

SYNTHESIS OF FMSP EXPERIENCE AND LESSONS LEARNED FOR FISHERIES CO-MANAGEMENT

FINAL TECHNICAL REPORT



Project R8470

Fisheries Management Science Programme

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R8470 Synthesis of FMSP experience and lessons learned for fisheries co-management

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1. Table of Contents:

1.	Table of Contents:	3
	Acknowledgements	3
	Structure of report.....	3
2.	Executive Summary:	4
3.	Background:	5
4.	Project Purpose:	7
5.	Outputs:	8
	Output 1: Key stakeholders have a better understanding of the issues relating to policy formulation and evaluation and how it affects co-management and are more informed about effective strategies for co-managing fisheries to benefit the poor and tools for implementing these arising from FMSP research.....	8
	Output 2: Review of the lessons learned relating to policy formulation and evaluation and how these affect co-managed fisheries with a concise, non-technical summary highlighting the key lessons.....	15
	Output 3: Accessible and concise synthesis capturing the lessons and experiences from FMSP projects.....	17
6.	Research Activities:	18
	Developing the communications strategy.....	19
	Developing communications products.....	19
7.	Contribution of Outputs:	22
	Contribution to FMSP’s Purpose and Output	22
	Purpose OVI.....	22
	Output OVI.....	22
	Impact of the Project.....	23
	Means of continued uptake promotion of project products.....	23
8.	Publications and other communications materials	24
9.	References	25
10.	Project Logframe	27
11.	Keywords	28

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Structure of report

The structure of the final technical report is determined by the format that has been set out by the FMSP, reflecting DFID’s requirements. The report has been produced in order to provide a statement of the purpose, activities and results of the project. The supporting documentation providing more details of the activities and results is contained within the annexes to the main report. It is intended that the supporting documents in the annexes should be read in conjunction with this report in order to provide more detail and to support a number of the points made.

2. Executive Summary:

The application of 'command and control' management has not been considered wholly successful in the management of fisheries, particularly small-scale fisheries that are part of the livelihoods portfolio of so many in developing countries around the world. Co-management, by actively including the knowledge, perspectives and objectives of a range of local stakeholders, together with the wider perspective, technical knowledge and scientific approach of government and other external agencies has the potential, in the appropriate context, to result in more equitable and sustainable management outcomes. These can result in more resilient systems and outcomes that are far more relevant to the needs and objectives of those dependent upon these systems.

The project has sought to synthesise a number of the lessons learned across a range of projects that have, for the most part, been implemented individually over the eleven years of the Fisheries Management Science Programme (FMSP). These lessons, together with tools, methods and informative experiences have been brought together into accessible communications products that aim to highlight the FMSP experiences in relation to fisheries co-management and lead the reader towards the more detailed products available. As such the project has not aimed to generate any particular new insights into any aspect of the co-management process but instead to communicate what exists to a range of stakeholders.

The project has developed a communication strategy that has identified a range of target communications stakeholders including policy makers, implementing agencies and agencies with a capacity building remit who might benefit from the lessons learned. The communications strategy was developed together with two other projects to ensure a coordinated approach to the promotion of products relating to co-management and a single communications database was established through which the strategy could be implemented. Based on lessons learned in earlier uptake promotions projects, a range of communications products were developed.

The products that have been developed include a 40 page synthesis product, a range of policy briefs covering the co-management process, aspects of co-management policy, data collection and ParFish as well as a two page flyer and a poster. All of these have been designed to raise awareness of the more technical material available from the FMSP and provide the reader with an entry point into it.

It is expected that the range of products developed and the careful selection of target stakeholders and communications channels should contribute significantly to increased uptake and adoption of outputs from the FMSP with positive benefits being generated for those dependent upon the co-managed fisheries as a result.

3. Background:

Co-management, the sharing of management decision-making between government and those dependent on the resource system, and stakeholder participation in management planning and activities, along with action research, have increasingly been promoted and adopted for the management of fisheries resources (including both marine and inland as well as capture and enhancement fisheries). However, the complex and dynamic environments (in terms of the legal, bio-physical and human aspects) into which co-management initiatives are introduced mean that co-managing a resource system is often neither simple nor straightforward. The issues and challenges associated with co-management, ways to deal with them and to identify solutions that have a broad application, are subject to increasing discussion and debate. The FMSP has important contributions to make in this area based on the experiences and insights gained through a number of FMSP projects.

A number of important lessons have been learned about co-management as a process and some useful approaches, tools and methods have been developed through FMSP research that can support co-management initiatives. Amongst these have been the design and implementation of fisheries data collection and sharing mechanisms for co-management; experiences with implementing participatory fish stock assessment tools and toolkits and experiences from developing adaptive learning approaches to enhancement fisheries management.

The one year extension of the FMSP provided an ideal opportunity to collate the lessons learned and experiences and promote these widely in order to inform policy that supports co-management as well as future co-management initiatives. While relating to fisheries, and highlighting certain issues that are unique to fisheries, it is anticipated that the results from this project will have potential applications beyond fisheries co-management and can inform more widely approaches to sustainable natural resources management.

The increased interest in co-management has arisen from the failure in many cases of top-down, command and control arrangements for managing fisheries, particularly the small scale fisheries of the type on which so many people around the world depend as well as moves towards co-management that have arisen from budgetary reforms and constraints.

Under co-management arrangements government, local resource users others dependent on (e.g. seed suppliers, boat builders etc.), or with a stake in the outcomes of resource management (e.g. researchers) share the responsibility and authority for decision making in the management of a fishery (Berkes *et al.* 2001). These stakeholders are interested in the results of management actions and their implications when they are involved in the management and have a sense of ownership of the information (Campbell 1994). This can lead to beneficial effects upon the resource system; indeed Goldman (1998) believes that unless there is a community stake in it, the system can be at risk.

Where co-management initiatives are undertaken, and involve devolving both management responsibilities and management rights, the intention is to provide effective management that results in management outcomes that ensure more sustainable resource use, outcomes that are more relevant to those that depend on the resource systems and management that enables the system to be adaptive and resilient (e.g. De Young *et al.* 1999). However, the complex and dynamic environments (both in terms of the bio-physical and human aspects) into which co-management introduced means that co-managing a resource system is, as mentioned, neither simple nor straightforward.

Resource systems vary greatly in their nature – marine or freshwater, capture or enhancement - as well as the scale of the resource system and the nature of those dependent upon it and the traditional institutions that may be in place to manage the fishery or access to it. Developing successful co-management arrangements in varied systems means the stakeholders involved and their roles and responsibilities will be very context dependent and may need to change over time. As Sen and Nielsen (1996), Dietz *et al.* (2002), Pomeroy (2003) and others have pointed out, there is no single optimum arrangement and the best strategy for managing the resource system will depend upon the characteristics of both the resource and the users.

While a number of the issues concerning co-management may be technical in nature (e.g. ways to restore an overfished resource), many are concerned with institutional (assigning property and management rights and developing or creating and sustaining co-management institutions) and social (agreeing management objectives, conflict resolution, representation and equity) (e.g. Hanna, 2003). The process of establishing co-management may also face difficulties from both the government side and from the involvement of other stakeholder groups. Pretty and Chambers (1994) believe that there is a danger that if the influence of local groups becomes too great they can be seen by the government as a threat to state institutions. This is the case in some centralised examples where action by local communities and groups has been prevented (Shepherd 1998). In addition, there may be a history of centralized mis-administration and mis-management that leaves a legacy of mistrust between the government agencies and other stakeholders that may need to be overcome. Amongst the other stakeholders there are also issues in that (amongst others) stakeholders may not wish to invest time and effort, particularly if there are issues surrounding the distribution of costs and benefits, common values are lacking or they perceive only limited personal benefits from their involvement in the process (Cornwall and Jewkes, 1995, Eyben and Ladbury, 1995, McLain and Lee 1996).

