

Participation oils the wheels of fisheries management

RIU

Validated RNRRS Output.

Simple ways of collecting and sharing data and information are helping improve management of small fisheries. These fisheries make important contributions to national economies and exports, and provide a living for over 200 million people in Africa and Asia. Previously, poor fishers—and other stakeholders—weren't consulted on decisions that affected them, often with unfortunate results. It's proved invaluable for fisheries departments and fishers to get together to gather and use information to help manage these fisheries better. Getting stakeholders to participate means their interests are taken into account and they don't lose out. Step-by-step guidelines are already widely used in Bangladesh, Cambodia and Thailand, and organisations in Bangladesh, Uganda, Barbados, Cambodia and Tanzania are customising the approach for their own needs.

Project Ref: **FMSP04:**

Topic: **7. Spreading the Word: Knowledge Management & Dissemination**

Lead Organisation: **MRAG Ltd, UK**

Source: **Fish Management Science Programme**

Document Contents:

[Description](#), [Validation](#), [Current Situation](#), [Current Promotion](#), [Impacts On Poverty](#), [Environmental Impact](#),

Description

FMSP04

Research into Use

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Park House
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ME20 6SN
UK

Geographical regions included:

[Bangladesh, Cambodia, Thailand, Turks & Caicos Islands,](#)

Target Audiences for this content:

[Fishers,](#)

A. Description of the research output(s)

1. Working title of output or cluster of outputs.

In addition, you are free to suggest a shorter more imaginative working title/acronym of 20 words or less.

Participatory fisheries monitoring: transparency, sustainability and empowerment

2. Name of relevant RNRRS Programme(s) commissioning supporting research and also indicate other funding sources, if applicable.

Fisheries Management Science Programme

3. Provide relevant R numbers (and/or programme development/dissemination reference numbers covering supporting research) along with the institutional partners (with individual contact persons (if appropriate)) involved in the project activities. As with the question above, this is primarily to allow for the legacy of the RNRRS to be acknowledged during the RIUP activities.

R7042: PICES: Information systems for the co-management of artisanal fisheries

R8285: Fisheries Data Collection & Sharing Mechanisms for Co-management

R8462: Evaluation and uptake promotion of data collection guidelines for co-managed fisheries

R no.	Institutional Partners	Current contact persons
R7042	Marine Resources Assessment Group Centre for Natural Resources Studies (CNRS) CARE Bangladesh Department for Environment and Coastal Resources (DECR), Turks & Caicos	Ashley Halls, Chris Mees Mohklesur Rahman
R8285	World Fish Centre, Bangladesh World Fish, Malaysia Mekong River Commission Regional Fisheries Information System (RFIS) Integrated Lake Management Project (ILM) FAO	Dr Paul Thompson and Dr Parvin Sultana Dr Kuperan Viswanathan Mr Wolf Hartmann Mr John Purvis Dr Jim Scullion Mr Dirk Lamberts Dr Devin Bartley; Mr Richard Grainger

		Dr Ashley Halls
	Marine Resources Assessment Group	
R8462	Marine Resources Assessment Group	Dr Ashley Halls Suzannah Walmsley Charlotte Howard
	Mekong River Commission	Wolf Hartmann
	FAO, Rome	Dr Devin Bartley; Mr Richard Grainger
	World Fish Centre, Malaysia	Dr Kuperan Viswanathan
	The Fourth Fisheries Project	Dr Parvin Sultana, Arne Andreasson
	MACH Project	Dr Paul Thompson

4. Describe the RNRRS output or cluster of outputs being proposed and when was it produced? (**max. 400 words**). This requires a clear and concise description of the output(s) and the problem the output(s) aimed to address. Please incorporate and highlight (in bold) key words that would/could be used to select your output when held in a database.

Small-scale fisheries in developing countries provide livelihoods to over with an estimated that 200 million people especially in Africa and Asia, and significant contributions to economies and trade exports. Despite their complex nature (dispersed communities, multiple species, and multiple techniques) it is still important for these fisheries to be actively and participatory managed so that they are sustainable and benefits are equitably shared. **Data and information** are essential for active management and important to give visibility to fisher communities. These communities are among the most vulnerable and often lack social services, infrastructure and a voice in governance structures.

How can participatory monitoring systems improve the sustainability of fisheries resources the transparency of governance structures (e.g. co-management arrangements) and empower fisher communities?

