

Common Pool Resources and Fisheries Management (1)

Key Sheet Series:

The purpose of these Key Sheets (Nos 1-4) is to ensure the effective dissemination of the findings of a research project funded under the DFID Fisheries Management Science Programme (FMSP) entitled 'Incorporating Common Pool Resource (CPR) Issues into Fisheries Management in Developing Countries: Key Lessons and Best Practice' (No. R8467). The main target audience are policy-makers and their advisers throughout the world with a responsibility for CPR management, especially fisheries.

DFID/FMSP Study on CPR Issues:

During 2005, IDDRA undertook this project (No. R8467) synthesising the results of 18 fisheries research projects undertaken in developing countries under the DFID Fisheries Management Science Programme (FMSP) (1992-2004) managed by MRAG Ltd. Further detailed information is available from these websites: (www.fmsp.org.uk/FTRs.htm) (www.onefish.org/id/281354)

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THE IMPORTANCE OF FISHERIES TO THE POOR IN DEVELOPING COUNTRIES

Overview

Common Pool Resources (CPR)^[1] such as fish stocks, forests, rangeland and water resources are important for the well-being of society - as a source of food, employment and income, vital inputs to agriculture systems and for trade. They underpin the livelihoods of millions of people throughout the world, and are often particularly important to poor people with few alternative economic opportunities.

People dependent on particular CPR - fisher communities, forest people and cattle herders - often represent a target for government policy and development interventions which focus on poverty reduction. However, there is a widespread lack of real knowledge and understanding of the relationships between people and CPR. This is a major constraint to the design and implementation of appropriate policies for CPR management. As a result, many people are increasingly vulnerable to poverty associated with CPR overexploitation, degradation and privatisation.

In this first Key Sheet, the relationship between people and CPR will be explored using fisheries as a case study (termed 'CPR (Fisheries)' hereon), with particular reference to livelihoods and poverty.

Key Issues

1. The Importance of Fisheries on a Global Scale

Fisheries are important, both economically and socially, at global and national levels, and help to underpin the livelihoods of millions of mainly rural (often poor) people in Developing Countries, and especially in Asia.

Since 1960, global fisheries production has increased rapidly to the current level of 132 million metric tonnes valued at over US\$58 billion (first sale) (Box 1.). Developing countries account for over 60% of fisheries production – the major producers are: China, Peru, Indonesia, Chile, and India. Fish is also the most valuable agricultural commodity traded internationally (US\$80 billion p.a.). The trade in fish products between developing countries and markets in developed countries is a major source of foreign exchange for the former worth over US\$8 billion per year (net export value from Low Income Food Deficit Countries). Fisheries also provide employment for over 38 million fishers in developing countries, mainly in Asia (84%). Total employment including associated trades, input suppliers and fish processing probably exceeds 150 million. Finally, fish is an important food source – 60% of people in developing countries depend on fish for at least 30% of animal protein supplies.



In West Africa, small-scale coastal fisheries are an important source of livelihoods. Source: P. Cenini (1995), courtesy of FAO Media Archive.

Box 1: CPR (fisheries): Economic and social values (national and international)

Production (and financial value): Global: 132 million tonnes (US\$58.2 billion);
Top 5 developing country producers: China, Peru, Indonesia, Chile, India;
Employment: 95% of the world's 38 million fishers live in DCs and mainly in Asia (84%);
Total employment in fisheries (fishing and related activities): 150 million people
Exports and trade: Global fish exports (value): US\$80 billion;
 Fish is most valuable agricultural commodity traded (>sum total of tea, coffee, cotton combined);
Food: 60% of people in DC's depend on fish for 30% of their animal protein supply.

Source: FAO (2004)



In India, the fish marketing sub-sector provides employment for many women, whereas men are mainly employed as fishers (a common pattern in most Developing Countries). Source: G. Bizzarri (1996), courtesy of FAO Media Archive.

2. New Knowledge on People-Fisheries Relationships

As a result of recent research undertaken by the DFID/MRAG Fisheries Management Science Programme (FMSP) new knowledge has emerged in a range of areas on the relationships between people and CPR (fisheries). Of particular importance is a greater understanding of some of the subtle relations which exist between rural communities and CPR (fisheries) at a local level in terms of fisheries management and exploitation.

