Enabling Better Management of Fisheries Conflicts

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Annex 7.3   Khondker, M.J. and A. Hossain. 2005. Enabling Conflict Resolution for Better Fisheries Management: Experience from the Inland Fisheries of Bangladesh. Paper presented at the Regional Consolidation Workshop on Fish Fights over Fish Rights: Managing Conflicts and Exit from the Fisheries and Security Implications for South and Southeast Asia, 17-20 May 2005, International Rice Research Institute Complex (IRRI), Los Baños, Laguna, Philippines.

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Annex 7.7   Sithirith, M., V. Piseth and T. Sokkhoeun. 2004. Communication Strategies for Fisheries Conflict Management: A Case Study in Cambodia. An invited verbal presentation of the Fisheries Action Coalition Team (FACT) during the National Workshop on "Fish Fights over Fish Rights: Managing exit Managing exit from fisheries & security implications for Southeast Asia", held at the for Inland Fisheries Research and Development Institute (IFReDI) of the Department of Fisheries in Phnom Penh, Cambodia, 11-12 November 2004.

Abbreviations, Acronyms, Abbreviations and Definition of Terms

ALM   Actor-Linkage Matrix
baors   waterbody similar to an oxbow lake, Bangladesh
beel   low-lying depression on the floodplain that generally retains water throughout the
               year, Bangladesh
BMC   Beel Management Committee, Bangladesh
CBFM   Community-Based Fisheries Management
CBO   Community-based organization
CBT   PAPD-Based Consensus- Building Tool
cluster   a group of waterbodies made up of rivers and *beels*, Bangladesh
CNRS   Center for Natural Resources Studies
CPM   Communication Planning Matrix
CPM-CS   Communication Strategy
DFID   Department for International Development of the United Kingdom
DOF   Department of Fisheries
FACT   Fisheries Action Coalition Team, Cambodia
FAO-UN   Food and Agriculture Organization of the United Nations
FAO-CCRF   Food and Agriculture Organization – Code of Conduct for Responsible Fisheries
FishCom   Fisheries Conflicts Communication Framework: A tool for developing plans &
               strategies for managing fisheries conflicts
FTR   Final Technical Report
GoB   Government of Bangladesh
ha   hectare
ICLARM   International Centre for Living Aquatic Resources Management (now The WorldFish
               Center)
IGA   income generating activities
IRRI   International Rice Research Institute
jalmahal   physically defined state-owned waterbodies for which the fishing rights are auctioned
               out by the government, Bangladesh
katha   device made out of piles of branches and bushes to attract fish, Bangladesh
kua   natural depressions or ditched near beels or waterbodies, Bangladesh
lot   physically defined state-owned waterbodies for which the fishing rights are auctioned
               out by the government, Cambodia
MFRA   Marine Fisheries Regulations Act, India
NGO   non-governmental organization
NRSP   Natural Resources Systems Program
PAPD   Participatory Action Plan Development
patibandh   fencing made of tree branches and bushes in river systems to block fish migration
               paths, Bangladesh
PISCES   Participatory Institutional Survey and Conflict Evaluation Exercise
PRA   Participatory Rural Appraisal
Proshika   Proshika - A Center for Human Development, Bangladesh
RAFMS   Rapid Appraisal of Fisheries Management Systems
Rs.   rupee, local currency, India
sundarban   large mangrove forest in southwest Bangladesh
Tk.   Taka, local currency, Bangladesh
union   Lowest level of political administrative unit, Bangladesh
upazila   political administrative unit at sub-district level, Bangladesh
VIKASA   A village- level NGO based in Visakhapatnam, Andra Pradesh
WorldFish   The WorldFish Center

Executive Summary

This **Enabling Better Management of Fisheries Conflict** project, henceforth called the Project, studied the conflicts affecting the interest of poor capture fishers and stakeholders in three developing countries in South and Southeast Asia — Bangladesh, Cambodia and India. The approaches to fisheries management were not without problems when implemented, hence, conflict managers and policy makers are also included among the targeted stakeholders in this study. Conflicts arose due to diversity of interests, values, priorities and manners of exploitation amongst resource users. Conflicts also emanate from institutional failures in managing the fisheries and enforcing laws and regulations.