These questions are addressed in set of **guidelines** answer this question by providing technical and practical direction on **participatory approaches** for **data collection** and **information sharing** relevant to the **co-management of artisanal fisheries** (published as FAO technical papers in 2005). The **technical guidelines** are targeted at fisheries departments (FAO Serial No. 494/1) and reflect on: 1) Who needs data collection systems? 2) Why are they needed? 3) What information does and does not need to be collected? and 4) How can you design a cost-effective system which is tailored to meet local needs and capacity? The **practical guidelines** (FAO: Serial No. 494/2) provide an eight step approach for designing participatory data collection and information sharing systems, and provide examples from a series of **case studies** (carried out between 2003 and 2005).

Policy messages illustrate the **role** of a **participatory monitoring approach** in ensuring co-management¹ achieves its goals of **sustainable fisheries** and **poverty reduction** (summarised in a policy brief published by FMSP in 2005). The essential role of data and information includes contributions to:

- Transparency of co-management systems so that power and financial control are fair and clearly monitored (i. e. good **governance**)
- Bargaining power of both fishing communities (user groups) to highlight their poverty concerns and of fisheries departments to focus policy and funding on the fisheries sector.
- Sustainability of co-management systems by clarifying roles and responsibilities of different stakeholders for activity managing the resource. To do this, information is needed on the state of the resource and how decisions will affect benefits to user groups in the short and long-term. This includes increased efficiency of data collection systems by sharing responsibility and ensuring the relevance of resulting information.
- Increased social and human capacity of fisher communities by enabling them to make informed choices and decisions for their resource, and increasing trust and collaboration between user groups and government agencies.

Related to the guidelines is a **software package**, specifically designed to record information relevant to the co-management of **artisanal fisheries (PICES** - Providing Information for Socio-Economic Catch and Effort Fisheries Surveys completed in 2000).

¹ Co-management of artisanal fisheries is the shared responsibility and authority for management between stakeholders (user groups, governments and private sector), and data and information can be seen as the oil which keeps the system working.

5. What is the type of output(s) being described here?

Please tick one or more of the following options.

Product	Technology	Service	Process or Methodology	Policy	Other Please specify
			X		Policy advice X

6. What is the main commodity (ies) upon which the output(s) focussed? Could this output be applied to other commodities, if so, please comment

Small-scale artisanal coastal and inland fisheries

7. What production system(s) does/could the output(s) focus upon?

Please tick one or more of the following options.

Leave blank if not applicable

Semi-Arid	High potential	Hillsides	Forest-Agriculture	Peri-urban	Land water	Tropical moist forest	Cross-cutting
					X		

8. What farming system(s) does the output(s) focus upon?

Please tick one or more of the following options (see Annex B for definitions).

Leave blank if not applicable

Smallholder rainfed humid	Irrigated	Wetland rice based	Smallholder rainfed highland	Smallholder rainfed dry/cold	Dualistic	Coastal artisanal fishing	Inland fishing	Deep sea fishing
		X				X	X	

9. How could value be added to the output or additional constraints faced by poor people addressed by clustering this output with research outputs from other sources (RNRRS and non RNRRS)? (**max. 300 words**).

Please specify what other outputs your output(s) could be **clustered**. At this point you should make reference to the circulated list of RNRRS outputs for which proformas are currently being prepared.

There are a number of fisheries related outputs that are mutually supportive. In particular the guidelines, policy messages and software illustrated here are able to support other fisheries management project clusters by providing guidance on data collection and information sharing. This is particularly relevant to the cluster on 'Fisheries stock assessment and management' which covers the requirement for well functioning information flows for management to be successful. In particular, the Participatory Fisheries Stock Assessment approach (ParFish) (R7947 & R8397) has many shared goals in supporting fisher communities to engage in monitoring and managing their resource.

There are also other integrated management processes for other natural resources which may benefit from considering the step-approach presented in the participatory fisheries monitoring approach. These include:

- Participatory Action Plan Development as part of Improving NRM through CBM-PAPD (R7562)
- Integrated Floodplain management (R8306)
- Participatory action planning and implementation within the Peri-urban interface (R8084)

Lastly, there are other project clusters that directly address information and data management related to the management of other resources. These systems could be compared to determine the shared lessons learned on the importance of information, the best way of designing systems and implementing them in practice. These project clusters fall under the Crop Production, Crop Post Harvest, Animal Health Programme and Aquaculture and fish genetics research programme, and are listed below.