While global statistics on fisheries are a useful starting point for the work of policy-makers, information on the specific relationships between people and fisheries in developing countries has not been widely available, and the overall level of understanding in key areas has been low - for example, what is the contribution of fisheries to livelihoods? Are the poor dependent on fisheries and why? Recent FMSP research has contributed new knowledge, and in particular helped to reveal some of the subtle relationships concerning CPR (fisheries) exploitation and management which need to be considered in future policy development. There are six main findings (below) focusing in particular on small-scale and often locally-managed fisheries^{[2][3]}:

Fisheries dependent people: in many developing countries, there are large numbers of people with limited assets who are dependent upon fisheries for their livelihoods, usually in situations with few other economic opportunities; fishing is the primary occupation for rural households; and the CPR (fisheries) often operates under free and open access conditions (access restrictions are not in force); [Box 2: Bangladesh];

Occupation of choice: in other situations, CPR (fisheries) have been selected by government or by particular groups in society as a focus for economic activity and development, in order to yield profitable returns to inputs. In this case, access restrictions are often enforced, and users regulated within a specific management system; [Box 2: Fiji and Vanuatu];

Economic integration and synergy: fisheries can often be integrated with other economic activities by rural households and communities as part of a diversified portfolio of economic activities which enable them to manage risk and to optimise the use of their available assets (e.g. Financial capital and labour); [Box 2: Java, Indonesia];

Social differentiation and interaction: within any country, CPR (fisheries) can be more important to some groups than others and for different reasons - for example, some have evolved into specialist fisher peoples, others have tended to focus on different occupations such as farming - there can be important synergies between the different social (and occupational) groups within a society and economy which may increase the flow of benefits within the system overall; [Box 2: Malawi];

Institutions and management systems: in many countries, CPR (fisheries) are covered by a complex mosaic of institutions (rules) and management systems, often involving both modern (state) and traditional (local level) arrangements. In some countries, the exploitation and use of CPR (fisheries) is strictly and effectively controlled, and only certain individuals, groups or communities have access rights. However, in a majority of countries, the situation is less clear-cut, and CPR (fisheries) tend to operate under free and open-access conditions, sometimes with local-level restrictions depending on the power of local authorities or particular actors (often declaring private property rights); [Box 3: Indonesia; Laos, Ghana];

Box 2: Fish and fishers (CPR and actors) – examples of this relationship by country from FMSP projects (4)

Bangladesh: 74% of the total population (135 million) live on floodplains where access to CPR (fish, water, trees, grazing) is important for landless people (50% of the floodplain population); most rural households have limited assets and no alternative income sources; CPR including fisheries are a major sink for labour; fish provide up to 50% of the average daily protein intake; relationship of CPR (fisheries) to water management on floodplain is important (e.g. impact of irrigation schemes on fisheries) (FMSP R7334, R5953);

Fiji and Vanuatu: Inshore fisheries are important to coastal fisheries throughout the Pacific, and Customary Marine Tenure systems are widespread to control access; more recently, rights and access to high seas tuna stocks have been controlled; and represent an important contribution to national economies (US\$65 million, 2004) (FMSP R6436);

Java, Indonesia: Fisheries are not a sink for excess labour (activity of last resort); instead fisheries are one of a range of options exploited by and integrated with others (farming, manufacturing) to varying degrees depending on season and economic conditions (FMSP R7336);

Malawi: Migrant fishers are a distinct social group, compared to sedentary rural farming populations; the fishers exploit and invest in particular fishing opportunities, and are generally better-off (wealthier) than farmers; fishers use wealth as a lever to integrate within rural population/economy, especially to secure access to land (FMSP R7336).



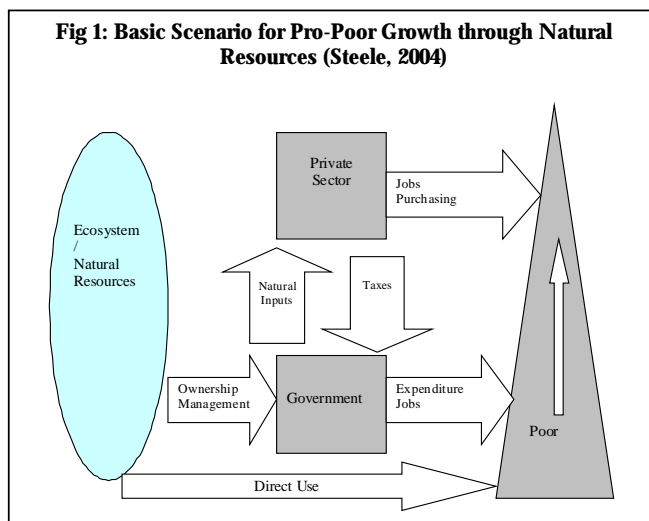
In Ghana, traditional fish processing employs many people. Source: P. Cenini (1995), courtesy of FAO Media Archive.

Change and adaptation: the wider context of CPR (fisheries) is changing rapidly – for example, the globalisation of markets, the modification of the environment through urbanisation and pollution, the increase in human populations and the demand for natural resources – and this has led to a variety of responses by government and different parts of society, with both positive and negative outcomes for people associated with CPR sectors. In some countries, where change has reduced the overall livelihood options for rural households (for example, due to limited economic growth and diversification), there has been an increased dependency on CPR (fisheries) as the only available option [Box 3: Cambodia and Bangladesh]. In theory, change (e.g. economic diversification and growth) could also reduce CPR (fisheries) dependency, ease pressure on the sector, and provide some 'space' for the development and implementation of appropriate fisheries management systems.