Co-management also requires that government agencies and researchers adopt a new way of thinking, develop new skills, adopt new and unfamiliar roles, and find new ways of interacting with other stakeholders (Arthur and Garaway, 2004, Garaway and Arthur, 2004; Hara and Raakjaer Nielsen, 2003, Hanna, 2003). Important roles for government agencies and researchers include mediation and conflict resolution as well as providing technical support, credit, marketing assistance and enabling legislation (Pomeroy and Berkes, 1997; Pinkerton, 2003, Arthur and Garaway, 2004). While those dependent on the fishery may have knowledge of local resources and needs, they often do not have access to a larger scale perspective and the technical and scientific knowledge that can assist in realizing beneficial resource management decisions. To be successful, co-management initiatives require collective action in order to coordinate and regulate individuals' behaviour together with support (including rights and knowledge transfer) to co-management institutions and implementing agencies that builds their capacity and capability to make decisions regarding the resource system and effectively enforce these (Hara and Raakjaer Nielsen, 2003; Cornwall and Jewkes, 1995). Berkes *et al.* (2001) and Hara and Raakjaer Nielsen (2003) have both emphasized the need to balance resource management and community development and to focus on capacity building of individuals and stakeholder groups, and the institutional arrangements that are used (for informed decision making, conflict management, learning processes, legal support, networking etc). These all take time to develop, especially against a background of top-down regulation and control and working with local stakeholders is not necessarily easy and requires special training and skills. However, methods that enable this and that are effective for a wide range of resource systems and varied co-management arrangements are crucial.

A number of FMSP projects have been concerned with investigating effective co-management arrangements that benefit those dependent on the resources and developing approaches, tools and methodologies to support co-management initiatives and to promote

capacity building and better decision-making within such initiatives. This has provided considerable experience in both implementing co-management and researching systems, tools and approaches to support pro-poor co-management that could be drawn upon. Synthesising and promoting the main lessons learned over the past eleven years of the Programme and highlighting some of the key methodologies that have been developed can add to the knowledge base relating to co-management and help ensure that the lessons learned are incorporated into the approaches and practices of those involved in co-management. This will increase the likelihood of policies and development interventions being developed and implemented that meet the needs of the poor.

Initial evidence for demand for the products produced exists in that the project was developed as a response to a call for proposals that was issued by the FMSP. This call was for a synthesis of the lessons learned on co-management. However demand for such a synthesis exists among a range of stakeholders operating at a range of scales from the international to the local. Apart from DFID, a large number of identified target institutions have interest in co-management and will have similar needs regarding information on policy processes as well as tools and methods to support co-management. Other donors have also had interest in and been active in supporting co-management initiatives and the development of policies that will provide an enabling environment for co-management arrangements that will benefit the poor including, but not limited to, SIDA, DANIDA, NORAD and GTZ.

At a regional level, the guiding principles of Support to Regional Aquatic Resources Management's (STREAM's) mission statement recognises that aquatic resource management requires the full involvement of those whose livelihoods depend on aquatic resources in the definition of objectives and policies. Similar statements are made by other organizations involved in the management of aquatic resources including the Mekong River Commission (http://www.mrcmekong.org/annual_report/ar10.htm) and WorldFish Center (http://www.worldfishcenter.org/mission/capabilities_approach.htm). Commitment to fisheries co-management has been provided by international organizations such as the World Bank (e.g. News Release No:2005/157/AFR), DFID (www.fmosp.org.uk), NORAD (e.g. http://www.icsf.net/jsp/publication/samudra/pdf/english/issue_20/art08.pdf) and GTZ (<http://www.worldfish.org/CIDA%20Brazil%20PDFs/IDRC%20Summary%20English.pdf>).

At a national level, there is widespread interest in co-management and numerous examples where co-management initiatives are underway. Country visits by the FMSP Programme Development team highlight this and have identified information on co-management as a national research priority in a number of the DFID focus countries including Cambodia, Lao PDR, Vietnam, Bangladesh, Tanzania and Kenya.

4. Project Purpose:

The purpose of the project was to synthesise the lessons learned from FMSP projects that relate to co-management and to produce these in formats accessible to DFID and other key stakeholders to whom the lessons will be promoted. It is believed that the lessons learned are valuable and will contribute to informing and shaping future policies, projects and decision-making relating to fisheries co-management.

Over the 11 years of the Fisheries Management Science Programme over 50 projects have been commissioned. These projects have addressed constraints in the development of capture and enhanced fisheries in both marine and inland environments in developing countries. A number of these projects have been implemented in co-managed fisheries or have specifically addressed issues associated with co-management. While these projects have, for the most part, been implemented separately, they have generated a wealth of

information, including approaches, tools and methods as well as experiences that relate to co-management. In particular it was felt that there was an opportunity to build on the recent success of the data collection and information sharing (R8285), uptake of adaptive learning (R8292) and uptake of ParFish (R8397) projects. The project aimed therefore to capture the lessons learned from these projects and from other FMSP projects relating to co-management and to promote these through accessible synthesis products that would highlight the FMSP resources available and provide an entry point to them for development practitioners, researchers and policy makers.

In turn it is hoped that the lessons learned from the FMSP will inform their ideas and actions in the future and contribute to more sustainable fisheries that meet the needs of the poor who are dependent upon them. The FMSP has considerable experiences in both implementing co-management and researching systems, tools and approaches to support pro-poor co-management and is thus well placed to be able to contribute lessons learned and experiences.

The project has aimed to identify and promote to donors, regional and national implementing agencies and the research community some of the key methodologies that have been developed and important lessons learned over the past eleven years of the Programme. This is based on synthesising the lessons learned through a series of accessible products developed over the project lifespan that will inform as well as highlight where further information can be found.

Providing this target group with the information should be the best way of ensuring the lessons learned are incorporated into the approaches and practices of this group thus increasing the likelihood of policies and development interventions that meet the needs of the poor in the DFID target countries and beyond.

5. Outputs:

This section will consider each of the outputs stated in the project logframe (see section 10) in turn.

Output 1: Key stakeholders have a better understanding of the issues relating to policy formulation and evaluation and how it affects co-management and are more informed about effective strategies for co-managing fisheries to benefit the poor and tools for implementing these arising from FMSP research.

A key aspect of this output was the development and implementation of a communications strategy in collaboration with FMSP projects R8462 and R8464. These two projects had been provided with funds through R8470 in order to ensure a coordinated approach to the development and promotion of materials highlighting experiences and lessons learned relating to co-management. The communication plan that was developed is provided in Annex 1.1. At this stage, while the communications products have been developed, stakeholders identified and a database of contacts has been established, the flyer has not been sent out or the listservs contacted. This is due to delays in the completion of the synthesis products and to placing the products on the FMSP web page. There is no point promoting the new materials until they are in place but this is expected to be completed over the next two weeks and will be reported in an additional report that will provide details of the communications activities and stakeholder responses and an updated communications matrix. The existing materials have however been promoted over the lifespan of the project in a variety of ways.

A range of target communications stakeholders were identified during the development of

the communication plan and drawing from experiences in the adaptive learning, data collection and information sharing and ParFish projects, the following numbers of stakeholders were identified in each category (Table 1).

Table 1. Stakeholders identified in the development of the communications strategy.

Stakeholder Category	Sub-category	No. of stakeholder identified
Policy Influencers	Policy Influencers	75
Implementing organisations	National Implementing organisations	11
	Regional Implementing organisations	8
	International Implementing organisations	14
	National research organisations	18
	Regional research organisations	3
	International research organisations	10
Promotion organisations	Promotion organisations	12
Capacity building organisations	Capacity building organisations	3

A database was developed together with the project leaders from R8462 and R8464 to maintain the details for each of the communications stakeholders and to monitor communications with each stakeholder by each project. This was to ensure that communications could be effectively monitored over the lifespan of the project and to avoid cross posting.

