

WORLD WETLAND DAY-2007

Fish for Tomorrow



Wetland Resources Conservation and Management Strategy of Bangladesh.



উপদেষ্টা
কৃষি মন্ত্রণালয়, মৎস্য ও পশুসম্পদ মন্ত্রণালয়
এবং পরিবেশ ও বন মন্ত্রণালয়

বাণী

জলাভূমি ও জলজ সম্পদের সঠিক ব্যবস্থাপনা, উন্নয়ন ও সংরক্ষণ কার্যক্রম নিশ্চিতকরণে প্রতিবছর ২ ফেব্রুয়ারী আন্তর্জাতিকভাবে বিশ্ব জলাভূমি দিবস পালিত হচ্ছে। বাংলাদেশ এর সাথে একাত্ম হয়ে "বিশ্ব জলাভূমি দিবস-২০০৭" জাতীয়ভাবে পালন করছে জেনে আমি আনন্দিত। এ বছর দিবসটির প্রতিপাদনা হিসেবে চিহ্নিত হয়েছে "আগামীর জন্য মাছ" (Fish for Tomorrow) এই শ্লোগানটি। বিশ্ববাণী মাছের ক্রমবর্ধমান চাহিদার প্রেক্ষাপটে এটি যথার্থ এবং সময়োপযোগী হয়েছে বলে মনে করি।

বিশ্ববাণী মাছের চাহিদা বেড়েই চলেছে। জনসংখ্যা বৃদ্ধির সাথে সাথে গত চার দশকে মাছের চাহিদা দ্বিগুণ হয়েছে। উন্নয়নশীল দেশে বিশ্বের প্রায় সাতটি তিন কোটি মৎস্যজীবীর শতকরা ৯৫ ভাগ বাস করে। আগামী দিনের মাছের উপরই নির্ভর করে তাদের জীবন-জীবিকা। তাছাড়া মাছ আমাদের প্রাণিক আর্মির প্রধান উৎস। আগামী দিনের মাছের উৎপাদন বাড়তে জলাভূমির উন্নয়ন ও সংরক্ষণের বিকল্প নেই।

আমাদের আর্থ-সামাজিক উন্নয়নে আবহমানকাল হতেই জলাভূমি ও জলজ সম্পদ অতীব গুরুত্বপূর্ণ ভূমিকা পালন করে আসছে। উন্নত জলাভূমি আমাদের দেশের সম্পদ। প্রাকৃতিক ও পরিবেশগত কারণে জলাভূমির বহুবিধ ব্যবহার ধীরে ধীরে করে আসছে। জলাভূমির অবক্ষয় রোধ করে এ সম্পদের সৃষ্টি ব্যবহার নিশ্চিত করা জরুরী। উন্নত জলজ পরিবেশের ওপর জীববৈচিত্র্য বৃদ্ধির ক্ষেত্রে টিকে থাকার বিষয়টি নির্ভর করে। ধীরে ধীরে জলজ পরিবেশের ভৌত রাসায়নিক ও জীববৈচিত্র্য পরিবর্তিত হওয়ার ফলে জলজ পরিবেশ আজ হুমকির সম্মুখীন। মাছের অবাধ প্রজনন ও বিচরণ ক্ষেত্র সংরক্ষণ এবং সম্প্রসারণের ক্ষেত্রে এরূপ অবস্থার উন্নয়ন ঘটানো জাতীয় স্বার্থে একান্ত প্রয়োজন।

জলজ সম্পদ উন্নয়ন ও প্রসারলাভে এ দিনের প্রচারণা কার্যক্রম দেশের আপামর জনগোষ্ঠীকে অনুপ্রাণিত করবে বলে আমি আশা করি। সকলের সক্রিয় অংশগ্রহণ, পরামর্শ ও সহযোগিতায় বিশ্ব জলাভূমি দিবস-২০০৭ সফল ও সার্থক হোক এ কামনা করি।

ডাঃ সিরাজুল হক
ড. সি এস রিম



Background

The wetland environment movement started worldwide through the Ramsar Convention. The Ramsar Secretariat observes 2nd February of each year as "World Wetland Day" to create mass awareness for wetland conservation. There are 150 signatory countries of the Convention of which Bangladesh is one of the members. Accordingly Bangladesh is an active part of this global movement. The theme of World Wetland Day 2007 is "Fish for Tomorrow" which means, we shall have to conserve and enhance fisheries resources for our future generations. On the occasion of this day we should understand the changes in strategies and implementation needed for wetland resources management.

