

Project Completion Summary
Understanding livelihoods dependent on inland fisheries in Bangladesh and South East Asia
R8118

RNRRS Programme:	Fisheries Management Science Programme
Programme Manager:	Professor John Beddington (MRAG Ltd)
Sub-Contractor:	WorldFish Centre, in collaboration with: Can Tho University, Viet Nam An Giang University, Vietnam Ministry of Agric, Forestry and Fisheries, Cambodia Living Aquatic Resources Research Center/NARI, Laos BCAS, Bangladesh University of Durham, Durham. Imperial College, London MRAG Ltd, London
F MSP Purpose:	Benefits for poor people generated by application of new knowledge to fisheries management systems
RNRRS Production System:	Land/Water Interface
Commodity Base:	Fisheries
Beneficiaries:	<p>The ultimate beneficiaries of the project are different categories of poor people (including women) in the target countries whose livelihood portfolios include a substantial dependency on fisheries and living aquatic resources. The results should be relevant to the countries in Asia and elsewhere with extensive inland fisheries.</p> <p>The intermediate beneficiaries of the project are national governments and research and development organisations with fisheries, wetlands and poverty elimination interests in the region. The analysis and outcome of livelihoods analysis will enable these stakeholders to target future initiatives on removing the poor people's constraints in improving and maintaining fisheries livelihoods.</p>
Target Institutions:	<p>i) National agencies. The national partners: LARREC/NARI in Laos and Department of Fisheries in Cambodia are the relevant government agencies for taking up the outputs. Can Tho University and An Giang University in Viet Nam, and BCAS in Bangladesh are potential implementers of follow on research. ii) Relevant international agencies (FAO and SIFAR), regional agencies (MRC, NACA), international NGOs working in SEAsia (Oxfam, Save the Children), and development partners, iii) The international research and development community and advanced scientific institutions, including those in UK.</p>

Geographic Focus: Freshwater floodplains and other wetlands and their fisheries in Bangladesh and the lower Mekong countries such as Vietnam, Laos and Cambodia.

	Planned	Actual
Start Date:	01-03-2002	01-03-2002
Finish Date:	31-01-2003	31-03-2003
Total Cost:	£100,986	£100,986

1. Project Purpose

The purpose of the project was to characterize, describe and understand the livelihood strategies of people, especially the poor, dependent upon capture fisheries (but including enhancement fisheries) in inland environments in the four selected countries in Asia. By understanding and highlighting these issues, and through consultations with the users, trends, problems and potential research areas could be identified. The combination of better understanding of livelihood strategies and needs, and review of existing knowledge, provides a basis for improving the design of future development and research assistance for fisheries and aquatic resource sectors in these countries, and offers insights and lessons from cross country comparisons.

2. Outputs

All available information on livelihoods dependent on inland fisheries in target countries was compiled. It is to be noted that only limited literature is available on inland fisheries in Vietnam and Laos. On the other hand, gaining access to the available information and sharing the information across various sectoral agencies are continuing challenges in Vietnam. Poverty data were compiled from available sources but national data is hardly disaggregated for fishery dependent households or floodplain areas. PRAs revealed the high incidence of poverty among fishing communities in all countries.

The contribution of fisheries to national economies was evaluated. It was found that fisheries contribute 8-10% of GDP in Cambodia and 4% in Bangladesh. Agriculture including fisheries has contributed 24% of GDP in Vietnam and 53% in Laos. Inland fishery contributes 93% to the total fish catch in Cambodia (officially this was 82,504 t in 2001 but more likely it is 400,000 t pa), 38.7% of 1,781,057 t/year in Bangladesh, 58% of total 82,873 t/year (1990) catch in Vietnam and 78% of 82,504 t/year in Laos in 2000.