During the communications planning, a matrix was created (Table 2) to illustrate the communications materials that it was felt would be most effective in raising awareness, creating a dialogue and transferring knowledge with different target communications stakeholders and that would guide the production of communications materials during the project. Development of the matrix was based on experiences in previous uptake projects (most notably R8292) and a discussion with the communications and project staff on the three project (R8462, R8464 and R8470) on what communications channels had been used in the past and which ones had been most effective.

Table 2. Communications channels planned for use in the project to communicate with the key communications stakeholders.

	Policy Makers	Promotion organisations	Implementing agencies	Capacity building
Electronic				
Website	1, 2	1	1,2	1,2
CD				
Email	1, 2, 3	1	1,2,3	1,3
List Servers		1	1,3	1
Telephone	1, 3	1,3	1,3	1,3
Face-to-Face				
1-1 meetings	1, 2, 3, 4	1		
Group meetings	1, 2, 3, 4			
Workshops				
Conferences			1,2	1
Study Tours				
Print				
Journals				
Newsletters	1	1	1	1,2
Reports	4		2,4	1,2,4
Guidelines			2,4	2,4
Policy Brief				
Flyers/Briefs	1	1	1	1
Popular Media				
Radio				
Video				
Newspapers				

Where the numbers in the table represent the communications objectives: 1 = Informing; 2 = Knowledge change; 3 = Creating dialogue and 4 = Changing behaviour (i.e. policy and technical change).

A range of communications materials was produced by the project in accordance with requirements of the communications plan and the needs of the identified stakeholders. In the first place a poster that highlighted the three (currently separate) key sources of information relating to co-management (adaptive learning, data collection systems and information sharing and ParFish) was produced (see Appendix to Annex 1.1). This poster was used by the three projects to highlight the available resources relating to co-management and to lead people to the FMSP website. On the FMSP website there were separate pages established for the data collection and information sharing resources (R8462), ParFish (R8464) and co-management synthesis project (R8470) while the existing adaptive learning site carried resources relating to that approach. Examples of these pages are provided in Annex 2. The use of the poster to raise awareness, the numbers of stakeholders communicated with and the types of stakeholder are shown in Table 3. Further detail on the promotion of the various communications products and target communication stakeholder responses are provided in Annex 1.2.

Table 3. Awareness raising of FMSP co-management related research through the use of a poster: meetings where the poster was displayed and stakeholders present.

Meeting	Date	Approximate number of people present	Types of stakeholder groups represented
Final Workshop for Guidelines for Designing data collection and sharing systems for co-managed fisheries in Dhaka, Bangladesh	26th- 28th June 2005	25	Fisheries Research Fisheries Management
TAB Meeting in Ho Chi Minh City, Vietnam	September 2005	40	Policy influences Fisheries Management
Programme Coordination Meeting, Thailand		40	Policy influences Fisheries Management
Stock assessment tools training workshop, Bangladesh	September 2005	25	Fisheries Management
Fish Fortnight, Bangladesh	September 2005 (7 days)	2000+	Policy influencers Fisheries Research Fisheries Management Capacity building Promotion organizations Fishers
Society of Conservation Biologists Annual Conference, Brasilia	July 2005	1,000	Fisheries Research Fisheries Management Capacity building
DFID workshop: climate change impacts on fisheries, London	12th September 05	40	Policy influencers Fisheries Research Fisheries Management
Adaptive learning workshop, West Bengal	September 2005	50	Fisheries management Fisheries research Capacity building Promotion organizations
Adaptive learning workshop, South-East Asia (A4 version of poster), Cambodia	May 2005	20	Policy influencers Fisheries management Fisheries research Capacity building
Inception workshop for Challenge Programme Water & Food, Penang, Malaysia	June 2005	30	Policy influencers Fisheries management Fisheries research
FAO meeting on assessment methods for small-scale fisheries and FISHCODE, Rome, Italy	September 2005	50-60	Fisheries research Fisheries management International research Policy influencers
ParFish Training Course, India	June 2005	40	Fisheries management Fisheries research

In addition to the poster, a project page was developed and updated on the FMSP website that explained the purpose of the project and made a number of the key products developed

available (see Annex 2). A two page flyer was also developed to highlight the main products from the project, to show how these were related each other and also to provide some details on the adaptive learning, ParFish and information systems research. All of these were designed to raise awareness of the products and make them more accessible to the target communications stakeholders.

The synthesis products developed by R8462 and R8464 (see also the section relating to Output 3 and Annex 3) have also been distributed using the communications database and according to the communications plans (see Annex 1). Electronic copies of the ParFish and data collection and information sharing synthesis products developed in collaboration with project R8264 and R8264 were distributed to the stakeholders electronically as shown in Table 4.

Table 4. Distribution of synthesis products developed in collaboration with projects R8462 and R8464.

	Co-management document	Co-management synthesis	Co-management policy brief	Information collection policy brief	ParFish synthesis brief
Policy Influencers	11	11	66	60	74
National Implementing Agencies	115	115			18
Regional Implementing agencies	28	28			25
International Implementing agencies	15	15			
National research	8	8			7
Regional and International research	7	7			
Promotion organisations	10	10	10		
Capacity building organisations	4	4			
Consultants	2	2	2		

Communications activities focused also on raising awareness through a variety of electronic channels including email (using contacts in the project communications database), listservs (e.g. FishFolk) and internet information portals such as Eldis, OneFish and STREAM and making the communications materials available through a range of websites including, though not limited to, OneFish, adaptive learning, FMSP and CBNRM. The materials have also been featured in electronic newsletters such as the STREAM media monitor (see Annex 1 for details).

These channels were used to promote the co-management synthesis products and distribute the flyer. This is likely to lead to increased awareness of all the FMSP products available and so increase the figures in Table 4. How the project has progressed and how the project aims to meet the communication needs identified in Table 2 above is shown in Table 5 below.

Communications activities undertaken over the life of the project included the use of the

poster (Table 3), one-to-one meetings with stakeholders including representatives of WorldFish Center, FAO, DFID, Universities and various implementing organisations from developing countries at which the development of the co-management synthesis was discussed. These also provided an opportunity to highlight the products that had been developed, including ParFish, adaptive learning, the data collection and information sharing guidelines and the synthesis of stock assessment methods guidelines. This has led to increased interest in these products. The opportunity was also taken during the FAO meeting on assessment methods for small-scale fisheries and FISHCODE held in Rome, Italy to highlight some of the lessons learned and the products available. It is hoped that this will contribute to the development of assessment methods by the FAO.

Unfortunately, as shown in Table 5, there were no opportunities to attend conferences during the lifespan of the project so this channel was not used.

Table 5. Progress against communications matrix.