Importance of Wetland Resources

Fisheries are the main wetland natural renewable resource. Wetlands contribute to our livelihoods with: water for irrigation, river communications, housing materials, cattle feeds, shelter for wild animals and birds, green manures, fuel, and food for poor rural people. Almost 90% of the rural population is dependent on wetlands for their livelihood or food. An eco-friendly wetland system is a natural heritage of a country. In this regard the Ramsar Secretariat and Bangladesh have declared Tangaur Haor and the Sundarbans as wetlands of international importance or "Ramsar sites". Thus wetlands and aquatic resources have an immense impact on a country's economic and social development.

Wetland Resources Status

Bangladesh is rich in wetland resources. Numerous rivers, their tributaries and canals crisscross the country connecting a vast area of natural depressions - beels, haors, baors and a huge area of floodplains. According to the Fisheries Resources Survey Systems we have 1.03 million ha of rivers and estuary with a length of 24,000 kilometers, 114,000 ha of beels, 68,000 ha of Kaptai Lake, 5,000 ha of ox-bow lakes, 0.2 million ha of Sundarbans, and 2.83 million ha of floodplains that remain inundated to 1-2 meter depth for 5-7 months in a year.

Once this huge water area was highly productive for fisheries. Only three decades before wetlands contributed 65-70% of the total fish production. In course of time with the degradation of wetlands, production of fish and other aquatic resources declined and became threatened. At present less than 40% of total fish production comes from this source. Why are our highly important wetlands and aquatic resources declining? Analysis shows that two main reasons are responsible for such conditions. These are natural and man-made degradation and abuse of resources. Natural degradations are: decreasing river flow and average depth, siltation of river beds due to erosion, changes in river direction, encroachment or silting up of connecting canals between rivers and floodplains, and drying up of wetlands due to drought. Man-made degradations are: cultivation of paddy and other crops on the fringing lands of water bodies which reduces the water area; construction of unplanned growth centers, connecting roads, and flood control and irrigation structures; excessive use of insecticides in agriculture; and disposal of untreated pollutants from factories and urban areas.

Fisheries production is also severely hampered along with wetland degradation. The identified reasons are: over and unplanned exploitation of resources, fishing with illegal gears, catching of brood fishes and fingerlings during spawning seasons, pressure by the increasing population to catch fish for their livelihoods, and most of all the leasing system that encourages the leaseholders to exploit resources to the last limit for their maximum benefit.

Biological Management Strategy

The Department of Fisheries is well aware of the reasons for wetland and aquatic resources degradation and always tries to be on track to overcome these problems. For the last three decades the department adopted a number of activities, along with the related government agencies, NGOs and local people, to conserve and enhance wetland resources. Simultaneously the Department of Fisheries conducted a number of studies and surveys on wetland resource management and implemented some pilot projects. The findings and recommendations, in the context of the National Fisheries Policy, have been drawn together in the Inland Capture Fisheries Strategy. The main principle of this strategy is "to introduce sustainable biological management of wetland resources instead of revenue based management."

Community Based Resource Management

To implement this Strategy for biological management, the Department has realized that wetland and aquatic resources conservation and management cannot be successfully implemented by government agencies alone. Rather this requires involvement of all related government agencies, NGOs, Development Partners and the concerned local people. To implement this, it is now seen that Community Based Co-Management of wetland resources is a sustainable approach. The Department of Fisheries with its different programs and pilot projects has successfully developed Community Based Co-management of Aquatic Resources over the last three decades. With this approach the maximum utilization of aquatic resources at sustainable levels and an equitable distribution of benefits among the resource users are ensured.