- Crop production:
 - o Linking demand with supply of agricultural information (R8429, R8281)
 - o Data management (R8301)
 - o Managing rice pests in Bangladesh by improving extension service information management for policy and planning (R8447)
- Crop Post Harvest Programme
 - o Market information tools (R7151, 8250, 7494, 8422)
 - o Knowledge management (ZB0380, R8402)
- Animal Health Programme

- o Information kiosks in India (R8152,7359,8213)
 - Aquaculture and fish genetics research programme
 - o Developing market information systems within the aquatic foods supply chain (R8286)
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Validation

B. Validation of the research output(s)

10. How were the output(s) validated and who validated them?

Please provide brief description of method(s) used and consider application, replication, adaptation and/or adoption in the context of any partner organisation and user groups involved. In addressing the “who” component detail **which group(s)** did the validation e.g. end users, intermediary organisation, government department, aid organisation, private company etc... This section should also be used to detail, if applicable, to which social group, gender, income category the validation was applied and any increases in productivity observed during validation (**max. 500 words**).

The **guidelines** and participatory approach for data collection and information sharing were validated through a four step process involving:

- A *Guidelines Evaluation Workshop* involved intermediary organisation and donor representatives from WorldFish Centre, UN Fisheries and Agriculture Organisation (FAO), Mekong River Commission (MRC) and DFID funded fisheries projects in Bangladesh: the Community Based Fisheries Management Project (CBFM) and the Fourth Fisheries Programme (FFP). The workshop resulted in a set of agreed technical guidelines and a draft Practical Guide ready for testing.
- *Case studies* were undertaken by the MRC in Thailand and CBFM and FFP in Bangladesh; in collaboration with related fishing communities (user groups) and fisheries departments. These case studies are described below and further examples of current use are given in Section C.
- The *Final Evaluation Workshop* brought 16 stakeholders representing the WorldFish Centre, MRC, FAO, and FFP to review the results from the case studies and update the guidelines.
- *Peer review and publication* of the technical and practical guidelines by FAO took place in 2005.

In Thailand the guidelines and approach were tested and evaluated through a participatory planning and design exercise, led by the MRC’s Fisheries Programme. A two-stage workshop was implemented involving 55 representatives of user groups; other local and national stakeholders; and administrative levels of government. A data collection and information system was agreed and has been running in 10 villages since October 2005 with quarterly feedback between user groups and fisheries departments¹. The guidelines have also applied by project collaborators to develop field manuals for fisheries co-management in Cambodia and Thailand².

In Bangladesh the guidelines and approach were tested at eight different locations. At five of the water bodies, testing took place in collaboration with FFP, and the others with the CBFM project coordinated by the WorldFish Centre. A series of workshops were held representing members of the fisheries management committees, general professional fishers, subsistence fishers, and local Department of Fisheries staff. Community-based data

collection and sharing systems were designed and a number of these on closed water bodies are continuing to successfully monitor their resources. Validation is also illustrated through adoption of the approach by a related project (MACH: Management of Aquatic Ecosystems through community Husbandry) to design systems with fishing communities to assess water quality and monitor the accountability of co-management systems.

The **PICES software** was validated through a demonstration to the Department for Environment and Coastal Resources in the Turks and Caicos Islands, and has since been adopted by the Department of Fisheries for routine storage and processing of catch and effort data for the conch and lobster fisheries.

It is too early in the process to see any direct increases in productivity of fisheries as a result of these outputs, but potential and future impacts on the beneficiaries are discussed in Section E.

¹ Personal communications, Wolf Hartmann, Mekong River Commission, 13th October 2006

² Personal communications, Chris Barlow, Mekong River Commission, 6th October 2006

11. **Where and when** have the output(s) been validated?

*Please indicate the places(s) and country(ies), any particular social group targeted and also indicate in which production system and farming system, using the options provided in questions 7 and 8 respectively, above (**max 300 words**).*

The guidelines and approach, as described above, were validated following a four-step process.

- *A Guidelines Evaluation Workshop* held at the World Fish Head Quarters in Dhaka from 25-27th January 2005
- *Case studies* conducted in Thailand between January and September 2005, and in Bangladesh between April and May 2005
- *A Final Evaluation Workshop* held from 26th -28th June 2005 in Dhaka, Bangladesh
- *Peer review and publication* of the Practical and Technical Guidelines at the FAO Head Quarters in Rome, Italy during 2005.