	Policy Makers	Promotion organisations	Implementing agencies	Capacity building
Electronic				
Website	Adaptive learning, FMSP, OneFish, CBNRM, CBNRM Asia, Eldis	Adaptive learning, FMSP, OneFish, CBNRM, CBNRM Asia, Eldis	Adaptive learning, FMSP, OneFish, CBNRM, CBNRM Asia, Eldis	Adaptive learning, FMSP, OneFish, CBNRM, CBNRM Asia, Eldis
CD				
Email	The co-management policy brief was written specifically for policy makers and was sent by email to 66 policy makers.	11 promotion organisations received the co-management document, co-management synthesis and co-management brief	115 national implementing agencies; 28 regional implementing agencies; 15 international implementing agencies; 15 research organisations were sent the co-management document and synthesis to provide access to lessons and tools from the FMSP projects.	4 Capacity building organisations received the co-management document and synthesis.
List Servers		FishFolk,	FishFolk	FishFolk
Telephone	Y	Y	Y	Y
Face-to-Face				
1-1 meetings	Y	N		
Group meetings	Y			
Workshops				
Conferences			N	N
Study Tours				
Print				
Journals				
Newsletters	STREAM Media Monitor, CBNRM News, Eldis, ID21	STREAM Media Monitor, CBNRM News, Eldis, ID21	STREAM Media Monitor, CBNRM News, Eldis, ID21	STREAM Media Monitor, CBNRM News
Reports	Project FTR		Project FTR	Project FTR
Guidelines			Distribute co-management synthesis	Distribute co-management synthesis
Policy Brief	Co-management policy brief, co-management summary brief	Co-management summary brief	Co-management policy brief, co-management summary brief	Co-management policy brief, co-management summary brief
Flyers/Briefs	The briefs were distributed through email as indicated above. The flyer is available on the FMSP website.	The briefs were distributed through email as indicated above. The flyer is available on the FMSP website.	The briefs were distributed through email as indicated above. The flyer is available on the FMSP website.	The briefs were distributed through email as indicated above. The flyer is available on the FMSP website.
Popular Media				
Radio				
Video				
Newspapers				

While it is still too soon to establish the extent of adoption of the research messages, it is useful and instructive to consider some of the responses to the Project communications activities. On the whole the responses have been positive with only one person responding to say that they did not wish to receive further information. Table 6 illustrates some of the email responses that have been received following project communication activities.

Table 6 Initial responses to project communications activities.

Response	Organisation
Thanks for the mail and the attached documents which are useful information that will be use in our work	DFID Sustainable Fisheries Livelihoods Programme
Thanks very much Charlotte for those documents.	
Thanks a lot for these interest documents.	
Many grateful thanks	Fisheries Resource Division, FAO Fisheries Department
I have received your message with documents attached and I take this opportunity to thank you very much for your kind effort to inform us. Comments may follow late and have a nice week-end.	Burundi Fisheries Department
Thanks for the documents	CORDIO, Kenya
Nice to see some of the work we have supported is cited in this (Berkes et al, Pomeroy and Berkes etc). Let me know if any of your colleagues would be interested in further discussions.	Rural Poverty and Environment, International Development Research Centre
Thanks for sending this material. It comes very timely for us here in Dhaka (Department of Fisheries) when we are into discussions about the future of co-management.	Forth Fisheries Project, Bangladesh
No problem and thanks for thinking of the MM Report. There is a co management section that they will fit nicely into. Additionally if you would like to display the publications on the STREAM website, take a look at http://www.streaminitiative.org/Library/organizations/index.html where you will see the Policy Brief for data collection you forwarded recently. You can either embed the pdfs here or we can display the link to your site along with some descriptive text as some of the other organizations do.	STREAM Initiative
Many thanks for sending this; MRAG and the FMSP have certainly helped us to expand our fisheries section with several interesting articles.	Id21
I liked the FMSP co-management brief by the way – much praised by colleagues in FAO.	FAO Fisheries Division
I inform you that these books are very useful for me and I continue the reading to learn more about Co-management and also experiences gathered by the DFID Fisheries Management Science Programme.	Cote D'Ivoire Fisheries
Thanks for the attached files. I will use these materials for Fisheries Management course during next semester.	Asian Institute of Technology

Output 2: Review of the lessons learned relating to policy formulation and evaluation and how these affect co-managed fisheries with a concise, non-technical summary highlighting the key lessons.

It has to be recognised that any (co-) management initiative takes place within a given policy environment (see Figure 1 below). A number of the experiences arising from implementing

and researching co-management have highlighted issues around the legal and policy environment and allowed lessons regarding policy formulation, implementation and evaluation to be identified. For example, it is often said that there is a need for natural resources management and co-management policies to address the issues of rights and representation, sectoral issues and capacity building. This is of particular relevance, though by no means exclusively, to inland fisheries, where fish production is often a secondary use for water resources and development of the fisheries can create conflict and institutional uncertainties.

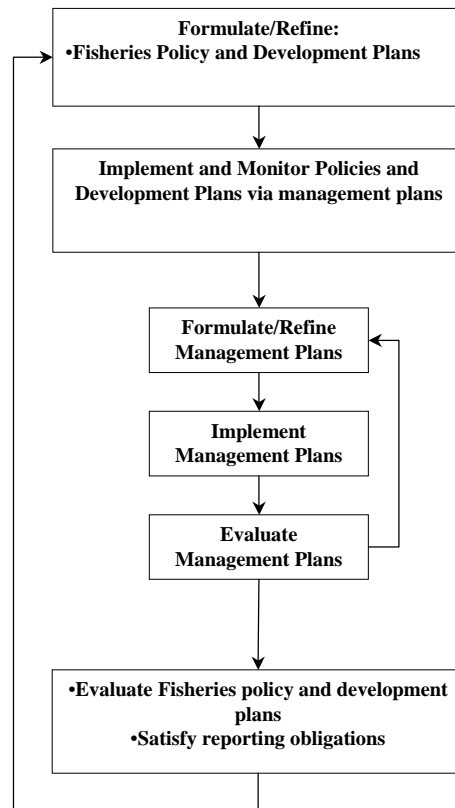


Figure 1. The management process. (Adapted from Halls *et al.* 2005)

For completeness, it was intended that a wider review of policy as it relates to co-management that will include lessons and experiences from elsewhere (e.g. WorldFish Centre, Sustainable Fisheries Livelihoods Project, Bangladesh Community Based Fisheries Management project) as well as from other FMSP projects would be undertaken. The intention was that this review would then form the basis of a more visual, accessible and less technical document, that would present some of the key issues and messages and be highlight the issues to a less technical audience (including policy makers and implementing agencies) for whom the more detailed technical reports that are available are not accessible.

In the event it was decided that the wider review of policy relating to co-management would not be written up and only a single accessible product would be developed. This was due to a combination of the time available to undertake the review and the belief that as more technical materials already exist the focus of the project should be, as has been stated throughout, the synthesis of some of the key lessons and the presentation of these in an accessible format in order to lead the reader to these more detailed materials as a next step.

The concise non-technical summary entitled ‘Developing, implementing and evaluating policies to support fisheries co-management’ was produced as planned and is contained in

Annex 3.

Output 3: Accessible and concise synthesis capturing the lessons and experiences from FMSP projects.

A synthesis document summarising key points and lessons learned from ParFish, especially in relation to co-management, was produced in collaboration with project R8464. The document is aimed at fisheries policy makers, managers, scientists and facilitators and provides an accessible summary of the key points of ParFish. The product provides background to the importance of stock assessment in small scale fisheries and how ParFish can help. It also highlights the differences between the ParFish assessment methodologies and conventional assessments, indicating some of the advantages for its use in data poor fisheries. In relation to co-management, the product suggests how use of ParFish can promote participation in assessments and management and how the use of ParFish can support co-management. The ParFish synthesis product was distributed electronically to 124 policy makers, regional, national and international implementing and research agencies and was made available through the project page for R8464 on the FMSP website. The document is included in Annex 3.

A second synthesis product, this time relating to data collection systems and information sharing was produced in collaboration with project R8462. The aim of this product is to raise awareness among policy makers of the importance of data collection systems in the context of the management process; highlight the challenges faced by those involved in designing and implementing data collection systems or programmes; and describe how these challenges might be addressed by the application of the data collection and information sharing guidelines promoted by this project. These challenges and outcomes are illustrated in the synthesis with the experiences of, and lessons learnt by, fisheries management agencies working in South and South East Asia and using the guidelines.