The differing fisher livelihood strategies in the target countries were assessed. The number of people fishing for an income is increasing in all the countries. In Laos, people were fishing mostly for food, but in recent years with the improvement of the communication and preservation system, more people are involved in fishing and earning their livelihoods from fishing. In Bangladesh, traditionally fishers came from Hindu community, but now many new fishers from Muslim community have partly taken their places. There are very few full time fishers in Laos and in Vietnam. "Full time" fishers also do other jobs, such as agricultural labourer and petty trader in Vietnam and Laos. In Bangladesh, many full time traditional fishers fish mostly in open waterbodies such as rivers but they have very limited access to good fishing grounds as rich people use brushpiles (kata, fish aggregating devices) to enclose their own open area. Also in the northeastern haor area, local fishers are not permitted to fish in the peak fishing period, even in their own land they cannot fish as fishing rights are leased to rich people who employ others to fish. During the peak fishing period in December-March local fishers depend on other jobs, such as agricultural labour or fish trading. Fish traders in Cambodia, Vietnam and Laos are mainly women but in Bangladesh they are mostly men. Floodplain fisheries are the main source of fish for part time fishers. In Laos and in Vietnam fishers are mainly dependent on catch from rice fields. However, use of agricultural chemicals has reduced species diversity. Other aquatic resources were not so important for livelihoods 15-20 years ago as they were available in plenty. Now that they are scarce resources relative to demand and population and following conversion of wetlands to cropland, poor people report that their importance for their livelihoods increased.

Fisheries management and policies in the target countries were described. In Cambodia, a major part of the revenue from fisheries sector comes from fishing lots. However, fishing lot owners no longer respect the conservation clauses in their leases and do not take a long-term perspective for sustainable management. There is no national policy directly related to management of aquatic resources. The National Program to Rehabilitate and Develop Cambodia (NPRD) sets a cohesive package, objectives of which include establishment of law, economic stabilization and implementation of structural reforms, strengthening capacity building, fostering rehabilitation and construction of physical infrastructures and facilities, integrating Cambodia's economy into the region and the world, promoting rural development and sound environmental management, and optimizing the use of natural resources.

Rapid, sustained and equitable agricultural growth; and empowerment of the poor are the two main strategies for agricultural development in Cambodia. The first strategy is the growth-mediated approach with its main thrust to invigorate and modernize the agricultural sector, generate employment, enhance household incomes and improve the access of the less privileged to food. The second strategy is the entitlement-mediated approach, which empowers farmers, rural poor and other vulnerable groups to enhance their ability to participate in the growth process. It focuses on improving these groups' access to land, water and other production inputs for sustainable livelihood, food security and overall socio-economic development.

Since 1979, the main policy of the Cambodian Department of Fisheries has been to sustain landings. The national fisheries policy is still concerned with managing and conserving the natural aquatic resource in order to supply sufficient food to people. The fishing concession (lot) system remains the primary means by which DOF manages Cambodia's fisheries, but in 2000 it was reformed. The key elements of reform include the reduction of concession fishing lot areas and promotion of community fisheries management through the establishment of community fisheries development office and sub-decree as the legal framework for this management approach. In early 2001, 56% of fishing lot areas were released to communities, which in conjunction with local authorities will manage, conserve, develop and sustainably use fisheries resources and will have their use rights and benefits protected. However, there is no guarantee of improved management without legislative structures, funding or training to support the establishment of community fisheries in these areas. They may otherwise effectively become open access areas, leading to confusion over access rights, alleged uncontrolled exploitation and illegal fishing. Concerns have been raised that there has been undue haste to develop community fisheries in order to fill the gap after removal of lot ownership. In the absence of immediate action this could lead to problems due to poor understanding of the concepts, and lack of vital information such as maps, fish catch and stock data, fisher's need assessment and understanding of environmental considerations, together with a failure to develop and implement in a participatory way effective regulations and structures.

In Vietnam, all significant policy debate is conducted within the confines of government and party. The Vietnamese government has taken a number of decisions and measures to support aquaculture development as it increasingly recognises the contribution of aquaculture to poverty alleviation and rural development; but has tended to ignore inland capture fisheries. Some policy issues include:

- The 29 points to prevent damaging actions by fishers were promulgated on 25 April 1989 under the law on the Protection and Development of Aquatic Resources. The Environmental Law was pronounced in December 1993.
- The rules talk about the critical importance of maintaining good water quality, the size of the aquatic resources that can be harvested, and timing for catching.
- Using credit to help the fishers change to practices that are not damaging to aquatic resources, such as changing from fishing into cage culture in the rivers and lakes is also promoted.
- The impacts of public stocking of exotic fishes in rivers and lakes, for example grass carp and silver carp in the Red River appear not to have been discussed or assessed.