In Thailand, the participatory monitoring guidelines and approach were tested and validated at Huay Luang Reservoir in the Udon Thani Province of Thailand, during 2005. This involved two participatory workshops:

- January 2005 (in the Training Facility at the Agricultural Extension and Development Center, Huay Luang reservoir, Thailand)
- September 2005 (at the Nampon Temple School in the Nong Wuasor District, Udonthani, Thailand)

In Bangladesh, the participatory monitoring guidelines and approach were tested between April and June 2005 on eight different locations chosen to represent all the types of water bodies: river, large open water body, and small semi-closed water body. These covered seven districts including Thakurgaon, Rangpur, Narail, Mymensingh, Jessore, Tangail and Sunamganj.

The reach of the validation was global as it involved a range of international and regional institutions, although specific case studies focused on fishing communities located in Asia. The case studies worked directly with the

fisher communities (the extreme vulnerable poor) through their representative fisheries management committees.

The PICES software was demonstrated to and validated by the Department for Environment and Coastal Resources in the Turks and Caicos Islands at a workshop held from 11th to 19th December 2000.

Current Situation

C. *Current situation*

12. *How and by whom are the outputs currently being used? Please give a brief description (max. 250 words).*

At an international level, the guidelines and approach are being used regularly by the FAO, including by their Inland Water Resources and Aquatic Service, and the Fisheries Information, Data and Statistics Unit.

At the regional level the Mekong River Commission, which has the remit to support national countries in the management of the Lower Mekong River Basin, is using the guidelines both as a general resource and specifically to prepare field manuals for fisheries co-management in Cambodia and Thailand¹. The guidelines have been distributed to national governments and it appears that they are being used by Departments of Fisheries, and slowly by co-management institutions.

In Bangladesh, the guidelines and approach have been used by a range of facilitating programmes (e.g. FFP, CBFM-2, MACH and Center for Natural Resource Studies: CNRS) when setting up co-management arrangements. The approach has been applied to:

- Fisheries monitoring in eight locations designed with resident fisher communities reliant on the aquatic resources;
- A monitoring programme for water quality, designed with fisher communities to provide them with the evidence to lobby industries polluting water resources;
- A system to monitor the good governance of co-management committees, designed with fisher communities and local stakeholders.

In Thailand, the guidelines have been used by the Department of Fisheries and community fisheries organisations to design and set up a data collection and information system at one case study site, which has continued running without external assistance since October 2005².

The PICES software is currently being used by the Fisheries Department in the Turks and Caicos. Fourteen fisheries officers in Bangladesh were trained in the PICES software. Requests were made for the software from the NGO CARE Bangladesh and Fisheries Departments of Uganda, Barbados and Cambodia. PICES assisted development of a custom based database for the Tanzania Fisheries Department, and informed DFID's Regional Fisheries Information Systems (RFIS) with the Southern African Development Community (SADC).

¹ Personal communications, Chris Barlow, Mekong River Commission, 6th October 2006

² Personal communications, Wolf Hartmann, Mekong River Commission, 13th October 2006

13. *Where* are the outputs currently being used? As with Question 11 please indicate place(s) and countries where the outputs are being used (max. 250 words).

Internationally the guidelines and approach are being used by the Inland Water Resources and Aquatic Service, and the Fisheries Information, Data and Statistics Unit of the FAO based in Rome, Italy.

The Mekong River Commission, currently with its headquarters in Vientiane, Lao PDR, is making use of the guidelines in a general sense, but has also integrated the approach into field manuals on co-management specifically for Cambodia and Thailand. The MRC Fisheries Programme is a key user and in particular their governance and fisheries management components. It has facilitated distribution of the guidelines to Department of Fisheries in Lao PDR, Cambodia, Thailand and Vietnam.

In Bangladesh, the current use for collecting and sharing fisheries related data covers the following eight fisher communities or districts:

- Brahmaputra, Trisal
- GKSB-Kalia, Narail
- Tangon Nadi-Pirganj, Thakurgaon
- Masankura Mora Nadi-Pirgacha, Rangpur
- Baorbila-Pairganj, Rangpur
- Jessore
- Elenga, Tangail
- Sunamganj

The use of the guidelines to develop a participatory monitoring programme for water quality has been running at Kalaikoir in the district of Gazipur, and monitoring systems for the transparency and operational effectiveness of co-management institutions are planned for 43 communities in the districts of Kishorganj, Magura, Moulvi Bazar Sunmaganj and Tangail.

