed Third Fisheries Project in which they lacked participation in decisions making process of

stocking program. They further expressed that they were required to pay towards the costs of stocking fish from which they did not get benefit.

THE CBFM PROJECT ORGANIZATION

The activities for development of the beel under the CBFM project have been in progress since 1996. The project has been aimed to develop a framework, by testing alternative models of GO-NGO-Fishers collaboration in fisheries management. The program was designed to achieve a greater efficiency, equity and sustaina-

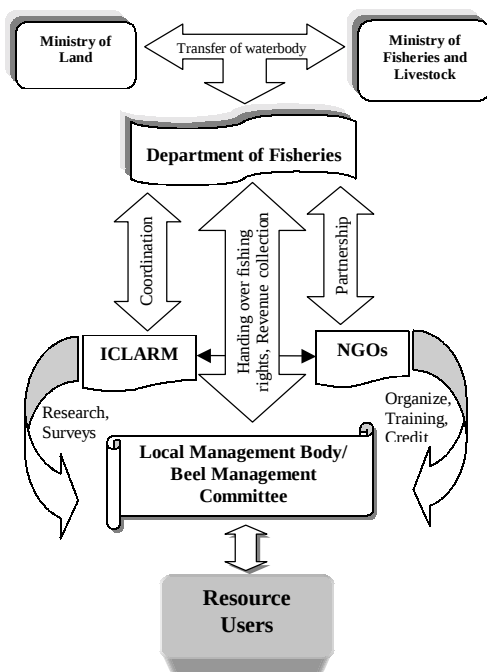


Fig. 2. Schematic model of CBFM organization

bility of open water fisheries resources by its surrounding community. However, the specific objectives of the project are to:

- Ensure more sustainable exploitation of open water fish resources, including protecting natural recruitment of indigenous species to the fisheries.
- Promote equitable distribution of benefits from fisheries to community people.
- Provide alternative income for people to reduce pressure on the fisheries.

- Develop capability of local institutions for sustainable management practice.

The Department of Fisheries on behalf of the government is responsible for ensuring the availability of inland open waterbodies to the fishers community, giving technical advice and support management initiatives by the communities. Under the project model, administrative responsibility for the water bodies would be handed over from the Ministry of Land to the Ministry of Fisheries and Livestock and then on to the Department of Fisheries. The latter then responsible for taking government revenue from the fishing community. Field staff of DOF at the district and upazila levels also involves in supporting management initiatives by the communities (Fig. 2). The NGOs have prime responsibility for assisting fishing communities to strengthen their organizations and to develop alternative income sources. WorldFish Center conducts research activities and surveys. The Ford Foundation funded the first phase of the project while the second phase is funded by the DFID since 2001. This collaborative initiative gave a momentum towards the productivity, sustainability and distribution of benefits.

Caritas, a national non-government organization engaged in this project since 1996 to support fishers mobilization in the waterbodies under their jurisdiction and to perform the following objectives:

- To organize and motivate fishers surrounding waterbody towards a greater understanding and development of initiatives to implement CBFM practices into the fishery.
- To diversify occupations of fishers through the creation of new income generating opportunities.
- To strengthen the process of community development, through the formation of people's organization.

Ashurar beel, an open large capture fishery has been brought under conservation measures by the participation of local fishing communities.

RESOURCE REQUIREMENTS

Human Resources: Building rapport and exchange information is the key to the dissemination of extension education. Thereby Caritas employed two full time extension staff (Assistant Field Officer) and stationed them at the resource premise. They are immediately

supervised by Field Officer based in regional office while all the project activities are controlled and coordinated by the Program Officer and the Program Coordinator at the Head Office level. They are experienced with trainings and exposure. Besides, DOF and World Fish Center also employed field staff for survey and coordination of all activities.

Physical Resources: Two bicycles are provided to the two field staff. One field office is set up with furniture near the beel premise to activate field activities. One community center is also furnished for the resource users where BMC holds its activities. Besides, Caritas has well equipped regional and central offices that supervises and controls activities under CBFM.