- Improvement in environmental education on aquatic resources in the universities and provinces being promoted.
- Promoting other sectors, such as industry, agriculture and forestry, to use limited amounts of chemicals and to adopt sustainable models for development, for example in agriculture integrated pest management and “VAC” (vuong, ao, chuong or garden, fish pond, animal house) system.

In Lao PDR, there is a devolved government structure where provinces enjoy a great deal of autonomy. Most government services including agriculture, fisheries and irrigation have a strong provincial base. Many decisions regarding natural resource management and local infrastructure (school, small-scale irrigation, electricity supply) are made at village level. This de facto autonomy is partly due to an almost complete lack of resources in central government to fund such developments or enforce rules. While there is a decentralized government structure and many decisions are taken at local, district or provincial level, decisions regarding the development of large-scale infrastructure such as irrigation systems or roads are often made with very limited public participation. It is not unusual, for example, for farmers to be informed that an irrigation canal will be built across their land only at the moment the digger arrives. However, rural communities generally welcome infrastructure development and surveys have revealed very little criticism of infrastructure projects even where local participation has been lacking at the planning stage.

In Bangladesh, all water bodies, except seasonally flooded private paddy fields and most of the manmade ponds, are owned by the Government. The Government owned inland water bodies (rivers, canals, beels, oxbow lakes, reservoir) are known as jalmohals and since 1950 have been controlled and managed by the Ministry of Land (MOL) with the aim of collecting Government revenue by leasing out fishing rights. While the Ministry of Fisheries and Livestock (MOFL) is responsible for management and development and conservation of fisheries resources for sustainable yield it only has authority over some jalmohals on MOL's terms and conditions. Since the 1970s there have been attempts to change policy in order to help fishing communities gain access to fisheries and improve their share of the benefits and to improve the sustainability of management either through limiting fishing in some way or through enhancement, but these have had limited effect.

Current administration of Bangladesh fisheries is complex. Jalmohals measuring up to 3 acres (1.2 ha) and with an annual lease value of up to Tk. 5,000 (about US\$ 80) have been open access resources since 1987, the local councils pay a nominal rent to central government for this. All closed/semi-closed water bodies (pond and closed beel) measuring 3-20 acres (1.2-8 ha) are under sub-district administration and from 1997 they have been directed to lease fishing rights to registered youth cooperatives to create income opportunities for the 15-30 year age group irrespective of their fishing involvement. Waterbodies larger than 20 acre (8 ha) are administered by the MOL through the districts and are leased by tender to the highest bidder (with a preference for fisher cooperatives). During 1986-1995 some 257 jalmohals were placed under the New Fisheries Management Policy (NFMP) implemented by MOFL, “genuine fishers” were licensed via the national fishers association, but revenue still had to increase at 10% pa, 31 jalmohals remain under this system. In 1995 flowing rivers were declared to be open access with no revenue collection, and fishing pressure has been increasing. In addition around 400 jalmohals have been transferred to the MOFL for management under different development projects of DOF, most have some form of community management. Lastly the brackishwater fisheries within the Sundarbans reserved forest are managed by the Department of Forest.

The Ministry of Fisheries and Livestock, Bangladesh is the lead agency responsible for formulating fisheries policy and strategies for proper management and development of fisheries resources for sustainable fish production. Finally after long delays a national fisheries policy was approved in 1998. Under it the Department of Fisheries has responsibility for development and management of inland fisheries. Amongst other agencies involved in the fisheries sector, obviously the MOL has the key role as it controls all the public water bodies. The Bangladesh Water Development Board and Local Government Engineering Department are mainly responsible for water management infrastructure; while the Ministry of Forest and Environment has responsibilities for the Sundarbans mangrove forest and for

environmental protection including pollution control and some major wetlands in critical ecological areas

In the private sector, fisher cooperative societies and several NGOs are involved in the sector. Inland fisheries in practice are almost entirely in the hands of the private sector in the form of leaseholders (nominally fisher cooperatives but often powerful middlemen, professional leaseholders, and businessmen). The jalmohals under DOF administration are the exception and are for sustainable management through various extents of user (fisher) participation. In these there is co-management with DOF advising fisher communities and testing of systems such as fish sanctuaries and stock enhancement.