Development of Community Based Organizations

Community Based Organizations (CBOs) are formed by targeting the concerned beneficiaries especially the fishers around a water body. At first resource user groups are formed at village level and thereafter a Community Based Organization is formed, consisting of representatives of these resource user groups for each intervened water body. The Department of Fisheries imparts training to the members and fishers in aquatic resources management. Simultaneously it helps them to be registered as legal organizations. When an organization is functioning democratically and transparently then the resource (water body) is handed over to this organization by signing a MoU between DoF and the CBO for 10-20 years tenure. The local fisheries office, NGOs and the local government facilitate these CBOs respectively with technical, organizational and administrative help. The community based organizations formulate and implement sustainable fisheries management plans each year.

Technical Support for Resource Management

With technical assistance of the Department of Fisheries and as per the fisheries management plan adopted by the CBOs, appropriate technical measures are implemented in the water bodies. These are: establishment of fish sanctuary, controlling fishing effort, fish habitat restoration, stocking of fish fingerlings to increase fish production, operating flood control and irrigation structures to be fish friendly, and implement of the Fish Conservation Acts.

The Department of Fisheries so far established 260 such Community Based Organizations all over the country. Technical management measures along with the establishment of around 360 fish sanctuaries, have resulted in significant increases in fish production and aquatic biodiversity in these water bodies. Also the degradation of water areas has fallen to a minimum level. There are about 12,000 fisheries water bodies (jalmohals) in Bangladesh. It is not enough to establish community based resource management only in 260 water bodies, but the lessons learnt have helped to formulate future programs and their implementation strategies. In this context the Department of Fisheries realizes that two main strategic changes should be brought about:

- Adoption of sustainable biological management through community participation gradually covering all water bodies of the country, instead of traditional revenue based management practices;
- Establishment of fish sanctuaries for increasing fish production and aquatic biodiversity.

The Department of Fisheries expects that, in course of time it will be possible to establish the community based approach for resource management in all the water bodies of the country. As a result our wetlands and their aquatic resources will revive to their previous natural conditions and we will be able to regain our recognition as one of the world's richest countries for fisheries resources. With this hope, we will observe the World Wetland Day today.

Md. Nazrul Islam
Director General (cc), Department of Fisheries, Dhaka.



সচিব
মৎস্য ও পশুসম্পদ মন্ত্রণালয়

বাণী

বাংলাদেশ জলজ সম্পদে সমৃদ্ধ দেশগুলোর মধ্যে অন্যতম একটি দেশ। অসংখ্য জলাভূমি এ দেশের অর্থকোষের বৈশিষ্ট্য এলাকা তুলে রয়েছে। প্রাকৃতিক পরিবেশের বদৌলতে এ সব জলাভূমি বৈচিত্র্য জীবজগত হারত করেছে। আবহমানকাল ধরে এ সকল জলাভূমি পরিবেশগত উন্নয়ন ও অর্থনৈতিক অগ্রগতির সোপান হিসেবে পরিগণিত হয়ে আসছে। বাংলাদেশের অন্যগোষ্ঠীর এক উল্লেখযোগ্য অংশ জীবিকা নির্বাহের জন্য আশ্রিত বা সম্পূর্ণরূপে জলাভূমির উপর নির্ভরশীল। এ জলাভূমি খাদ্য ও জলজ বৃক্ষরাজি উৎপাদন, পরিবেশের ভারসাম্য রক্ষা এবং জলজ জীববৈচিত্র্য সংরক্ষণ ছাড়াও মানুষের মৈনদিন চাহিদার অনেক উপকরণাদির যোগানদায়। জলাভূমির বহুমাত্রিক ব্যবহার থাকলেও উপকারকোণী অধিকাংশ জনগোষ্ঠীই প্রকৃতির এ সম্পদ সংরক্ষণ সম্পর্কে তেমন সচেতন নয়। ফলে জলাভূমির প্রতি মানুষের অবজ্ঞাসুলভ আচরণ বৃদ্ধি পাচ্ছে, ধ্বংসের দিকে ধাবিত হচ্ছে অতি মূল্যবান এ প্রাকৃতিক সম্পদ, হারিয়ে যেতে বসেছে দেশীয় প্রজাতির অনেক জলজ প্রাণী ও উদ্ভিদ, সর্বোপরি দেশ হারাতে বসেছে তার কৃষ্টি ও ঐতিহ্য। এ সংকটাপন্ন অবস্থা থেকে উত্তরণ অতীব জরুরী। ধ্বংসের হাত থেকে জলাভূমিকে রক্ষা করতে হবে এখনই গ্রহণ করতে হবে উপযোগী পরিকল্পনা, উন্নয়নমূলক কর্মসূচি, বাস্তবায়নে বাড়তে হবে আন্তর্জাতিক পর্যায়ে সমন্বয় এবং জোরদার করতে হবে পদসম্মেলনা।