The Project aimed to benefit the poor by communicating participatory application of improved practices in conflict management, consensus building and institutional assessment to fishery constituents, from fishers to policy makers. In particular, these improved conflict management practices are embodied in the three main products developed by the Project through the fulfilment of the four planned thematic outputs. The first product is the "*Fisheries Conflicts Communication Framework* (*FishCom*)" where each step of the communication framework assembled the corresponding tools and means designed to ensure the promotion of institutions, and practices and tools for managing fisheries conflicts amongst stakeholders. The testing and application of *FishCom* in study sites in Bangladesh, Cambodia and India demonstrated that fisheries conflicts could be managed through an organized communication process involving groups of stakeholders. Communication interventions, such as multi-stakeholder workshops, forum and training, applied in study sites led to some attitudinal changes essential in conflict resolution and consensus building. The second product is the draft *Participatory Action Plan Development (PAPD)-Based Consensus Building Tool: A Facilitator's Guide* prepared, in collaboration with the Center for Natural Resources Studies (CNRS) in Bangladesh, arising from the second component of the project on consensus building. The third product is a draft *Policy Brief on Managing Fisheries Conflicts: Communication and Consensus Building in South and Southeast* Asia. The brief evaluated and compiled the lessons intended primarily for uptake by policy makers, researchers, academicians and the wider public.

The process of validating the three main products above through training and a field trial in new sites also the honed skills of a range of stakeholders — fishers, village leaders, researchers, policy-makers and law enforcers — in assuming roles of conflict managers. Those involved in this dissemination and uptake helped establish the lessons gained from the action plan development and consensus-building training in Agcharan village in Tangail, Bangladesh and the trial in Sakthikulangara village in Kerala, India.

The Project, together with country partners, had occasional engagements with a network of NGOs in field activities that links local organizations to DFID's and the WorldFish Center's pathway towards building global partnership for development and influencing fisheries management policies. The dissemination of conflict management framework through organized multi-stakeholder processes helped improve policies and practices on the functioning of institutions. In view of the welcome involvement of groups of stakeholders, the dissemination framework also helped diminish undesirable and unsustainable management decisions and fishing practices that are typical causes of most conflicts. With less conflict, the poor could then focus on engaging in environmentally sustainable livelihoods while obtaining support from responsible institutions in natural resource management.

This Project benefited from uptake of two DFID-funded research projects on conflicts and consensus building. The Participatory Action Plan Development (PAPD, R7562) was adapted, tested and promoted as a consensus-building tool through training and field trial. The Participatory Institutional Survey of Conflict Evaluation Exercise (PISCES, R7334), applied in study sites in Bangladesh and India, proved as useful tool for collecting information on conflicts among small-scale fishers and was adapted in *FishCom* developed by this Project.

Never has an already degraded fish habitat been overexploited as now with the enormity of pressure on fisheries resources. There is no letup on this enormous stress with increasing global demands from a growing population, commoditization of fish and fisheries products, an evidently inadequate fisheries management, and the whole gamut of other human interventions.

These various forces operate within the dynamics of fisheries, a complex bioeconomic system where diverse interactions amongst natural resources, humans and institutions give ample opportunities for conflicts. Conflicts over access and control of fisheries and aquatic resources are a global phenomenon, yet, in scope and importance, they take on a different dimension in poor developing countries in Asia. Conflict emerges when "the interests of two or more parties clash and at least one of the parties seeks to assert its interests at the expense of another party's interests" (FAO, 1998:199). Conflicts of this type do not necessarily have to be violent or highly disruptive, however; in fact many conflicts that arise as a result of differing interests are low-level, non-violent phenomena (Warner, 2000). Non-violent conflicts in fisheries, nevertheless, need not be overlooked as they may pose threats to food, livelihood and environmental security when unabated (Salayo et al. in press).