The synthesis begins with a summary section emphasizing the importance of small scale fisheries to poor people's livelihoods, the benefits of co-management, the importance of information to support the management process, and the challenges experienced by designers of data collection systems. It describes how these challenges may be addressed using the Guidelines to develop systems that are effective, efficient and thereby sustainable.

Section 1 provides an overview of the data collection and information sharing guidelines including the contents of Parts I & II and their target audience. Section 2 describes the importance of information for co-management in the context of policy and development planning and evaluation, and management planning, implementation and evaluation. Challenges to designing effective and sustainable systems experienced by co-managers and supporting projects are described in Section 3. Section 4 describes how these guidelines attempt to address these challenges, emphasising the importance of correctly identifying information needs, coordinating data collection efforts and ensuring sustainability. Case studies are used to illustrate how the guidelines have helped to address these challenges under co-management projects in Bangladesh and Thailand. Key messages are summarized in Section 5, and Section 6 gives sources of further information and details of how copies of the Guidelines can be obtained.

In order to synthesis and make available the lessons learned relating to co-management two products were developed by the project (only one had originally been considered). It was felt that there was a need for a longer document that would illustrate the co-management process and highlight the various approaches, lessons learned, tools, methods and experiences from the various FMSP projects. This resulted in the product entitled 'Fisheries co-management: a synthesis of the lessons learned from the DFID Fisheries management

Science Programme' (see Annex 3).

This synthesis draws heavily from the adaptive learning, data collection and information sharing and ParFish research but also highlights the findings of a number of other FMSP research projects. The product introduces the co-management process and then goes on to describe the formulation, implementation and evaluation of policies to support co-management. The development, implementation and evaluation of local co-management plans is described in more detail (this being an area where a number of tools have been developed and applied by the FMSP projects). Throughout the document the experiences of FMSP projects are provided in order to illustrate experiences with the process and what the projects have learned. The synthesis is also designed to provide an entry point to the research projects and details of where additional information can be found is provided at the end of the document.

In addition to the longer synthesis document it was felt that there was a need for a shorter product that was comparable in nature to the synthesis products that had been developed in collaboration with project R8462 and R8464. This product, entitled 'Lessons for co-management: experiences from the FMSP programme' was developed and this was aimed at policy makers (see Annex 3). The purpose was to raise awareness not only of the potential benefits that co-management can provide but also some of the challenges facing those who wish to be involved in developing successfully and sustainably co-managed fisheries. The product begins by describing what co-management is and how co-management can potentially benefit fisheries, in particular small-scale fisheries, that have not benefited from more traditional, centralized and top-down decision making arrangements.

The product goes on to describe some of the key challenges to establishing successful co-management arrangements and some of the principles that have been adopted by FMSP (and other) researchers in trying to overcome these challenges. The product shows how a number of the principles have been put into practice in the three research areas of adaptive learning, ParFish and data collection and information systems and then goes on to highlight some of the policy implications that have been identified from this and other FMSP research. The product ends by providing sources of information and highlighting the other products that were developed in this project and collaboratively with R8462 and R8464.

The project was also able to contribute to the promotion of messages at the Programme level and in particular the development of two briefs that were sent to policy-makers from the FMSP. The project also provided access by the Programme to the communications database that had been developed and a number of the stakeholders identified by the project were included in the Programme communications database.

6. Research Activities:

Because of the nature of the project, i.e. that the project is aimed at synthesizing existing research messages and promoting these in order to raise awareness of products developed through the FMSP, the activities have focused on:

- Developing an effective and coordinated communications plan and
- Developing communications products suitable for the target audience.

Each of these will be dealt with in turn.

Developing the communications strategy

A series of activities were required to develop a communication strategy that will promote the research messages from this project and also coordinate with the communications activities undertaken under projects R8462 and R8464. It was important to ensure this coordination from the outset for two reasons. In the first place, the project were developing products that would feed into and support products developed within this project (see Figure 2). In the second place, as these project would be targeting similar stakeholders it was felt that coordination would ensure that a greater number of stakeholders could be identified and that the projects could avoid duplication of effort.

In developing the strategy it was recognised that it must address the needs of stakeholders, including international, regional and national organisations and agencies with a funding or policy making remit as well as implementing agencies (including government organisations, research institutes and regional and national NGOs). In developing the strategy the projects drew upon the experiences of earlier uptake promotions projects, in particular R8292. The development of the communication plan for R8292 and the lessons on which the process was based are described in the report available from <http://www.adaptivelearning.info/modules.php?op=modload&name=Downloads&file=index&req=viewsdownload&sid=3>.

Together with the communications persons from R8462 and R8464, relevant communications stakeholders were identified and analysed with respect to the communications objectives of the individual projects (see Annex 1). The communications needs of these organisations was then assessed, drawing upon the experiences with uptake activities undertaken in earlier projects (in particular R8397 and R8292). To enhance the combined communications efforts the communications strategy was also linked to Programme level promotion activities and information was supplied that fed into policy briefs that were developed by the Programme and distributed to policy and research groups within DFID.

As mentioned, to ensure continued coordination of promotion activities and to aid the monitoring and evaluation of the communications plans of all three projects, a single communications database was created that contained stakeholder details, distribution lists and details of the products distributed to each stakeholder by each project.

Developing communications products

The project centred around the development of a nested series of communications products that could be developed and promoted or that already existed and could be highlighted through awareness raising. The conceptualisation is provided in Figure 2 below. This nested structure was been developed so that the products developed, together with those that already exist, link to each other and provide various entry points to the lessons learned and methods developed, including the more detailed and technical guidelines and software that are available through the Programme. It was intended that the products in the hierarchy should differ to the greatest extent only in the level of detail and technical background provided. While this was not entirely possible (see later comments), the project was almost entirely successful in developing the nested series of products as envisaged.

The accessible products to the right of Figure 2 were developed within this project, or the development was coordinated by this project. This was to ensure that the coordination that was a feature of the communications strategy would also carry through to the products and they would be effective in creating awareness about the Programme outputs amongst a wide variety of target communications stakeholders, in particular those with policy and

funding remit (see Section 5).