In Thailand the use of the guidelines is taking place by the reservoir management committee at Huay Luang Reservoir in the North-East Udon Thani Province.

The PICES software is currently being used by the Fisheries Department in the Turks and Caicos for routine data collection related to their lobster and conch fisheries.

14. *What is the scale of current use? Indicating how quickly use was established and whether usage is still spreading (max 250 words).*

The scale of use is local, national, regional and international, but also patchy. The use was quickly established with international and regional collaborating organisations who were involved in developing and testing the guidelines. At the local level, use was also quickly established where there was a facilitating process in place.

For example through the institutional channels already set up through the co-management programmes in Bangladesh (FFP & CBFM-2) and in Thailand (The Mekong River Commissions fisheries programme component on fisheries management). Strong links with collaborators in Bangladesh, and cross-learning between programmes, will also see the use of the guidelines spread to a further 43 communities outside the initial remit of the project. This is through a related programme, which shares technical expertise involved in developing these outputs.

The mainstream use of these guidelines and approach within the institutions (fisheries departments) in the target countries (Thailand and Bangladesh) has also been relatively slow, and has not passed much beyond individuals involved in the development, testing or training of the guidelines. However promotion of the guidelines has increased awareness among the Department of Fisheries in Bangladesh of the concept of participatory monitoring and data sharing in co-management, and the need for monitoring and evaluation for the long-term success of co-management¹.

The spread of use of the guidelines and approach to other countries has also been slow. A number of countries have expressed interest in the guidelines (for example the Tonle Sap Environmental Management Project, FAO/ADB may be considering using the data collection guidelines²) but they have not been available long enough to start using them. Further reasons are given in Question 17.

1 Personal communications, Paul Thompson, MACH Project, Bangladesh, 3rd October 2006

2 Personal communications, Ly Vuthy, Chief Community Fisheries Development Office, Department of Fisheries, Cambodia, 3rd October 2006

15. In your experience what programmes, platforms, policy, institutional structures exist that have assisted with the promotion and/or adoption of the output(s) proposed here and in terms of capacity strengthening what do you see as the key facts of success? (max 350 words).

Co-management structures and institutions: One of the most important features of adoption of the outputs at the local level was having co-management structures and institutions already in place. This allowed for there already to be a mechanism for the representation of fisher communities and therefore streamlined their involvement in testing and using the guidelines.

Facilitation: An important part of the success of using the guidelines and approach in Thailand and Bangladesh was the existence of facilitation programmes which could provide the support and channels for the testing process and for follow-up. The facilitation provided by the Mekong River Commission supports promotion through long-term relationships and interactions within target institutions (i.e. fisheries departments)¹. The programmes in Bangladesh were also able to support staff from fisheries department to engage with fisher communities to undertake this relatively new participatory exercise.

Case Studies: Case studies were the most direct way of achieving adoption of the outputs. Since the data collection guidelines are written material, the most effective way of illustrating their benefits to target institutions and user groups was through participatory exercises. In these exercises the approach, tools and diagrams were all taken from the guidelines but could be clearly explained and illustrated with locally relevant examples. In the same way, adoption of the PICES software was only successful where a facilitated case study took place.

Involving collaborators: A very successful means of promoting uptake was through the involvement of a wide range of collaborators², representing both intermediary organisations (who have the scope to further promote the outputs) and the direct end-users (fisheries departments and fisher communities represented within co-management arrangements).

Individual champions: It is very important to have local and national 'champions' to promote an idea and mainstream it into general activities. Individuals at the local level in Thailand were highly instrumental in making the case study work and ensure that data collection systems are ongoing. This heightens the importance of regular feedback and communication with local 'champions' to ensure that the incentive remains.

Time and opportunities: Progress in development takes time and also relies on the right opportunities to integrate new approaches or methods into existing activities. To an extent this requires a certain amount of flexibility to ensure that the project can respond to demand and change direction when an opportunity arises.

¹ Personal communications, Chris Barlow, Mekong River Commission, 6th October 2006

² Halls, A.S & Arthur, R I (2006) Assessment of the Impact of the FMST (R4778C): An assessment of the impact of the FMSP from the perspectives of key fisheries institutions and researchers. MRAG, Ltd, UK.

Current Promotion

D. Current promotion/uptake pathways

16. Where is promotion currently taking place? Please indicate for each country specified detail what promotion is taking place, by whom and indicate the scale of current promotion (max 200 words).