২ ফেব্রুয়ারী "বিশ্ব জলাভূমি দিবস" আন্তর্জাতিকভাবে পালিত হচ্ছে। বাংলাদেশেও জাতীয়ভাবে দিবসটি উদযাপিত হচ্ছে জেনে আমি আনন্দিত। এ বছর দিবসটির শ্লোগান হল "আগামীর জন্য মাছ"। আমি আশা করবো, "বিশ্ব জলাভূমি দিবস- ২০০৭" উদযাপনের মধ্য দিয়ে আমাদের মূল্যবান এ জলজ সম্পদ রক্ষার সর্ববরের জনগণের মধ্যে সচেতনতা সৃষ্টি হবে এবং জলাভূমি সংরক্ষণে সবাই এগিয়ে আসবে।

পরিশেষে, আমি "বিশ্ব জলাভূমি দিবস-২০০৭" এর সার্থক সফলতা কামনা করি।

সৈয়দ আতাউর রহমান

Turning the Tide: Community Based Fisheries Management Protecting the Poor and the Environment

Over a ten-year period, the Community Based Fisheries Management Project (CBFM-1 and CBFM-2), has been implemented by the Department of Fisheries (DoF), with research and technical assistance from the WorldFish Center, in partnership with 11 NGOs. The project, by now, has established community control over 116 water bodies spread over 48 Upazilas in 22 districts covering closed beels, open beels, floodplains and rivers. With around 23 thousand direct beneficiaries, the project has established 130 officially recognised, poverty-focussed, Community Based Organisations (CBOs), involved in the management of these water bodies. However, in return for access, the CBOs must embrace the principles of sustainable fisheries management.

- One of the main actions of CBFM Project has been to establish fish sanctuaries no fishing zones where a proportion of the fish in the water body is allowed to stay safely even when surrounding water levels are at their lowest. A total of 184 fish sanctuaries covering over 90 hectares of water area have so far been established in 81 water bodies. As well as contributing to increased production, the fish species are appearing once more when it was assumed that they had disappeared forever.
- Another conservation measure is to stop fishing during the breeding season, usually for a three-month ban period April to June each year. Of course this leads to hardship amongst households that depend on fishing for their livelihoods, so the project includes a credit component supporting the development of alternative income-generating activities.
- A third responsibility which falls on the new guardians of these water bodies is to exercise control over the use of particularly harmful fishing practices. Some of the examples are the use of fishing gears such as small mesh monofilament gill nets (locally known as *current jal*) which captures all sizes of fish at once, the construction of fish fences (*arbanda*) which disrupt natural fish migrations and the widespread practice of fishing by draining water (*panti shech*) completely from a water body.

Along with other measures such as re-excavating channels linking water bodies to canals and rivers, the communities have had a remarkable degree of success in applying these simple principles, and, in return, the amount of fish being harvested and the diversity of fish species being caught are growing at most project sites.

In practice, it is a complex process one which requires major shifts in long-held policies and principles by the government, intensive community development work with a range of NGOs and other stakeholders and the social empowerment of some of Bangladesh's most vulnerable citizens, the poor fishing community. For most community group members, being given access to fisheries that were previously denied to them is such a strong incentive that they willingly observe and enforce improved management procedures.

The Bangladesh Government (the Department of Fisheries, the Ministry of Fisheries and Livestock, local administrations) is now convinced that community management of inland fisheries resources is the way ahead. The approach seems to be gaining a permanent foothold in the mix of approaches that are used to manage aquatic resources in Bangladesh. CBFM principles have already been incorporated into new official fisheries strategies and there is an obvious opportunity for expansion of the CBFM concept across the inland fisheries sector in Bangladesh.