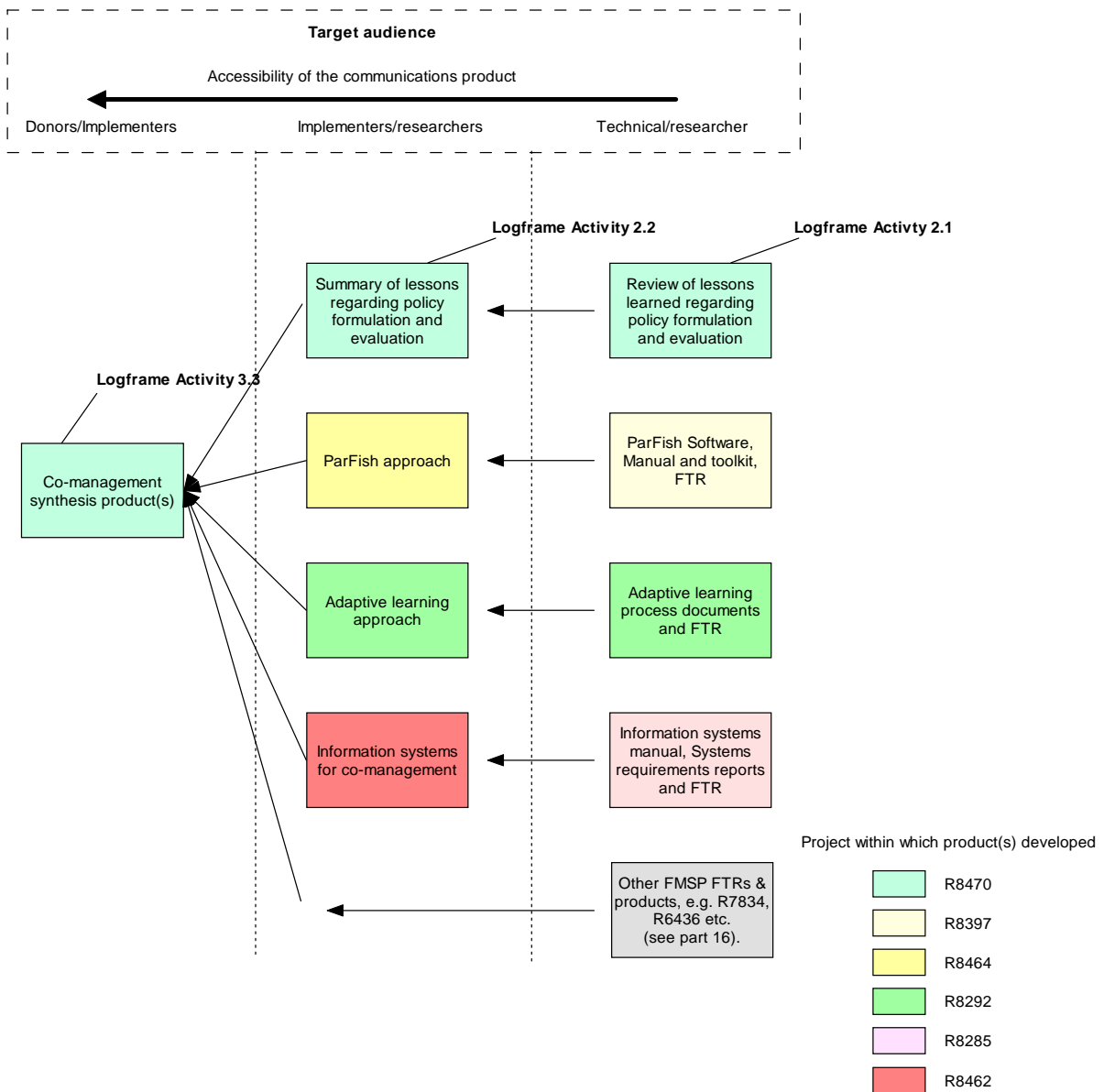


Figure 1: The proposed series of linked products to be utilised and/or developed and promoted. Some products to be developed under projects 05/03 and 05/05 as indicated.

Accessible communications products were produced that synthesise the key lessons from the ParFish participatory fish stock assessment (R8397 and previous) and information systems for co-management (R8285 and previous) projects. Guidance was provided to R8462 and R8464 respectively who had the responsibility and funding for producing these outputs. However this guidance was not prescriptive as it was the intention that the products produced would meet the communications needs of the individual projects (R8462 and R8464) as well as contributing to the awareness-raising through this project.

It had originally been anticipated that the syntheses products produced by each of these projects would, in each case, be a short (20-40 pages) printed, visually appealing document. This will ensure that the products from these projects would be similar in nature to the adaptive learning guidelines produced in R8292 (these guidelines are available from the FMSP website), are broadly similar in character and are accessible to a similar target

audience (see Figure 1 – tier two). However it was felt during the development of the communications strategy and examination of existing products across the three projects that efforts would be better spent on developing shorter briefs (10-20 pages) that were possibly more accessible to the target communications stakeholders. However, it was still felt that there was a need for a slightly longer product (the original 20-40 pages) that could capture the tools and lessons from co-management experiences. This led to the development of two synthesis products within this project. The first was the synthesis of co-management lessons learned (a 40 page document) and the second was a shorter product that highlighted the individual products on the second tier of Figure 2 more directly and that was similar in nature to those produced in R8462 and R8464 (see Annex 3 for comparison).

The development of the communications products was guided by the experiences of previous uptake projects. In particular the following lessons were incorporated into their development.

- Use of A4 format to ensure that text size, particularly in diagrams, would not be too small.
- In order to make the text easier to scan a maximum of two columns were used across a single A4 sheet and hyphenation was avoided across lines where possible so that the guidelines were easier to read for readers for whom English is a second language.
- Case studies and examples were used wherever possible to illustrate the application of the tools and methodologies.
- A single colour background was provided for experiences so that these can be easily recognised.
- The intention is not to be prescriptive so it was important to provide references and sources of information that complement and contrast with those of the FMSP.
- Providing a framework can lead to the impression of a process that starts from nothing rather than acknowledging that management is almost certainly ongoing in some form. Care needs to be taken to highlight the non-linear and iterative nature of the process.

In developing the content of the communications materials in this project it had been anticipated that the outputs of the various FMSP projects, particularly those relating to the data collection and information sharing, ParFish and adaptive learning projects, could be easily brought together. However it became clear that there were differences in how co-management was interpreted and defined within each of these projects (see synthesis products in Annex 3 for examples). These differences centred around whether a broad definition of co-management as the sharing of responsibility between stakeholders was sufficient or whether it should be limited to the sharing of responsibility and authority. No consensus was reached and the approach taken within this project, and the communications materials developed, given the remit that the broader definition be used where the application of the tools was being discussed but that multi-stakeholder partnerships where authority for decision making as well as responsibility were shared were preferable and should be the aim of policy. A further difficulty emerged in that some of the projects are quite recent and it is therefore difficult to establish what the benefits from the use of the tools are so that it was harder to illustrate the tools with concrete examples of the benefits that had arisen from their use. Despite this, and aside from the fundamental difference over the meaning of co-management, every effort was made to try and ensure that the lessons learned and tools developed by the various FMSP projects were highlighted where they were relevant to each stage of the co-management process.

7. Contribution of Outputs:

Contribution to FMSP's Purpose and Output

The outputs of the project contribute towards DFID's development goals expressed in terms of the Programme's logframe Purpose and Output Objectively Verifiable Indicators (OVIs) as follows:

Purpose OVIs

OVI 1: Less variable and sustainable capture fisheries, and/or increased productivity from enhanced fisheries.

OVI 2: Improved fisheries employment (numbers, income, quality)

Sustainability is a key aim of policy makers and stakeholders involved in fisheries co-management. While the project has not contributed directly to achieving sustainably managed fisheries, it is felt that the project will have increased the likelihood for uptake of tools and approaches developed through the FMSP (which have, in a number of cases, demonstrated that they can contribute to increased productivity from enhanced fisheries), by making these more available and accessible to decision makers and development practitioners.

A major aim has been to contribute to the development of management policies, approaches, strategies and plans that will improve decision making so that it leads to outcomes that better meet national objectives and the needs of those dependent on resources at a local level. This is achieved by making more available and accessible information generated by the FMSP and includes contributions aimed at improving income, sustaining less variable landings in capture fisheries, and increasing productivity within enhancement fisheries.

OVI 3: Improved access by poor people to fisheries knowledge generated by the Programme.

This will be achieved only indirectly in many cases. It is unlikely that fishers will be able to access the outputs of the FMSP directly but it is hoped that the emphasis on creating shared understandings that make use of multiple information sources (including the FMSP), knowledge types and perspectives will mean that decision-making at the local level will involve making available to poor fishers knowledge generated by the programme or information, for example the results of stock assessments, that have been generated through tools developed within the Programme. Certainly advice is provided within the synthesis products developed within this project on communicating fisheries information to poor people and, equally as importantly, on how to make use of information provided by poor people about their needs, objectives and constraints.

Output OVIs

OVI 1. By 31 March 2006, at least three fisheries information products developed to inform management research and influence policy (in target countries, international knowledge systems and DFID).