The data and information collection guidelines have been promoted through a series of communications materials including newsletter articles, posters, flyers and websites throughout 2005.

In Bangladesh, the Department of Fisheries (DoF) has promoted the guidelines and policy messages during the Bangladesh Fisheries Fortnight in September 2005. With support of the DFID-funded Fourth Fisheries Programme (FFP) the DoF gave the data collection guidelines and short training sessions to 45 district fisheries officers and the associated community based organisations. Individuals in the fisheries department are discussing policy options to use the guidelines within sites where co-management systems have been set up (200 in total)¹.

In Mekong Region, the Mekong River Commission (MRC) has sent the guidelines to all the National River Commission Committees². The Thailand case study was presented at the 7th and 8th Technical Symposium on Mekong fisheries. The guidelines are included as downloads on the MRC website www.mekonginfo.org. Lastly, the May 2006 edition of MRC's 'Catch & Culture' newsletter (with over 650 subscribers) published an article on the Thailand case study and key policy messages.

The UN Food and Agriculture Organisation (FAO) sent the guidelines to all UN member Directors of Fisheries, Regional Fisheries Officers and Fisheries Departments. The guidelines are also available through the FAO website. They are also planning to use the guidelines within a Dutch partnership programme on Lake Victoria (Uganda, Kenya and Tanzania); forthcoming co-management projects in Brazil; and fisheries management workshops in the South Pacific³.

Additional channels of promotion have been through a policy brief sent to 60 identified policy makers, and websites including Stream Initiative (www.streaminitiative.org), Fisheries Management Science Programme (www.fmsp.org.uk) and International Development 21 websites (<http://www.id21.org/nr/n3sw1g1.html>).

¹ Personal communication with Masood Siddiqui, Department of Fisheries Bangladesh, 8th October 2006

² Personal communications with Chris Barlow, Mekong River Commission, 6th October 2006

³ Halls, A.S & Arthur, R I (2006) Assessment of the Impact of the FMST (R4778C): An assessment of the impact of the FMSP from the perspectives of key fisheries institutions and researchers. MRAG, Ltd, UK.

17. What are the current barriers preventing or slowing the adoption of the output(s)? Cover here institutional issues, those relating to policy, marketing, infrastructure, social exclusion etc. (max 200 words).

Lack of active fisheries management: one of the main barriers to the use of the data collection and information sharing guidelines (and also the PICES software) is the lack of active fisheries management. Given the complex nature of artisanal fisheries in many developing countries (highly dispersed communities, multiple fishing gears, and multiple fish species) there are a high number of places where there is no management therefore no monitoring data, or any mechanism to share information. For example, in Cambodia there is a very low level or even absence of active management of fisheries and data collection is inexistent for 90% of fishing activities¹.

Language and capacity barriers: at the current time the finalised data collection and information guidelines are only available in English, although draft versions were translated into local languages for use in Bangladesh and Thailand. The language is therefore a barrier for use and uptake by target institutions and user-groups. However, written material is also a significant barrier for those who do not have the time or capacity to read through the material and develop tailored materials suitable to the context².

Lack of facilitation for change management: where systems already exist for data collection and information sharing, it requires considerable investment to institutionalise the new systems and approaches³. Some countries may not yet fully subscribe to ideas of participatory data collection, which may be seen to compromise the quality of the data.

¹ Personal communication with Mr LY VUTHY, Chief, Community Fisheries Development Office, Department of Fisheries, Phnom Penh, Cambodia, 3rd October 2006

² Personal communications with Paul Thompson, MACH Project, Bangladesh, 3rd October 2006

³ Personal communications with Masood Siddiqui, Department of Fisheries Bangladesh, 8th October 2006

18. What changes are needed to remove/reduce these barriers to adoption? This section could be used to identify perceived capacity related issues (max 200 words).

Tailor practical guidelines: a major barrier to adoption could be removed if the practical guidelines were tailored to suit different contexts (or countries) and made available in local languages. In some cases the guidelines may need to be adjusted to the reality that very little active management exists¹. In other cases providing practical and simple forms for data collection would stream line adoption throughout fisheries systems.

Support implementation for two management cycles: Even with tailored guidelines, there is still need for face-to-face events to present ideas and practices, and explain the key points. Extensive training of community and government extension stakeholders provides the base of capacity at the implementation level. This can be built on with support for at least two fisheries management annual cycles². There are opportunities to share lessons learnt between different community groups.