Financial Resources: There are trainings, awareness raising and coordination cost besides an amount of grant for fisheries management. Credits, operating and capital costs are also a major part of the total budget.

The fund required for mobilizing the above activities was supported by the Ford Foundation during first phase and the activities of second phase is being funded by the DFID.

THE NEW APPROACH

The philosophy that guides all aspects of Caritas development interventions either working independently or in close association with government initiatives is the Development Extension Education Services or DEEDS. This ideology of this initiative is a people centered approach to development, whose basic tenet is the promotion of social change through the empowerment of disadvantaged or marginalized groups. The implementation of the DEEDS approach focuses on four key stages namely:

- Awareness
- Organization
- Leadership development, and
- Self-finance

Beginning with the identification of the roots of poverty, Caritas worked with individuals who have a common link or association based on profession, gender or position in the society. Through the sharing oral histories with each individual or family, the roots of their own poverty are traced. The opportunities for change are then explored with individuals or within group action.

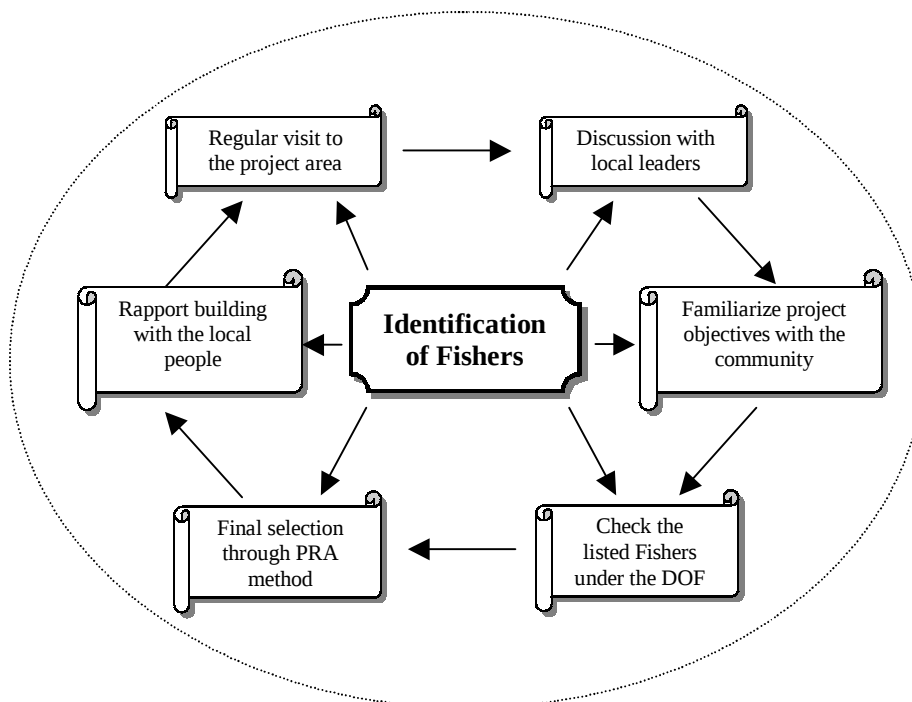


Fig. 3. Strategy in identifying beneficiaries

Caritas then began social mobilization, drawing together similar individuals within a community towards a common goal. After a consensus has been reached or common objectives and goals, a group is formed. The group provides a focus for further social organization and for the introduction of saving schemes and targeted training in leadership, literacy and numeracy, the environment and gender issues, which are all part of the process of empowerment in the DEEDS approach.