3. The Future Challenge(s) for Fisheries Policy Development

There are a range of challenges which must be addressed if CPR (fisheries) are to contribute to sustainable development in the future. In particular, more effective systems of fisheries management have to be designed and implemented in the context of weak States and increasing competition between resource users. At the same time, policy must cope with the diversity of relationships between people and CPR (Section 2 above), and capitalise on the opportunities which they provide for development in many cases.

Common Pool Resources are important forms of natural capital for all countries. With appropriate exploitation and management they can make an important contribution to economic growth and development. CPR (fisheries) can be exploited as a source of direct economic benefits (e.g. activity-based benefits such as employment) and as a source of indirect economic benefits (e.g. resource rent generated, extracted as taxes, and re-invested in the economy) (Fig. 1).



At present, fisheries policy in many countries tends to emphasise direct benefits, but in the context of weak or non-existent fisheries management systems, this has encouraged overexploitation, user conflict and a massive loss of potential benefits for society (Cunningham and Neiland, 2005). In some countries, valuable fisheries have come under the control of powerful groups, who choose to manage or 'mine' the CPR (fisheries) and monopolise all the benefits, at the expense of society as a whole. However, as highlighted in Section 2 (above), the situation does vary from country to country, and the recent research findings of the FMSP have helped to reveal some of the diversity and complexity of the

Box 3 Fish and fishers (CPR and actors) – examples of this relationship by country taken from DFID projects

Indonesia, Laos and Ghana: The need to control access to coastal fisheries in Indonesia is under consideration by increasing the power of district government to regulate port access through levies and licences granted through the state-run fish marketing system. River fisheries in Indonesia have local level traditional tenure systems to protect fish resources for local community use by excluding outsiders. In Laos, there are similar arrangements, but local communities find it increasingly difficult to defend these arrangements. In Ghana, operators in coastal fisheries are overseen by village authorities, with an emphasis on conflict management (FMSP R7336, R7043, R7335, R7334);

Cambodia and Bangladesh: In Cambodia, valuable inland fish resources are increasingly under the control of private individuals who exclude other users – especially poor rural households (who included fisheries in farming-fishing livelihood strategy). In Bangladesh, privatisation of fisheries is also common. In both Cambodia and Bangladesh, water management schemes are impacting negatively on fisheries; fisheries and other sectors need to be included in water/CPR management strategy (FMSP R8118, R5953, R8210).



In Malawi, fishing on Lake Malawi is usually a part-time and seasonal activity. Source: A. Conti (1994), courtesy of FAO Media Archive.

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relationships between people and CPR (fisheries). There are at least three challenges, therefore, for future fisheries policy-makers to ensure that CPR (fisheries) make an effective contribution to sustainable development, economic growth and poverty reduction:

(i) Setting policy objectives and fisheries development planning: What is the best use of fisheries resources for national development – as a source of direct or indirect benefits? What steps need to be taken in order to achieve these objectives within a coherent development planning framework for a particular country?

(ii) Fisheries management: What sort of fisheries management system should be applied to a particular fishery in order to meet policy objectives?

(iii) Addressing change: Can the usage of a particular fishery be changed (for example, where the use of fisheries resources has not been effective for development in the past) and what are the expected transition costs? (For example, the expected compensation payments to fishermen and their families excluded from a newly regulated fishery which previously operated under open access conditions).

In Key Sheet No. 2, the important lessons which can be derived from recent experiences of fisheries management in Developing Countries will be considered, and used to examine the future options for fisheries development and fisheries management (Key Sheet No. 3).

References

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Footnotes

- (1) Common-Pool Resources(CPRs) are natural [fish, trees, etc.] or human-made [libraries, internet, irrigation systems, etc.] resources where one person's use subtracts from another's use [subtractability] and where it is often necessary, but difficult and costly, to exclude other users outside the group from using the resource [excludability]. (Definitions, Digital Library of the Commons) (<http://dlc.dlib.indiana.edu/cprdef.html#cpr>)
- (2) For the detailed findings of the synthesis and analysis of the underlying 18 FMSP research reports see Neiland, Lewins and Bennett (2005).
- (3) 'Fish stocks' which make up the global common pool resource (fish) are very diverse and numerous, and are exploited by many forms of fisheries. However, it is possible to identify a simple typology for fisheries based on environmental/technological features, and systems of management as follows: (I) Inland fisheries (dispersed); For example: Floodplain fisheries in Bangladesh; (II) Inland fisheries (discrete); For example: Lake Victoria, East Africa; (III) Marine coastal fisheries; For example: San Miguel Bay Philippines; (IV) Marine offshore fisheries; For example: Ghana EEZ/High Seas fisheries (for further details see Neiland and Bennett, 2003). It should be noted that the current Key Sheet focuses mainly on Types (I) – (III), which have been the main focus of the FMSP research programme [i.e. Small-scale fishers, often vulnerable to poverty].
- (4) Each FMSP project is allocated a specific reference number (e.g. R7336, R6436). Specific project reports can be consulted at (www.fmsp.org.uk/FTRs.htm)