



MACH (Management of Aquatic Ecosystems through Community Husbandry) is a Government of Bangladesh project supported by USAID. The project partners (Winrock International, Bangladesh Centre for Advanced Studies, Center for Natural Resources Studies, and Caritas Bangladesh) have worked closely with the Department of Fisheries since 1998. The aim was to establish community based co-management and restore and increase sustainable productivity at the ecosystem level in three large wetlands: Hail Haor in Sreemongal, Turag-Bangshi river and wetlands in Kaliakoir and the Kangsha-Malijhee basin in Sherpur. In the wet season these wetlands cover about 32,000 ha, and in the dry season they include over 100 distinct waterbodies. Over 110 villages inhabited by over 184,000 people are directly involved.

## Livelihood Diversification to Reduce Fishing Dependence: Lessons from MACH for Scaling Up Poverty Reduction

The lessons generated by MACH are of national importance for scaling up and are in line with desires of the Government as expressed in “Unlocking the Potential - National Strategy for Accelerating Poverty Reduction” (widely known as the Poverty Reduction Strategy Paper). In fact, the Government has advocated adoption of the MACH approach more widely in Bangladesh inland fisheries and wetlands for accelerated poverty reduction (PRSP, Policy Matrix 4, Strategy Goal 19, p. 272).

### BACKGROUND

To reverse over-exploitation and destruction of wetlands, MACH has worked to restore 65 beels and canals with a perennial standing water of over 700 hectares and developed local co-management and community institutions. MACH has organized 16 Resource Management Organizations (RMOs) with representatives of the poor especially fishers, landed, and local community leaders for better management of wetland resources.

To complement this, MACH has worked to diversify the livelihoods of fishers so that they could reduce their dependence on wetland resources through Alternative Income Generating Activities (AIGAs). As of April 2006, MACH mobilized 5,194 households of poor wetland dependent people into 250 resource user groups (RUGs), and federated them into 13 Federations of RUGs (FRUGs). The FRUGs are independent organizations, registered with the government; the members have personal savings of Tk 7.73 million (about Tk 1, 490 per member) and in aggregate have borrowed over Tk 92.42 million for AIGAs. The FRUGs are a viable socio-economic model for empowerment of the poor, by late 2006 revolving funds totaling Tk 14.2 million had been handed over to eight FRUGs, to be owned and managed by the poor.

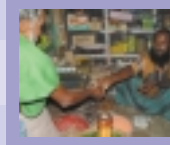
Co-management bodies - Local Government Committees (LGCs) - were constituted at the Upazila level, involving Upazila officials, Union Parishad chairpersons, RMO and FRUG leaders, for coordination, oversight and conflict resolution.



## LESSONS LEARNT

**Economic impacts of AIGAs on fishers**

- 1. Provision of loans:** about 60% of RUG member households successfully created new self-employment opportunities by adopting one or more non-fishery related AIGA. This was supported by training in a skill chosen by the household, and loans of Tk 3,000-15,000 per year. A few more successful entrepreneurs have taken loans of Tk 16,000-50,000. Of the rest, 30% have not been so successful with their AIGA-initiatives, and the other 10% did not take any loans most have been RUG members for less than one and a half years.
- 2. Fishing income gains:** the value of fish catches from the MACH sites is estimated to have increased by about 150% at constant prices between the baseline in 1999 and 2004-05, driven by an increase in catch per hectare from 144 kg and 364 kg during this period. RUG members can still earn enough after reducing their fishing effort, while other people have improved their livelihoods from fishing (including subsistence fishers, non-RUG professional fishers, and middlemen).
- 3. Reduced dependence on traditional money-lending:** borrowing money from local money-lenders, rich neighbors and relatives at exorbitant interest rates was a common reason of dire poverty among the fishing community. Dadon system (borrowing money from traders in the off season against tied sale of fish at a low price in the fishing season) was common. Credit through the RUGs is at lower interest rates and the savings and credit arranged by MACH are now owned by the fishers themselves.
- 4. Personal savings and credit worthiness:** “financial capital” of each member is enhanced by a compulsory saving of Tk 5 each week, with additional voluntary savings according to their individual capacity. The savings earn a competitive interest (5 % in 2006), and are held as collateral against loans. However, very poor households (e.g. destitute, elderly and disabled) are not always able to save regularly, and so cannot access training and credit and are unable to join the program. Some alternative innovative program is needed to reach the extreme poor, who are not generally loan-worthy.



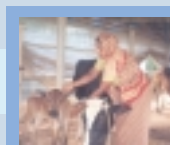
**“This shop has changed my life”**

Jamir Uddin, a career fisher of Sherpur struggled to make ends meet. To help him diversify his livelihood, MACH provided him with five successive loans each year from 2001 to open his own shop. He sells household items, and in 2005 Jamir's profit was about Tk 30,000. This amount was unimaginable to him as a fisher. Jamir Uddin has now completely stopped fishing, but now he can regularly buy fish from the market. “This shop,” Jamir says, “has changed my life.”

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**Social impacts of livelihoods support**

- 1. Formation of social capital:** it is essential for poor fishers to work together, create organizations of their own and make linkages among themselves and with government. MACH mobilized 5,194 rural poor households to work together in 250 RUGs federated into 13 FRUGs. Moreover they now have a voice in 16 RMOs where they take part in decisions on wetland resource management.
- 2. Good governance:** these community-based organizations practice democratic values in their organizational management and decision-making. Their organizational procedures are transparent and accountable.
- 3. Role and voice of women:** women make up a third of RUG members. Their families and local communities now respect and appreciate them more as a result of their group membership, and skills and incomes derived from AIGAs. They benefit from women-friendly homestead based AIGAs. Some have used RUG membership to train their sons for new occupations so they will not have to fish.