IDENTIFICATION OF RESOURCES USERS

The speciality of CBFM project is to listen and perceive the opinion of the local people with great importance so that the people could analyze their experience, lifestyle and ecological knowledge with regard to resource management and associate themselves with the planning to implementation process of the project. The process is thus termed as bottom up approach. At the beginning, Caritas has made extensive motivational drive in disseminating project's concept, objectives and familiarized activities for management of the beel. Initial concentration was paid to identify the genuine fishers through

regular visits to the community, from available fishers lists of the Fishers Cooperative Societies and from respective Fisheries Offices. This was in addition to the application of different tools of Participatory Rural Appraisal (PRA) techniques in identifying the genuine fishers. Figure 3 depicts the process of selecting the project beneficiaries. Discussion sessions were held with respective Union Parishad Chairman and his associates to appraise on the new initiatives that would have been taken through CBFM project.

RECOGNITION OF A GROUP

Once the selection process continued and the community people were appraised on the aims and objectives of the project, there organized groups following certain criteria such as their economic condition, occupation, education, age and the extent of their dependency on the resource. Caritas maintained the notion that since the beneficiaries would be the prime stakeholders of the initiative, their agreement to the process was of most important. Regular interactions with the groups associated with demonstrated willingness of the field staff, the beneficiaries agreed to participate in the process of many activities (Fig. 4).

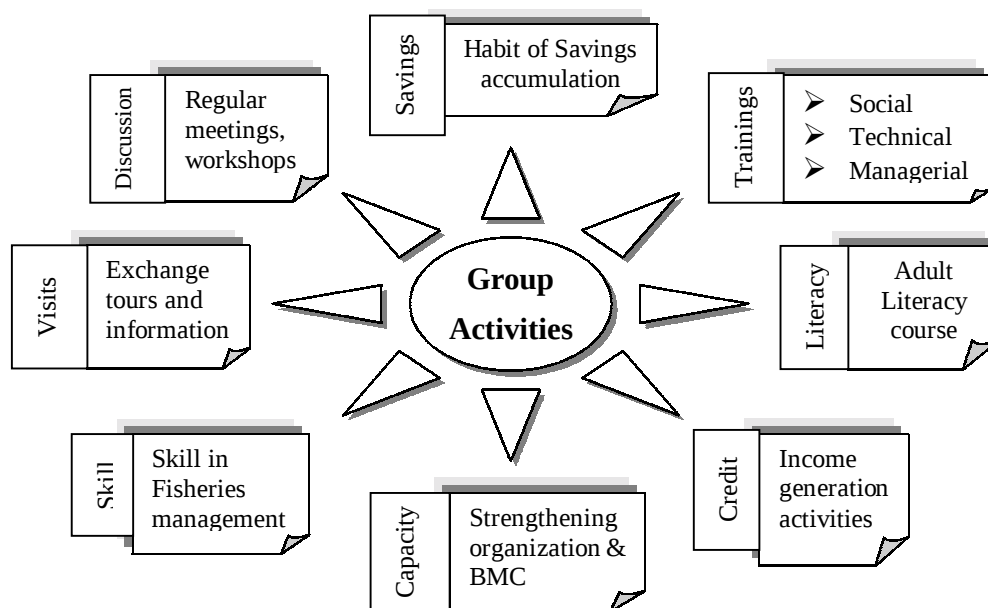


Fig. 4. Activities in Organization development

CREATING OWN CAPITAL

After the formation of the groups, the beneficiaries were adequately briefed on the necessity of building up their own capital. The groups on the basis of their capacity fixed the rate of savings and started depositing savings during their group meetings. Developing savings habit by the members has multiple purposes. First, building up of their own capital, the sense of ownership would be developed and secondly, this capital accumulation process would enhance their capacity to embark upon economic activities either by individual or groups.

LITERACY COURSE

Adult education has been perceived as an educational system that produces self-discoverers and lifelong learners. For CBFM beneficiaries it was not only to attain basic numeracy and literacy skills to perform day to day work but also to attain self-esteem and dignity. This informal teaching was designed to make knowledge relevant and help individuals, families and the communities to identify and solve their problems. The timing for the course was also important, as most of the group members were busy during the daytime. Duration of each course was for 6 months using a curriculum for adult education.