The project has contributed to achieving this through the development of information products that have synthesized a number of the key lessons learned and experiences from

the Programme relating to the co-management of capture and enhanced fisheries. This information has been developed into accessible products that are designed specifically to inform both management and policy making among a wide range of selected target communication stakeholders. It is expected that the information contained in these products, and the further technical products that they are designed to lead into, will contribute to achieving this. Details of the numbers receiving the particular products will be made available in due course. In addition the project has contributed information and assisted with the development of Programme level communications and information products.

OVI 2. Project and programme level monitoring systems provide further benchmarking baseline data, record the take-up and adoption of FMSP products, and contribute to fisheries information products by 31 March 2006.

The project will provide information on completion of the communications activities on the dissemination and uptake of FMSP products.

OVI 3. Information systems to support the co-management of fisheries important to the poor field tested with target groups and institutions in at least three locations in two countries, adapted, and widely promoted (in target countries, international knowledge systems and DFID) by 31 March 2006.

The project has, through the development and dissemination of the data collection and information policy brief, the co-management synthesis products and flyer, contributed to the promotion of information systems to support the co-management of fisheries important to the poor amongst the specified target groups.

4. Fisheries assessment methods to inform sustainable management for improved livelihood benefits further developed with target institutions in at least two countries, widely promoted (nationally and internationally), by 31 March 2006.

The project has, through the development and dissemination of the ParFish synthesis product, the co-management synthesis products and flyer, contributed to the promotion of fisheries assessment methods to inform sustainable management for improved livelihoods benefits amongst the specified target groups.

Impact of the Project

There has been no direct impact from the project outputs and activities at this time. The project has raised awareness of the availability of information on approaches, tools and methods from the FMSP and how these can contribute to more successful co-management arrangements and processes. The products developed have made the information available to a wider range of target communications stakeholders and have made them more aware of where they can obtain further information. The adoption of the approaches, tools and methods that are the subject of the synthesis products are likely to lead to developmental impact in the future.

Means of continued uptake promotion of project products

Through the exit strategy, the project has tried to ensure that the products developed remain available to target communications stakeholders. The products have been placed on a number of websites and made available to a number of on-going development activities including the FAO group on the assessment of small-scale fisheries.

8. Publications and other communications materials

- (a) Peer-reviewed publications (published);
- (b) Peer-reviewed publications (in press or submitted);
- (c) Non peer-reviewed publications and reports and communications materials;

Arthur, R.I. 2005 Developing, implementing and evaluating policies to support fisheries co-management. MRAG Ltd, London, 12pp

Arthur, R.I. 2005 Co-management: a synthesis of the lessons learned from the DFID Fisheries Management Science Programme. MRAG Ltd, London 40pp

Howard, C. and Arthur, R.I. 2005 Lessons for co-management: experiences from the Fisheries Management Science Programme (FMSP). MRAG Ltd, London, 12pp

Howard, C, Halls, A. and Walmsley, S. 2005 Data Collection: Systems for Co-Management, Synthesis Document, October 2005, MRAG Ltd, London, 17pp.

Walmsley, S. and Medley, P. 2005 Synthesis document: fisheries management decisions with limited resources and data. MRAG Ltd, London, 16pp.

- (d) Verbal presentations & project dissemination and other workshops;

The available products were promoted at a number of workshops in South and Southeast Asia and in Europe.

- (e) Other types of project output (eg literature reviews, databases, software etc).

Project 2 page flyer

Poster

FMSP webpage

Links from other webpages

E-mail correspondence

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10. Project Logframe

Narrative summary	Objectively verifiable indicators	Means of verification	Important assumptions
Goal			
<p>Existing FMSP research outputs relating to: the contribution of <u>capture</u> and <u>enhancement</u> fisheries to the livelihoods of the poor; fisheries management tools and strategies that could benefit the poor; and, the means to realise improved management, further developed, disseminated and promoted to relevant stakeholders at all levels</p>	<p>1. By 31 March 2006, at least three fisheries information products developed to inform management research and influence policy (in target countries, international knowledge systems and DFID).</p>	<ul style="list-style-type: none"> • Programme Management review • Project FTRs • Programme highlights • Publications and other communications materials • Quarterly and annual reports • FMSP project database • FMSP Website • Requests for manuals and guidelines received • Uptake of research products by target institutions monitored and reported in Annual Report • National statistics and publications • International networks, databases and publications. 	<p>Policy makers remain receptive to information on fisheries management</p>
Purpose			
<p>Fisheries co-management arrangements that benefit the poor supported through the improved decision making, project development and implementation resulting from promotion of lesson learned from FMSP projects research and experience to key stakeholders within DFID and other agencies.</p>	<p>Key lessons learnt from FMSP projects relating to co-management incorporated into development policies, programmes and projects.</p>	<p>Target stakeholder policies, project logframes and activity reports.</p>	<p>Target stakeholders remain receptive to information on fisheries management</p> <p>Government policies continue to support co-management</p> <p>Government policies continue to support pro-poor approaches</p> <p>Co-management process cost effective and socially appropriate.</p>
Outputs			
<p>1. Key stakeholders have a better understanding of issues relating to policy formulation and evaluation and how it affects co-management and are more informed about effective strategies for co-managing fisheries to benefit the poor and tools for implementing these arising from FMSP research.</p> <p>2. Review of the lessons learned relating to policy formulation and evaluation and how these affect co-managed fisheries together with a concise, non-technical, summary highlighting the key lessons.</p>	<p>1. Target stakeholders and their communications needs identified by month 1. All elements of the communications plan in place by month 5.</p> <p>2. Lessons learned relating to policy formulation and evaluation identified by month 4 and appropriate products produced by month 5 and disseminated by month 7.</p>	<p>1. Stakeholder analysis report, communications plan, distribution lists quarterly and annual reports.</p> <p>2. Reviews of issues relating to policy formulation and evaluation, accessible synthesis product,</p>	<p>1. Sufficient interest exists in project results. Effective communication and promotion activities can be implemented within budgetary constraints.</p> <p>2. Findings from others' experiences allow lessons to be identified.</p>

<p>3. Accessible and concise synthesis product capturing the lessons and experiences from FMSP projects.</p>	<p>3. Single accessible product synthesising all lessons learned produced and disseminated by month 7.</p>	<p>quarterly and annual reports. 3. Final technical report, new media product.</p>	<p>3. Findings from others' experiences allow lessons to be identified and synthesis products are produced by projects 05/03 and 05/05.</p>
<p>Activities</p>	<p>Budget and milestones</p>		
<p>1.1 Identification and analysis of the target stakeholders together with projects 05/03 and 05/05. 1.2 Identification of the target group communications needs and potentially most effective communications pathways and uptake opportunities. 1.3 Identify appropriate communications media and activities for promoting both the new and existing research products relating to co-management together with criteria for evaluating these activities. 1.4 Develop, together with projects 05/03 and 05/05, a database to ensure coordinated communications and enable communications to be monitored effectively. 1.5 (a) Implement activities identified in 1.3 and (b) evaluate the effectiveness of communications media and activities. 1.6 Develop an exit strategy to ensure continued promotion of the research products.</p> <p>2.1 Assess current issues and lessons learned regarding policy formulation and evaluation through a review of literature from FMSP, other projects and Programmes and articles. 2.2 Synthesise the results according to information from 1.3 and contribute to Programme level activities.</p> <p>3.1 Coordinate contributions from projects 05/03 and 05/05 using information from 1.3. 3.2 Review literature from FMSP, other projects and Programmes and articles for additional lessons relating to co-management. 3.3 Develop product that synthesises the material from activities 2.2, 3.1 and 3.2 and that both highlights pertinent lessons and provides links to these products, based on media and activities indicated in 1.3. Contribute to Programme level activities as required.</p>	<p>Budget for Output 1 = £6,682</p> <p>1.1 Stakeholder analysis completed by month 1. 1.2 All needs and pathways identified by month 1. 1.3 Appropriate media and activities for promoting research products identified by month 1. Criteria for evaluation identified by month 1. 1.4 Database developed and in use by month 2. 1.5 Activities implemented and strategy in place by month 7. Evaluations of the communications materials and activities completed by target stakeholders by month 7. 1.6 Exit strategy developed by month 1.</p> <p>Budget for Output 2 = £9,576</p> <p>2.1 Literature review completed by month 4. 2.2 Product relating to synthesis of key lessons identified in 2.1 developed by month 5.</p> <p>Budget for Output 3 = £7,745</p> <p>3.1 Products relating to synthesis of key lessons from projects 05/03 and 05/05 developed by month 6. 3.2 FMSP literature reviewed for further lessons or supporting evidence, e.g. R7834, R6436 etc. by month 5. 3.3 Product synthesising all lessons learned developed and promoted by month 7.</p>		<p>1.1 Target stakeholders can be identified. 1.2 It is possible to identify needs and uptake opportunities. 1.4 A database can be developed that meets the needs of all projects. 1.5 Stakeholders are willing to cooperate and wish to be informed. 2.1 Information is available. 2.2 Adequate information is provided from 2.1. 3.1 Collaborators are willing or able to provide adequate information. 3.3 Sufficient information is provided through 2.2, 3.1 and 3.2.</p>