While institutions have evolved and taken to task collective actions to minimize conflicts and transaction costs, their presence does not fully guarantee absence of conflicts. Institutional weaknesses and constraints are pervasive in fisheries and coastal management sector in most developing countries (Torell and Salamanca 2002). In particular, the legal and institutional frameworks to promote and protect access rights for traditional fishers are either weak or not implemented in most of these countries (Delgado et al. 2003). Furthermore, the economic view of institutions and conflicts also has to recognize the uneven distribution of power in society. Knight (1992) observed that institutions and rules emerge through bargaining and strategic conflict, where the weaker contestants have no choice but to comply with the outcome. Consequently, existing institutions are unlikely to favour or fairly represent the interests of poor resource users when they differ from those of more powerful users.

Charles (1992) analysed conflicts in fisheries through a trio of fishery paradigm, elucidating the answers to questions why there are conflicts and what drives people to conflict. The paradigms arise from the policy objective at which most groups of fishery resource users operate. The conservation paradigm operates with a policy objective centered on resource maintenance or conservation. This paradigm is based on the premise that fishery management is primarily tasked to take care of the fish, and fishers are viewed as "predatory fleet" that must be directly managed through restrictive fishing hours, fishing location, fishing effort and catch quota. The second, rationalization paradigm, underscores the pursuit of economic performance and productivity. The policy context related to this paradigm is founded on the assumption that the society should seek to maximize fishery rents, compromising economic benefits over and above payments to fishers and vessels; and those fisheries that cannot attain this objective are "supposed to be rationalized".

The third paradigm explains the social or community focus among fishers as members of coastal communities, rather than component of a fishing fleet. The social paradigm focuses on community welfare, distributional equity, and other social and cultural fishery benefits. Charles noted that this paradigm tends to be attractive among fishers' unions, fishing cooperative, and those living in or involved with fishing communities. However, these groups remain to be underrepresented among the staff and management initiatives of government fishery administration during the time of his research. There has recently been an

overwhelming interest in this paradigm and its "advocacy" element made for better understanding of its policy objectives even at the lower levels of the policy-making hierarchy.

Advocacy lends support to the promotion, understanding, favorable stakeholder involvement and acceptance of such policies. Advocacy, then, becomes a necessary activity within a communication framework integral to understanding and resolving conflicts. Stakeholders, applied in this context, are individuals or groups associated with institutions that are parties to conflicts or those that are potential instruments in conflict management and consensus building. It is important to keep communication in perspective, especially as it applies to eliciting understanding amongst conflicting stakeholders or when exploring institutions that have the capacity to develop and undertake participatory methods for resolving conflicts.

Bennett et al. (2001) reviewed conflicts through case studies of different types of fisheries in three continents and found that they are often a result of institutional failure. It is then necessary for fishery managers—primarily the government—to understand the complexity of conflicts; to train officials in assessing conflicts, their resolution or elimination; and to adopt more participatory approaches in fishery management.

Interactions amongst fisheries resources, fishers, governments and other stakeholders need further study as they could enhance opportunities for formulating policies and influence policy actions for better management of these resources. The guiding principle is in framing strategic communication necessary in engaging stakeholders in managing conflicts. The strategy points to the need to develop design and package the most appropriate communication materials and approaches complementary to good practice in managing fisheries conflicts. Promotion of key lessons and practices learned from earlier projects on conflict and consensus building is an important aspect that deserves follow-up, considering the generally limited capacities of fisheries institutions and governing bodies in developing countries in South and Southeast Asia.