Facilitate change management: facilitation is needed to support the process of institutionalising a new approach within a country. For example in Bangladesh there is an opportunity to integrate the participatory data collection and information sharing approach within the new Inland Fisheries Strategy and thereby mainstream its use in all fisheries³.

Involve end users in process: Greater emphasis on involvement of local lead organisations at project conceptualisation, planning and implementation².

¹ Personal communications, EC Mr ENG Cheasan, Deputy Director, Inland fisheries, Department of Fisheries, Phnom Penh, Cambodia, 3rd October 2006

² Personal communications with Paul Thompson, MACH Project, Bangladesh, 3rd October 2006

³ Personal communications, Masood Siddiqui, Department of Fisheries, Bangladesh, 8th October 2006

⁴ Personal communications, Wolf Hartmann, Mekong River Commission, 13th October 2006

19. What lessons have you learnt about the best ways to get the outputs used by the largest number of poor people? (max 300 words).

Tailoring guidance: Written outputs are not suitable for the majority of poor people, who do not read, even in their local language. These outputs are focused at intermediary organisations with their objective to translate their use in the most appropriate form at the local level. Tailoring the guidelines for use in the local context and in local languages is one of the best ways of getting the outputs used directly by fisher communities.

Practical application: The case studies, conducted in Thailand and Bangladesh, were particularly successful means of validating the guidelines and have led to adoption by a number of collaborators and replication (following some adjustments) by other related initiatives. Again written material can only be useful to guide intermediary organisation, but practical case studies are needed to truly engage fisher communities.

Co-management structures and institutions: It is important to have co-management structures in place which allow for the representation of all poverty levels and genders within fishing communities. When these institutions and structures are already in place, the process of getting outputs directly to the poor is streamlined.

Peer to Peer promotion: Individual local champions allow for peer-to-peer promotion and are one of the most effective means of getting outputs directly to the beneficiaries. Hearing about a new approach or method from someone within your own community and your own context not only increases your understanding, but also increases the likelihood of your trust and willingness to trial or implement the approach.

Impacts On Poverty

E. *Impacts on poverty to date*

20. Where have impact studies on poverty in relation to this output or cluster of outputs taken place? This should include any formal poverty impact studies (and it is appreciated that these will not be commonplace) and any less formal studies including any poverty mapping-type or monitoring work which allow for some analysis on impact on poverty to be made. Details of any cost-benefit analyses may also be detailed at this point. Please list studies here.

There have been no formal poverty impact studies undertaken, however an assessment of the impact of a range of Fisheries Management Science Programme (FMSP) outputs was undertaken in 2005¹ and a review of the perspectives of key fisheries institutions and researchers completed in March 2006². Both of these impact studies cover the data collection and information sharing approach and obtained feedback from the UN Food and Agriculture Organisation (FAO) and the Mekong River Commission (MRC) on their perceived impacts to date. Further to this, project R8462 involved monitoring to assess the level of uptake of the guidelines by collaborators and other target institutions³.

A number of collaborators considered the guidelines to be too new and embedded in an overall process to be able to measure any direct poverty impacts. Since the completed guidelines have been distributed at the beginning of 2006, it would take at least two cycles of fisheries management to allow for their uptake and a further five to ten years, to assess impact. Even with sufficient time, it would be difficult to determine the specific impact of an improved data collection system, as it is part of the overall co-management process. The effectiveness of co-management in improving sustainable fisheries and reducing poverty of fisher communities can (and needs) to be assessed, and the data collection and information sharing approach is a supporting element in this. Poverty impacts in the long-term need cumulative effects from a number of initiatives delivering improved research, policy linkages and policy implementation.

¹ Halls, A.S & Arthur, R I (2006) Assessment of the Impact of the FMST (R4778C): An assessment of the impact of the FMSP from the perspectives of key fisheries institutions and researchers. MRAG, Ltd, UK.