The community based fisheries management approaches offer a way to help poor people while simultaneously addressing environmental sustainability they offer the hope that despite the pressures placed on aquatic resources in a crowded and rapidly developing country such as Bangladesh, it is possible to halt and even reverse environmental degradation while reducing rural poverty.



1. Banchha Shekha, BELA, BRAC, CARITAS, CNRS, CRED, FemCom, GHARANI, Proshika, SCD, SHISUK



Baikka Beel in Hail Haor, Sreemangal.

Wetland Conservation and the MACH project

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 and the Ministry of Fisheries and Livestock since 1998. The project has supported community based co-management to restore and increase productivity in three large wetland ecosystems: Hail Haor in Sreemangal, Moulvi Bazar District, Turag-Bangshi river basin in Kaliakoir, Gazipur District, and the Kangsha-Majilhee basin in Sherpur District. In the wet season these wetlands cover about 32,000 hectares and in the dry season they include over 100 distinct water bodies where over 184,000 people from 110 villages are directly involved in improving the management to ensure sustainability.

Key achievements include:

- establishing 56 sanctuaries covering 173 hectares;
- excavation of 44 hectares of beels and 28 km of canals;
- planting over 600,000 trees around wetlands;
- establishing 16 Resource Management Organizations and 5 local government co-management committees to set sustainable fishing practices and restore wetlands
- establishing 13 Federations of Resource User Groups that help 5,200 poor households take up alternative occupations to fishing;
- increases in fish production of 2-5 times over the entire wetland; and
- a 45% increase in fish consumption for the poor when national consumption has been declining.

MACH is now phasing out, but will leave community organizations and Upazila level co-management committees that are organizationally and financially sustainable to continue following sustainable wetland management practices. For example, it is leaving endowment funds (where only the interest on the principal can be used) worth Tk 360 lakh with the Upazila level committees so they can continue to coordinate wetland management and take up small scale wetland management interventions.

On World Wetland Day we highlight one of the successes and also one of the major threats to fish for tomorrow.

Joint initiatives of communities and government to protect part of wetlands as sanctuaries can have major benefits for biodiversity and fisheries. In Hail Haor eight Resource Management Organizations have taken several measures to restore their fisheries. A major initiative that is supported by all the users of the haor has been the creation of a 100 hectare sanctuary in "Baikka Beel". The Ministry of Land agreed in 2003 to give up lease revenue if the community would stop all use of this area, and the results have been rapid. Helped by excavation and tree planting, but mainly because of effective protection by the community, wintering water birds have increased from about 300 of 16 species in 2004 to over 7,000 of 35 species in 2007. This is attracting human visitors, who help to pay for guarding. But the first aim of the sanctuary is to serve as a biological reservoir that replenishes the fish in the whole haor. Fish species diversity has increased and catches have increased from 171 to 388 kg/ha, offering new hope for fishing communities.

Unfortunately there are also many threats to our wetlands that may reduce the future availability of fish in our diet.

Industrialization is causing pollution and poor water quality, especially in wetlands near to towns and industrial centers. One such area is the Turag-Bangshi wetland where in 1999 there were only 12 textile related industries, now there are 166. Almost all are export oriented and involved in textile dyeing. However, very few establish or operate the Effluent Treatment Plants they are required to have. As a result the quality of surface water particularly in the dry season is far below Bangladesh national standards (for example very low dissolved oxygen, extremely high biological oxygen demand, sulfides) and in many cases creating anaerobic conditions causing fish and plant mortality. The communities here have established fish sanctuaries, limited harmful fishing, and seen their catches increase. But these gains are being lost because of pollution which has resulted in dry season fish kills in recent years. Local communities are also concerned that health problems are being caused by water pollution. Research linked with MACH project has shown that all such industries could reduce the pollution they emit and save money by improving their practices. But there is also an urgent need to enforce the existing laws to protect our common fishery and wetland resources if they are to remain a source of livelihood for millions of people.