TRAINING COURSE

The training was provided looking at the aptitude of a member and analyzing the need of the recipient. The training was basically divided into two broad areas such as (a) General awareness that includes awareness building and motivation, women development, leadership development and (b) Skill development that included accounts keeping, resources management, fishery, poultry, gardening etc. Designing the training curriculum was based on K.A.S. (*Knowledge, Attitude and Skill*) concept so that increased knowledge would bring attitudinal changes and with the changed attitude the context of developing skill was created leading to better livelihood practice (Alam, 2002).

ACCESSING INFORMATION

The project maintained flow of information

from other initiatives of similar nature taking place elsewhere in the country or abroad. First these findings were shared in the group meetings, community gatherings for stimulating the thinking process of the resource users. Then plans were devised to expose them to the actual situation. This was also done for the project staff, as they would ultimately guide the group members in imitating the process.

ENFORCEMENT

For resource management the beneficiaries had to follow a series of activities, which included closure period, compliance with fish acts and guideline prepared by them. These initiatives compelled the fishers away from fishing during the closure period. Credit support was provided to the project beneficiaries to reduce their dependency on moneylenders, compensate loss of income during close season. Credits were seen supplementary initiative in addition to the normal fishery related activities. To support their livelihood a number of income generation activities (IGAs) both fisheries and non-fisheries have been offered from the project.

INSTITUTION BUILDING APPROACH

Caritas developed the idea of Peoples Organization or Apex body. The Apex comprises a number of partner groups, each of whom elects a representative to the union committee, which in turn elects a representative to the Executive Body. The aim is to achieve the social changes identified and set out by the members of the partner groups for the reduction of the materials causes of their poverty. Thus the process of handing over full responsibility for development activities to the Apex body is made during phasing out of Caritas activities from an area.

From the very beginning of CBFM it was a notion to build up an institution that would activate the work to look after the interest of the fishers and to ensure sustainable management of the resources. The Beel Management Committee (BMC) was formed during 1997 after the process of dialogue and interaction with the groups. The composition of the BMC was done in a democratic way so that each of the groups can put their representative (President of each group) in the BMC. BMC has got 25 members from all the organized groups. The BMC has an executive

body. The Present of BMC has been comprised of seven members (President, Vice-president, Secretary, Cashier, and two General members). The election for the executive members of the BMC takes place at every three years. There is an advisory committee that includes Upazila Nirbahi Officer (UNO), Upazila Fisheries Officer (UFO), Union Parishad Chairman and Officials from Caritas. Activities of BMC are guided by a set of rules and roles and functions of the office bearers were in accordance with the procedures. After formation of BMC they started to develop fisheries management plan including conservation measure, payment, guarding, harvesting and arrangement of sharing cost and profit (Shelly and Alam, 1998).

The elites from the community were involved to get supportive role to the initiative. In this premise a forum comprising elites (teachers, social workers, leaders, and union parishad members) from the community was formed and participates during every step of any initiatives.

ACTIVITIES OF BMC

Empowered by the constitution and the members, the BMC is responsible in the areas of:

Meetings and assistance

- Hold regular monthly/yearly meetings to discuss the general issues.
- Assistance in getting credit support for income generation activities.
- Liaison with government/NGO officials.

Management of the whole beel

- Implement the guidelines adopted in the workshop.
- Arrange punitive measure for the rules violators.

Sanctuary management

- Arrange guarding the sanctuary.
- Keep abreast of the infrastructure of the sanctuary.
- Destroy/burn the illegal net that has been caught from the sanctuary.
- Take legal measure in case of rules violation.

FISHERIES MANAGEMENT

The community looked upon management of fisheries resource in adoption of participatory management practice through the functioning of the BMC. Under CBFM project, it is presumed

that with proper guidance, the indigenous knowledge of the local fishers is enough to guarantee sustainable use of the natural resources. After a year of mobilization and extension efforts, the fishers reached at a consensus to conserve natural fish by establishing a sanctuary in the deepest part of the beel, which retains water through out the year. By collective agreement, the fishers in May 1997 declared Burir daha as a Fish Sanctuary for residence of brood fish and with a hope of enhancing natural fish production.