² Arthur, R; Fisher, E; Mwaipop, R; Irz, X and Thirtle, C (2005) Fisheries Management Science Programme: An overview of developmental impact to 2005. FMSP, UK

³ Halls, A.S; Howard, C; Walmsley, S (2005) Evaluation and Uptake Promotion of Data Collection Guidelines for Co-management Fisheries (R8462) Final Technical Report prepared for DFID. Bath, Aquae Sulis Ltd, 44pp + Annexes

21. Based on the evidence in the studies listed above, for each country detail how the poor have benefited from the application and/or adoption of the output(s) (max. 500 words):

- *What positive impacts on livelihoods have been recorded and over what time period have these impacts been observed? These impacts should be recorded against the capital assets (human, social, natural, physical and financial) of the livelihoods framework;*
- *For whom i.e. which type of person (gender, poverty group (see glossary for definitions) has there been a positive impact;*
- *Indicate the number of people who have realised a positive impact on their livelihood;*
- *Using whatever appropriate indicator was used detail what was the average percentage increase recorded*

The participatory approach to data collection and sharing information is targeted at fisher communities, which are classified as an extreme vulnerable group which often have a low status (owing to their remote or migratory status); are frequently excluded from social services and governance structures; and may be reliant on exploitative relationships within the market chain. This output is applied through co-management structures where all poverty levels and genders should be represented and elected democratically.

As indicated above, there have been no specific poverty impact studies undertaken on these outputs, however there are indications that the participatory approach to data collection and information sharing is having some benefits in the places where it has been tested and validated.

Increased social assets:

- *Trust and collaboration:* The use of the participatory monitoring approach has significantly improved trust and collaboration between fisher communities, community groups, non governmental organisations (NGOs) and government agencies. For example in Bangladesh the guidelines were applied to eight water bodies involving an estimated 1100 households in 56 villages. Following the approach, the stakeholders achieved a shared vision for participatory monitoring and understood each others' information needs and capacities. In Thailand, the application of the approach to a reservoir serving 10 villages has led to a successful participatory monitoring system where fishers and government agencies regularly share information and discuss the results. These villages include more than 700 full-time fishers and approximately 18,000 part time fishers and water users.
- *Bargaining power:* Participatory monitoring of water quality in the district of Kalaikoir (comprising 4 separate water bodies) has allowed fisher communities to bring the issue of industrial water pollution to the attention of authorities and lobby for application of regulations to prevent the pollution affecting their fisheries. The capacity of community organisations has also been increased to support the fishers in these objectives.
- *Transparency and a voice:* While still in development, the use of the participatory monitoring approach to track the transparency and accountability of co-management systems in Bangladesh (covering over 107 sites and 23,000 poor fishers) will ensure that the most vulnerable and poor will have a voice and that benefits from the resource are equitably shared.

Increased human assets:

- *Capacity:* The increased capacity as a result of the application of the participatory monitoring approach is the most evident positive impact, both within fisher communities but also within facilitating organisations. Capacity in active management of resources has been increased in eight resource management committees (representing fishers and other local stakeholders), and related fisheries departments in Bangladesh and in Thailand within the local administrative organisation representing 10 fisher communities. In the Turks and

Caicos Islands, capacity has also been increased for monitoring of the conch and spiny lobster (though use of the PICES software), on which 400 people in fishing and processing jobs depend.

- *Awareness*: Awareness of the importance of participatory monitoring systems (policy messages) has been increased for a number of target institutions (fisheries departments) and facilitating organisations.

Environmental Impact

H. *Environmental impact*

24. *What are the direct and indirect environmental benefits related to the output(s) and their outcome(s)? (max 300 words)*

This could include direct benefits from the application of the technology or policy action with local governments or multinational agencies to create environmentally sound policies or programmes. Any supporting and appropriate evidence can be provided in the form of an annex.

The participatory monitoring approach supports the sustainability of fisheries systems by promoting active management. This includes having a clear understanding of the status of the resource and identification of indicators to monitor its status and any impacts of management decisions.

Through the participatory design of these monitoring systems, all relevant stakeholders are able to express their priorities. For example, during the participatory design phase of the monitoring system for a reservoir in Thailand, a range of key factors were highlighted for monitoring including water quality, water management as well as fisheries. These can then be included in the overall management plan for their sustainable use in the short and long-term.

25. *Are there any adverse environmental impacts related to the output(s) and their outcome(s)? (max 100 words)*

There are no adverse environmental impacts related to this output.

26. *Do the outputs increase the capacity of poor people to cope with the effects of climate change, reduce the risks of natural disasters and increase their resilience? (max 200 words)*

Indirectly, this participatory monitoring approach supports poor people to cope with the effects of climate change by giving them the capacity to monitor their resource and other environmental parameters. Fisheries are naturally highly variable and often closely linked to climatic changes, so that a good fisheries management system will be able to track and deal with these variations. Through promoting better management and monitoring in the short-term, and involving fishers in this process through co-management, their capacity to deal with further variation due to climate change in the long-term will be increased.