**Minera Begum**

Minera of Kaliakoir has 3 school-going children, her husband is a fisher. She joined a MACH-RUG in October 2000. She discussed in the group her dream of raising cows to earn more money for the family. The RUG members discussed it and approved her taking three consecutive loans to buy three milking cows including a crossbreed (total loans of Tk 43,000). Minera regularly gets 10-12 liters of milk worth Tk 150-200 per day. Minera's husband has reduced his fishing days and now helps her raising cows. Their children now go to school regularly and they have added a small room to their house for the children.

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## AIGAs and wetland resource management

- 1. Reduction in fishing effort:** interviews with RUG members indicated that their average fishing time fell from almost 4 hours/day before management changes and RUG formation to 2.3 hours/day in 2005. This indicates that AIGAs have helped to move fishers into other occupations helping to conserve aquatic resources. This has been complemented by increases in fish catch per fisher per day.
- 2. Moving target:** as a result of habitat restoration and sustainable fishing practices introduced by RMOs, fishers can catch the same amount with this reduced effort. But total catches have more than doubled, and this has attracted more people to fish. By limiting AIGA support to a fixed membership of the RUGs there has been less involvement in resource management and project-supported institutions for other/new fishers.

## Strong community institutions and partnerships with local government

- 1. Fisher owned and managed micro-finance:** formal financial institutions re-invest only a tiny part of rural savings in the rural economy through rich and middle farmers. In contrast, the fisher members have full ownership of their own savings (Tk 7.7 million in 2006) and received Tk 20 million for revolving funds through their FRUGs which are registered with the Social Services Department . NGO support is being phased out. This has strengthened economic empowerment of fishers and improves their skills of decision-making on financial matters.
- 2. Institutional strength:** FRUGs and RMOs need to be strong institutions if they are to sustain in the face of political and economic pressures and competition for resources. MACH has separated broad-based local resource management organizations from micro-credit organizations whose members are exclusively the poor. But it has linked them through overlapping membership and partnerships for mutual support:
- 3. Strong partnership with local government:** for new community-based organizations to survive, it is essential that they can call on support from local government when needed. The co-management bodies formed under MACH provide this linkage. "Local Government Committees" (LGCs) comprise of Upazila officials, Union Parishad chairpersons, and the leaders of FRUGs and RMOs. These have strengthened links between community organizations and government in a formal way. Through this local government, and particularly Upazila Fisheries Officers have helped to facilitate, mediate conflicts and solve problems.



CARITAS, providing training on capacity building to FRUG members

## KEY MESSAGES

- 1. Learn from field experience:** creation of self-employment opportunities through AIGAs and small entrepreneurship schemes has been financially feasible and has enabled the poor to adopt wetland conservation and sustainable use practices.
- 2. Make the poor fishers count in protection and conservation of wetland resources** by diversifying their livelihoods so that they can reduce their dependence on wetlands.
- 3. Women have an important role:** they can influence opinion in support of wetland conservation and protection when they have the incentive of AIGAs.
- 4. Strengthen local institutions for sustainability:** do not just create new organizations, link these with existing institutions (public and private) that can take credit for improvements in livelihoods and resource management.
- 5. Make the fruits of development both quantitative and qualitative:** economic benefits are essential for the poor, but so too are establishing human rights and good governance, freedom of choice, and good neighborly living. A participatory process, such as that adopted by MACH, gives the poor the opportunity and choice to take initiatives they need.

## POLICY RECOMMENDATIONS FOR SCALING UP

1. **Create alternative employment opportunities for fishers:** Creating employment opportunities is the central development challenge in Bangladesh. It is possible to create alternative employment for the poorest households, including fishers, through professional skill improvements and flexible credit support.
2. **Block grants for AIGAs:** the fisher community, in general, is one of the most disadvantaged and vulnerable groups nationally. They too deserve special support for their social protection and risk reduction. Fishers need support to develop alternative incomes, so that they can reduce their dependence on fishing. Regular government support from the annual budget would help. Just like MACH handing over revolving funds to FRUGs, such funds should be owned and managed by community-based organizations of fishers.
3. **Formation of community-based organizations of fishers:** MACH learned that it is essential to first develop the social and human capital of the poor by helping them develop their own community-based institutions, and improving their skills and capacities. Market-driven professional skills training and flexible credit-support for AIGAs are essential tools. Government needs to increase the allocation of its annual budget for developing the capacity of vulnerable groups. For example, 16% of Bangladesh government spending in 2001-2 went on education and human capacity development compared with 27% in Malaysia.
4. **National policy for natural resources management:** should take into consideration the core lessons of MACH:
  - Adopting community-based co-management, with the emphasis on community awareness-raising and community institution-building among poor people (fishers, women, unemployed youth, etc.).
  - Providing long-term leases to wetland resources to local community-based organizations to enable their active participation and management.
  - Involving local NGOs to develop the capacity of community-based organizations.
5. **Building strong partnerships:** co-management committees at the Upazila level can ensure strong partnership between community organizations, public sector, NGOs and private sector. To enable the poor to play an active role, community-based organizations of the poor, fishers, women and unemployed youth must be mobilized.
6. **Limited replication of good practices before government adoption in national policies:** Piloting of innovations is essential to identify good practices. The next stage is limited replication. Livelihood diversification has worked for those RUG participants of MACH, but as wetland productivity recovers other people may be attracted and benefit from increased catches. In future more flexible links between livelihood support and resource management may be needed, as resource users change over time. Government involvement in flexible replication is needed so that it can internalize further lessons ready for eventual scaling up nationally.

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