The Buri daha is one of the deepest ditches in the beel, with an area of over 8 ha and become the ever-largest community managed functional sanctuary in Bangladesh. Several measures were taken including announcement, signboard and hoisting red flags to caution the people not to fish in the sanctuary. The fishers further enforced a ban on fishing for 3 months during pre-monsoon period in the whole beel with a view to give brood fish a chance to spawn and allow the juvenile fish to spread throughout the beel and grow. They further decided to refrain from using small meshed net (current net). By this time, diversity and fish abundance have been observed in the beel. Unprecedentedly fishes increased in the beel during the monsoon period. Fishers got back of their lost glory and became alert how to protect the sanctuary and the beel resources in future. The fishers removed all the small Kathas from the beel voluntarily and placed the trees and bamboo into the Burir daha, i.e. sanctuary. Now the beel has only a large Katha in the burir daha and with this initiative, fishers of one village have access to fish anywhere in the beel (Shelly et al., 1998).

GUIDING PRINCIPLES

In May 1998, a two days workshop was held near the beel premise to discuss the rules and guidelines that the fishers could abide by in future. Over 200 group members, local leaders, high officials from different organizations, and scientists from national and international institutions took part in the workshop. The Minister for Fisheries and Livestock and the Director General of DOF attended the workshop as guests. The fishers prepared articles related to the management of the beel and presented during the workshop while Caritas, WorldFish Center and DOF presented separate papers in the workshop. The fishers were divided into four groups and engaged in discussion and later

presented their summary in the plenary session. Lastly the two days workshop ended with adopting a number of pragmatic recommendations. The principles that guide the fishers of Ashurar beel for sustainable use of the resources are as:

- There will be no fishing for 3 months (May-August) in anywhere in the beel.
- Fishing by current net is banned and building dykes across the beel is restricted. Fishing is allowed using only agreed mesh sized gears.
- Fishing in the sanctuary is banned. Fishing may take place once at every three years interval for 7 days. No one can place *Katha* in anywhere of the beel except the sanctuary. None can fish within 100 yards of sanctuary boundary.
- Outside and subsistence fishers can only fish for home consumption but not for sale.
- Liaison with government/NGO officials.
- The president of each of the organized groups will be the members of the Beel Management Committee. After 3 years there will be an election for new BMC.
- The group members voluntarily guard the beel from their village in a cyclic manner to keep the beel from unwanted fishing by the outsiders.
- The BMC has the power to impose fines, punishment, even cancellation of membership from the organized groups in case of violation of the agreed rules.
- During ban period the fishers will make alternative livelihood arrangement through undertaking of credits from the Caritas and afterwards by increasing individual savings in the group.
- Necessary measures will be made in conservation of fisheries resources and limit harvest.
- Fishers will access their rights over the beel by depositing fixed lease fees through BMC.

LESSONS LEARNED

In reality, the open water capture fishery is a vast and large water body. A large number of communities with various interests are involved and organizing them under a platform is a pre-condition and the first step towards implementing community based fisheries management project. The achievements obtained over the periods of

on going project indicate tremendous outcome for fisheries management practices. The following lessons have been learnt as a result of project intervention.