Chapter 2
Project Purpose

The Project was aimed at promoting institutions and practices that could help resolve and minimize conflicts that often go against the interest of poor fishers. Its other object was to promote conflict assessment and resolution tools as well as consensus-building methods by targeting key stakeholders. The Project goal is towards enhancing methods for understanding and resolving/minimizing conflicts involving government and NGO workers who are engaged in fishery management and have the potentials to bring direct benefits to poor people, whose poverty and lack of power are a disadvantage in conflict situations.

To help achieve its goal, the Project was designed with pro-poor mechanisms adaptable in Bangladesh, Cambodia and India where a great number of poor people depend on fisheries. Major Project activities in these countries were developed and designed to promote the requisite institutions and practices in resolving and minimizing conflicts inimical to the interest of poor fishers and to promote conflict assessment and resolution tools as well as consensus-building methods with key stakeholders in mind. Specifically, the Project envisioned enabling the poor to participate in resolving conflicts that confront them in their day-to-day fishing activities and make them active participants in building consensus that would benefit them in return, primarily through the generation and application of new knowledge on fishery management systems. The Project likewise envisioned contributing to the overall developmental goal of improving livelihoods of the poor through sustainable management of land/water interface systems.

Chapter 3
Project Outputs

In view of the conflicts faced by key fishery stakeholders and the purpose set by the project in order to contribute to the management and resolution of conflicts in fisheries in developing Asian countries, this Chapter presents the four major thematic output categories and corresponding products delivered by the Project. Three main products were developed. First is the *Fisheries Conflicts Communication Framework (FishCom)* which is extensively discussed in this Chapter. The second is the draft *PAPD-Based Consensus Building Tool: A Facilitator's Guide* presented in camera-ready publishable form as **Annex 1** to this report. The third product is a draft *Policy Brief on Managing Fisheries Conflicts: Communication and Consensus Building in South and Southeast Asia* shown in **Annex 2**.

The following sections present the outcomes of the four (4) planned outputs of the Project that form the basis for the delivery of the abovementioned products. The synthesis of the findings enabled assessment of what worked and what did not against what was planned and expected by the Project. The evaluation of each outcome provided the bases for what would be communicated as improved practices on conflict management, consensus building and institutional assessment to fishery management systems in study sites in Bangladesh, Cambodia and India.

3.1   Output 1: Communication strategy to reach policy makers and practitioners

Policy-makers and practitioners have important roles in catalyzing and effecting changes that are instrumental in minimizing, if not totally eliminating conflicts. Under this proposed Output, a "*Fisheries Conflicts Communication Framework: A tool for developing plans & strategies for managing fisheries conflicts* (*FishCom*)" was formulated intended for policy makers and conflict management practitioners. The FishCom was developed through testing and evaluation of a series of communication steps and corresponding tools in case study sites in Bangladesh, Cambodia and India. The steps involved the participation of a range of stakeholders in fisheries conflicts, from direct stakeholders involved in conflicts such as fishers and community members to community leaders and policy makers, who have duties and responsibilities mandated by their jobs to facilitate and work for the resolution of conflicts. The *FishCom* is illustrated in Section 3.1 and summarized in Box 3.1 in this Chapter. The framework allows for feedback mechanism through an attitude-change survey. The details of how each step was conducted and its outcomes are discussed in the sections that follow.

3.1.1   The "*Fisheries Conflicts Communication Framework: A tool for developing plans & strategies for managing fisheries conflicts* (*FishCom*)"

Step 1: Information Gathering[1]
Information gathering is a fundamental step in conflict assessment and resolution process. Socioeconomic surveys, attitude surveys, and a combination of techniques used in PISCES

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[1] In discussing participatory approaches in information gathering, different terms were used and in some cases they were interelated. These terms are *participatory learning and action*, *participatory rural assessment*, *rapid urban environmental assessment*, *rapid rural appraisal*, and *participatory action research and evaluation*. The *rapid assessment* or *rapid appraisal* technique was developed as far back as 1970s and has been in constant cycle of improvement and enhancement, adapted and modified as the need arises. For the purpose of this Project, participatory rapid appraisal technique was used as a method of collecting data as well as building consensus. This approach encouraged active involvement of all primary stakeholders, parties directly involved in fisheries conflicts, and such secondary stakeholders as government agencies, NGOs, researchers, policy makers and others.