11. Keywords

Co-management, lessons learned, adaptive management, participation, governance, community based management, fisheries management

Annex 1 : Project communication strategy

Annex 2 : Project communications materials

Examples of the webpages containing further details of the key resources that were drawn upon within the synthesis:

R8462: Data collection and information systems

Fisheries Management Science Programme

MRAG
DFID

Home Page
Programme Summary
Current Projects
Final Technical Reports
Search FTR's
Software
Bibliography
Web Links
Contact Us
Key Lessons

Final Technical Reports

Evaluation and Uptake Promotion of Data Collection Guidelines for Co-managed Fisheries (R8462)

Information and relevant data are vital to be able to make informed choices and decisions concerning the management of natural resources. With the shift towards fisheries co-management there is a need for managers to reconsider their information requirements based on new co-management structures and stakeholder roles and responsibilities. Data collection systems must be designed to support the diverse needs of a range of potential stakeholders according to their objectives, capacity, and available resources.

In order to meet the growing need for simple guidance to develop data collection systems to support co-management, a set of guidelines have been developed and tested in collaboration with a wide range of institutions and stakeholders from a number of developing countries. These guidelines help fisheries co-managers design and implement appropriate and cost-effective systems to deliver their data and information needs.

The Guidelines will be available shortly through the FAO Technical Series and are in two parts:

Part I) Practical Guide: is aimed at co-managers and facilitators working in the field. It offers simple and practical advice on identifying the information needs of different stakeholders; developing and putting into practice information collection and sharing systems by following an eight-stage participatory process.

R8464: ParFish

Fisheries Management Science Programme

MRAG
DFID

Home Page
Programme Summary
Current Projects
Final Technical Reports
Search FTR's
Software
Bibliography
Web Links
Contact Us
Key Lessons

Final Technical Reports

Application and promotion of FMSP Participatory Fisheries Stock Assessment (ParFish) (R.8464)

parfish
PARTICIPATORY FISHERIES STOCK ASSESSMENT

Participatory Fisheries Stock Assessment (ParFish) is an approach to fisheries stock assessment which uses Bayesian statistics and multi-criteria decision making theory, and provides a tool for involving fishers in the management process. It is the product of several FMSP research projects which developed the background methodology for undertaking ParFish (R7947) and developed and tested a Toolkit to support its application in Zanzibar (R8397). The projects are:

- R7947 - Integrated fisheries management using Bayesian multi-criterion decision making,
- R8397 - Uptake of Participatory Fisheries Stock Assessment (PFSA) Toolkit,
- R8464 - Application and Promotion of FMSP Participatory Fisheries Stock Assessment (ParFish).

ParFish is a particularly suitable methodology for co-managed fisheries in developing countries as it:

- Does not require data recorded over long time series,
- Encourages the participation of fishers, and
- Allows a rapid assessment

R8470: Co-management synthesis

Fisheries Management Science Programme MRAG DFID

Home Page
Programme Summary
Current Projects
Final Technical Reports
Search FTR's
Software
Bibliography
Web Links
Contact Us
Key Lessons

Final Technical Reports
Synthesis of FMSP experience and lessons learned for fisheries co-management (R.8470)

Unfortunately, in many developing countries, and particularly in small-scale fisheries, centralised management arrangements have not been able to ensure the sustainable management of the fisheries resources on which so many depend. Because of this, and/or because of economically driven reforms and constraints, increasing attention has been given to the possibilities afforded by co-management.

Co-management provides an opportunity for a partnership arrangement in which government, local resource users (fishers), external agents (NGOs, academic and research organisations), and other fisheries and coastal resource stakeholders (boat owners, fish traders, money lenders, tourism establishments etc) share the responsibility and authority for decision making in the management of a fishery. However, the different objectives, perspectives and constraints of these stakeholder groups, while potentially increasing opportunities for improved and more sustainable management that meets the needs of all, can also be a source of difficulties when agreeing management roles and responsibilities.

A number of projects commissioned under the FMSP have sought to address issues around co-management and provide practical approaches tools and methodologies that can be used by development practitioners to assist in the development of working co-

R8292 Adaptive learning (www.adaptivelearning.info)

The screenshot shows a Microsoft Internet Explorer browser window displaying the website <http://www.adaptivelearning.info/>. The browser's address bar shows the URL, and the page title is "The Adaptive Learning Web Site :: Learning and fishing".

The website layout includes a navigation menu on the left with the following items:

- Main Menu**
 - Home
 - My Account
 - Administration
 - Logout
- Functions**
 - Search
 - Downloads
 - Sections
 - Stats
 - Top List
 - Web Links
 - Forums
- Quick Links**
 - Case Studies
 - Collaborators

The main content area features a header with the text "Welcome to Adaptive learning Web Site" and a search box. Below this, there are three paragraphs of text:

This site is for the promotion of techniques developed under the UK Government's Department for International Development (DFID) Fisheries Management Science Programme (FMSP). This website is an output of the FMSP project R8292 – Uptake of Adaptive Learning funded by the UK Department for International Development (DFID) for the benefit of developing countries. The views expressed are not necessarily those of DFID.

Adaptive learning is an approach for the management of natural resources that has been described as a structured process with **'learning as an objective of doing'** that emphasises learning processes in management.

Natural resource management often has to be undertaken without a complete understanding of the resources being managed (and therefore what the best management approach should be). In such cases the adaptive learning approach can be helpful by enabling management and improvements in understanding to occur simultaneously.

This website has been set up to raise awareness of this potentially promising approach and as a practical resource for organisations and individuals involved in natural resource management and development who wish to learn more about their resources at the same time as managing them.

The website provides explanations of the principles of adaptive learning and how these principles have been executed in real field settings. Amongst other things, there are discussions of when it is appropriate, potential problems, and what skills and/or resources are required. It also outlines how the full participation of all stakeholders can be encouraged by facilitating and enhancing communication at all levels and increasing the learning of all involved. It is hoped that you will also take the time to contribute and share your experiences with us.

The footer of the website displays logos for the Government of West Bengal, MRAG (Marine Resources Assessment Group), DFID (Department For International Development), MRC, and WorldFish Center.

The Windows taskbar at the bottom shows the Start button and several open applications: Microsoft Office, R8470 Final Techni..., Final Technical report, Adobe Acrobat Sta..., and The Adaptive Learn... The system clock indicates the time is 10:01.

Annex 3 : Project synthesis products