- Rapport building and widely consultation on operating mechanism during very early stages encouraged greater participation. In addition communication building with the local allies has made able to foster relationship between different actors. The involvement of local government officials and other resource users minimized the prospect of conflicts.
- It has been understood that with the formation of groups, the communities are able to identify their purpose of their involvement in the process. Trainings of different nature helped to exercise their management and technical skills. Accumulating savings in the groups and income generation activities are helpful for increasing their financial capacity.
- Establishment of community institution in the form of Beel Management Committee has been a commendable endeavor through which they can shoulder many responsibilities, which otherwise wouldn't be made possible for an individual to perform. The selection process of executive body of BMC is also found to effective in exercising their democratic practices. The BMC has become the voice of the fisher community in terms of carrying out the activities in an efficient, equitable and sustainable manner.
- The recruitment and the presence of Caritas staff at the very close to the beneficiaries level is a helpful attempt to understand their lifestyle and perception with the fishery management and fueling their pragmatic effort into implementation stage.
- In undertaking a conservation measure and establishing a sanctuary there demands immediate sacrifice from the community and needs to provide alternative livelihood arrangement or job opportunities. The project supported the approach and the community is guided accordingly.
- With proper guidance and having institution like BMC, the fishers mostly restrict themselves in indiscriminant and uncontrolled fishing. This gave the fish a chance to complete its biological behavior in an undisturbed habitat. As a result the commu-

nity observed instant result of enhanced fish in the beel after the ban period is over. The community thus derives greater benefit from such prudent management. Fishers could fish anywhere in the beel.

- Sharing of project results with the community at certain interval gave momentum and sense of ownership and encourages them to participate enthusiastically.
- The organizing of a two-day workshop in the beel level with all stakeholders gave a venue to discuss their experience and other related aspects of beel management and thus encourage respecting the guided principles prepared by them.
- Strong partnership arrangements among the collaborating organizations (DOF-WorldFish Center-Caritas) have proven effective and successful in implementing such new initiatives in Bangladesh.

CONCLUSION

The concept of community management practices in open water capture fishery like Ashur beel has been demonstrated and there obtained well progress. The fishing communities were unorganized and scattered during past initiatives and now they work together, take local initiatives to conserve fish stocks, limit fishing and obey the new restriction. In more open water even partial achievement of cooperation in conserving fish in common interest is perhaps a greater success given past competition to fish out the resource.

The fishers have shown that given tactical and government support, they can bring about tangible improvements both in their own lives and in the management of common property resource. With NGO support fishers rights can be established resulting in more sustainable and productive fishery management.

ACKNOWLEDGEMENTS

The authors greatly recognize the continuous efforts and contributions of Abdulla A1 Mamun, Haridas Mondal, Md. Shahajahan Ali, Farhana Hoq and Md. Alamgir of Caritas in bringing the community and the fishery under a management guideline. The role of the Department of Fisheries and the WorldFish Center in administrative and research support are hereby acknowledged. The authors gratefully acknowledge the financial

support from the Ford Foundation and the Department for International Development respectively to the Community Based Fisheries Management (CBFM) project in Bangladesh. Lastly we express our gratitude to the fishing community of Ashur Beel who finally came under controlled operational guideline and changes their attitude in managing the fishery.

NOTES

1. Daha is the local term use to mean the deeper depression in the floodplain area, which hold water after the recession of floodwater. During the dry season water is left isolated in this depression with fish and other aquatic resources and become distinctly visible.
2. Katha is the fish aggregating device with brush piles to attract fish in a certain area of a waterbody. Fish find undisturbed residence in this place. Seasonal fishing takes place by enclosing the katha with seine net.
3. Rs. refers to rupee, unit of Pakistan currency during colonial days. 16 annas made one rupee. In the present Bangladesh, the taka and paisa have replaced rupee and anna. One hundred paisa make one taka.
4. Tk. refers to Taka, unit of Bangladesh currency. 1 US \$=58.50 Taka.