Figure 3.1: Communication Framework for Managing Fisheries Conflicts

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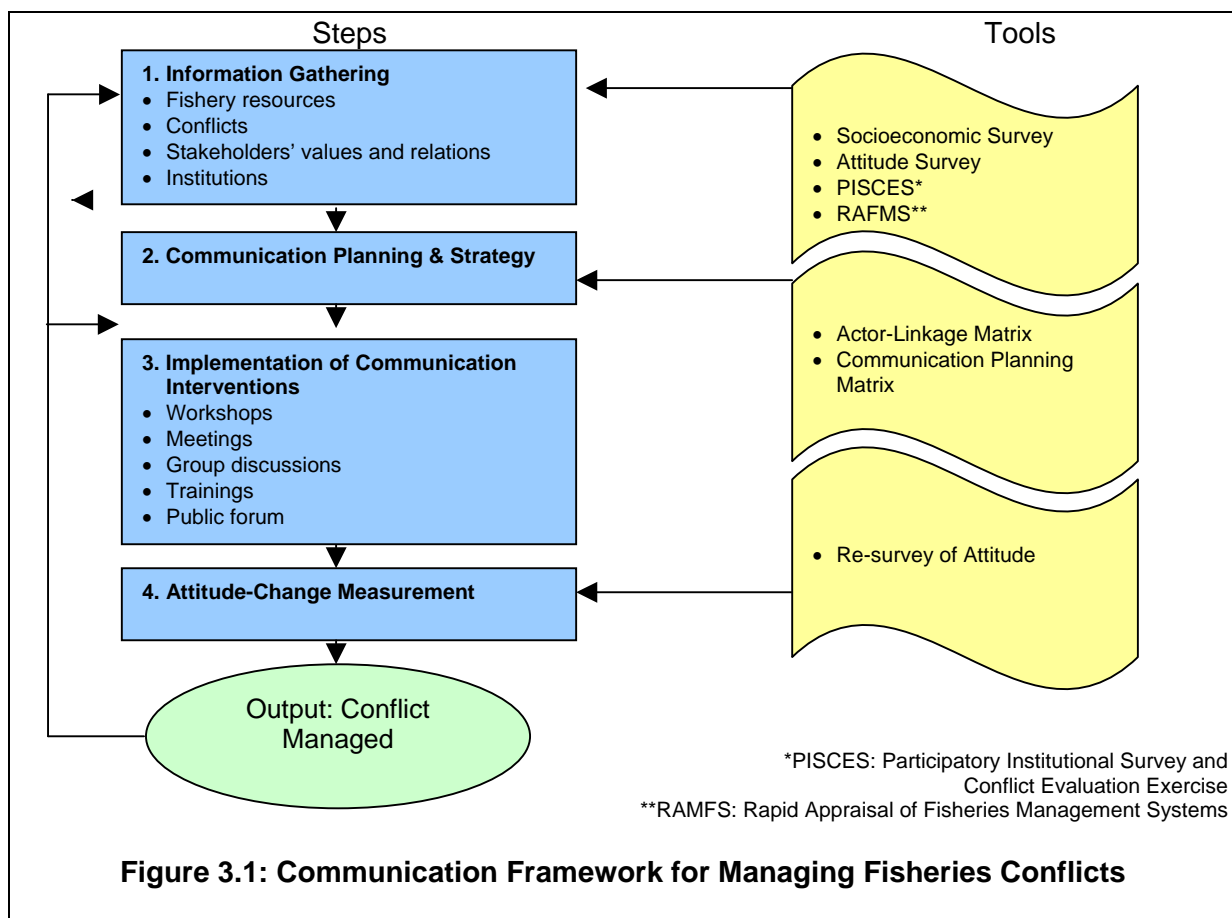
Box 3.1 Description of the *FishCom* Step and Tools