In the past the Government policy for land use, water resource and agriculture was exclusively focused to grow more rice through agricultural development and ignored other uses of wetlands and floodplains such as fisheries, aquatic plants, forests, grazing, navigation, etc. The resultant flood control and drainage negatively impacted on these other uses. Realising the consequences the Government has recognized the importance of fisheries and environment in the water resource, land use, and agriculture policies recently. The national policies are well formulated but very general and overlapping and are not fully translated into strategies and action plans. The actual fisheries policies in practice are scattered and a mix of traditional short-sighted revenue orientation and well intentioned but ad hoc changes. But, the major problem is that the leaseholding interests at various levels are so entrenched in the system that they are able to overcome or manoeuvre around changes that threaten their income and power.

The vulnerability and trends to which fishers are exposed were evaluated. There was common agreement among all stakeholders in each country that the number and biodiversity of fishes has decreased and with it per household fishing income decreased. Again a common trend was that the number of fishers has increased while their incomes from fishing decreased.

Main rivers and fish habitats were reported to have a high level of pollution, which decreased the number of fishes as well as biodiversity. Dams and embankments have restricted fish movement to and from floodplains and lakes and rivers, again affecting populations and catches according to the fishers.

As a result of these trends fishers have to either quit their profession or reduce their dependency on fishing. Most people dependent on fishing do not own big fishing gears. They have to depend access to such gears through the fish wholesaler/trader or other rich people who own bigger gears. Fishers are forced to sell their catch to the wholesaler at a lower price. Use of harmful gears is also common, although the gears considered harmful differ between countries.

3. Contribution of Outputs to Project Goal

The output indicators and their status are as follows:

- Framework and guideline on livelihood assessments prepared in April 2002
- Profiles of fisheries and livelihoods derived from secondary sources prepared by November 2002
- Livelihood assessments prepared through PRAs with main stakeholders completed by November 2002
- Dissemination of these findings through reports.

Achievement of these outputs has addressed a gap in knowledge that links the livelihoods of the poor to the fisheries resources upon which they depend. It has examined the policy and institutional environment within which fishers operate and has highlighted areas that need addressing to improve peoples livelihoods. Uptake of these outputs will be reflected at a policy level. Policy makers will be informed of the impacts of current policies on poor fishers, and of potential interventions for sustainably improving the livelihoods of poor fishers.

4. Publications

None

5. Internal Reports

Internal planning workshop Report- April/2002
Bangladesh Country Status Report
Bangladesh Country Summary Report
Bangladesh Country PRA Report
Cambodia Country Status Report
Cambodia Country Summary Report
Cambodia Country PRA Report
Lao Country Status Report
Lao Country Summary Report
Lao Country PRA Report
Vietnam Country Status Report
Vietnam Country Summary Report
Vietnam Country PRA Report
Synthesis Analysis Report

6. Other Dissemination of Results

Under the agreements for the project the partners are responsible for holding national workshops to disseminate the findings to target institutions in their respective countries and for preparing translated versions of the country summary report and project executive summary to be printed locally and distributed to policy makers and implementers at different levels. The collaborators: Can Tho University (CTU) and An Giang University, Vietnam; Department of Fisheries (DoF), Cambodia; Living Aquatic Resources Research Center (LARReC), Lao PDR; and Bangladesh Center for Advance Studies (BCAS), Bangladesh.

WorldFish Center is using its existing links and collaboration, for example with Department of Fisheries in Bangladesh and Cambodia working in community based fisheries management, and with provincial authorities in Viet Nam to help take up the results.

Further target organizations include relevant international agencies (FAO, SIFAR), regional agencies (Mekong River Commission (MRC), NACA/STREAM), international NGOs working in the region (Oxfam, Save the Children), and development partners. These were included in the initial planning workshop in Phnom Penh and have been updated on the study, but it has not proven possible to hold an event to inform them collectively of the outcomes. There is a need for the national partners, the UK partners and WorldFish center to seek outlets for dissemination with these agencies through their newsletters, seminars, etc.

National consultation workshops have been arranged in two countries: in Cambodia with the target beneficiaries and in Bangladesh with other donors, fisheries projects, NGOs, academics, and Department Fisheries. In Bangladesh the Secretary Ministry of Fisheries and Livestock and Director General Department of Fisheries and guests. Project partners and WorldFish Center have presented the summary report of the project activities. Participants gave their comments on the summary report and the summary report was revised accordingly.

The partners in the other two countries will do the same in the coming months (delayed due to new year festivals and other commitments).