REFERENCES

- Ahmed, M.D. Capistrano, D. and Hossain, M.: Redirecting benefits to genuine fishers: Bangladesh's new fisheries management policy. *Naga (The ICLARM Quarterly)*. pp. 31-34, October (1992).
- Agüero, N. and Lockwood, B.A.: Resource management is people management. pp. 345-347. In: *The First Asian Fisheries Forum*. J.L. Maclean, L.B. Dizon and Hosillos (Eds.). Asian Fisheries Society, Manila, Philippines (1986).
- Agüero, M. and Ahmed, M.: Economic rationalization of fisheries exploitation through management: experiences from the open-water inland fisheries management in Bangladesh. pp. 747-750. In: *The Second Asian Fisheries Forum*. R. Hirano and I. Hanyu (Eds.). Asian Fisheries Society, Manila, Philippines (1990).
- Alam, S.M.N.: *In situ* conservation of fish stock enhancement: A community based approach in managing a capture fishery in Bangladesh. A case study prepared for the Ramsar-CBD River Basin Initiative in preparing guideline for South East Asian countries on *Integrating Wetlands, Biodiversity and River Basin Management*. Selangor, Malaysia (2002).
- Capistrano, D., Ahmed, M. and Hossain, M.: *Ecological Economics and Common Property Issues in Bangladesh's Openwater and Floodplain Fisheries*. The Third Biennial Meeting of the International Society for Ecological Economics: Down to Earth-Practical Applications of Ecological Economics. p. 17. San Jose, Costa Rica (1994).
- DOF (Department of Fisheries): *Fisheries Resources Information on Bangladesh (2001-2002)*. Dhaka, Bangladesh (2003).

- Ghai, D. and Westendorff, D. (Eds.): *Monitoring Social Progress in the 1990s: Data Constraints, Concerns and Priorities*. UNRISD, Avebury (1994).
- IUCN/UNEP/WWF (International Union for Conservation of Nature and Natural Resources/United Nations Environment Programme/World Wildlife Fund): *World Conservation Strategy*, Gland, Switzerland (1980).
- Kremer, A.: *Equity in the Fishery: A Floodplain in Northeast Bangladesh*. The project workshop, Coastal Resources Institute, Bath University Centre for Development Studies. 18p. University of Bath, UK (1994a).
- Lynch, O.J and Alcorn, J.B.: Tenural rights and community-based conservation. pp. 373-393. In: *Natural Connections: Perspectives in Community-based Conservation*. D. Western and R. Michael Wright (Eds.). Island Press, California. USA (1994).
- Rahman, A.K.A.: Wetlands and fisheries. pp. 147-162. In: *Freshwater Wetlands in Bangladesh: Issues and Approaches for Management*. A. Nishat, Z. Hossain, M.K. Roy and A. Karim (Eds.). IUCN. Gland, Switzerland (1993).
- Sadeque, S.Z. and Islam, M.A.: Socio-economic characteristics of Freshwater Wetlands of Bangladesh. pp. 179-186. In: *Freshwater Wetlands in Bangladesh: Issues and Approaches for Management*. A. Nishat, Z. Hossain, M.K. Roy and A. Karim (Eds.). IUCN. Gland, Switzerland (1993).
- Schlager, E. and Ostrom, E.: Property rights regimes and natural resources: A conceptual analysis. *Land Economic*, **68(3)**: 249-262 (1992).
- Shelly, A.B. and Alam, S.M.N.: Community Management of bounded and unbounded lake (Beel) Fisheries in Bangladesh. *Paper presented at Seventh Conference on International Association for Study of Common Property (IASCP): Crossing Boundaries*. University of British Columbia, Vancouver, Canada (1998).
- Shelly, A.B., Alam, S.M.N. and Costa, M.D.: Community participation in enhancing fish production: Establishing food security for the future. *Paper presented at Conference on Fifth Asian Fisheries Forum: Fisheries and Food Security Beyond the year 2000*. Chiang Mai, Thailand (1998).
- Tsai, C. and Ali, L.: Openwater fisheries (carp) management programme in Bangladesh. *Fisheries Information Bulletin*, **2(4)**: 1-51 (1985).
- UNDP (United Nations Development Programme): *Empowering People: A Guide to Participation*. The Programme, New York (1998).
- World Bank: *The World Bank and Participation*. Operations Policy Department, World Bank, Washington DC (1994).
- World Bank: *World Bank Participation Sourcebook*. Environmental Management Series, World Bank, Washington DC: (1996).