The *Fisheries Conflicts Communication Framework*: A tool for developing plans and strategies for managing fisheries conflicts (FishCom) organized the steps (see Figure 3.1 in Section 3.1 of this Chapter) that could be tested and adapted by groups of fishery stakeholders involved or interested in managing conflicts. The framework ensures that actions and decisions arising from participatory activities have a good chance of being taken up by relevant stakeholders and organizations. The four major steps are:

1) Information Gathering
This step was meant to organize and understand key issues related to the conflict and its causes, stakeholders and their relationships. The tools include: Socioeconomic Survey, Attitude Survey Statements, PISCES, and Rapid Appraisal of Fisheries Management Systems (RAFMS).

2) Communication Planning & Strategy
This step was designed to organize methods for communicating conflicts to a variety of stakeholders. The tools include Actor-linkage Matrix (ALM) and Communication Planning Matrix (CPM). The ALM is an approach used to map information and flows of information amongst key stakeholders. The CPM involved a set of communication activities designed to meet specific objectives amongst specified communication partners or stakeholders.

3) Implementation of Communication Interventions
This step guided the conduct of selected communication interventions to resolve conflicts. The actionable interventions were evaluated and pre-implementation activities were arranged and acted upon based on the plan. Typically, the cost and logistical arrangements of physical and human resources were crucial factors considered in the implementation of communication interventions.

4) Attitude-Change Measurement
This step was meant to measure changes in attitudes toward conflict resolution and consensus as influenced by communication interventions. This step involved a comparative evaluation of the outcomes of responses to the *Attitude Survey Statements* elicited in an *ex-post* survey with the outcomes of the *ex-ante* attitude survey.

and RAFMS were applied by the Project to gather information in the project sites (see discussions and citations below). The Project noted that the methods under PISCES and RAMFS overall represent rapid appraisal and assessment methods (including on-site observations, semi-structured interviews, transects, participatory mapping, diagrams, comparative analysis of locations and circumstances) that are widely found in the literature. The experiences on the application of these information gathering tools showed that these appraisal techniques can be used not only for data collection purposes. They may also serve as an empowering and capacity-building tool for the stakeholders involved in the activity.

- **Socioeconomic Study** - A baseline study of the project site was conducted to enable better understanding of the profile of the study area. The information, organized into a community database, included the profile of respondents, fishing resources, gears used for fishing operations, knowledge of the fishery, institutional linkages and media exposure of the community. This information is important when addressing fisheries conflicts, views and perceptions of the community towards conflicts and for understanding of the relationship of respondents to their cultural and social background. A conflict on fisheries could be seen as a small problem compared to the larger, more pressing issues faced in the local context. The formulation of specific survey forms and formats is needed to focus and elicit the important information needed and not spending too much time on long and lengthy surveys where some data are not relevant.

- **Attitude Survey** – Conducted to gain better insight and understanding of the conditions, values and priorities of the fishers and conflict managers on issues related to fisheries conflicts. The outcome of the attitude survey serves as a basis for evaluating the behavior of the stakeholders. This would enable the perception of the fishers and various stakeholders to be incorporated in the communication strategy for managing fisheries conflicts. The attitude survey conducted at all project sites using a standard set of questions. The attitude survey can be conducted using face to face meetings, group discussions or multi-stakeholder workshops. For the more literate stakeholder group the survey forms could be distributed or posted, filled in and submitted at prescribed later date. A sample form used for this Project was created with intentions for a combined Socioeconomic Survey and an Attitude Survey, and to be used again for the Resurvey of Attitude **(Annex 3)**.

- **Participatory Institutional Survey and Conflict Evaluation Exercise (PISCES)** - A tool developed by Bennett and Jolley in April 2000. PISCES is a combination of different tools, such as participatory geographic information exercise, timeline exercise, identification of communication partners and a semi-structured interview (Bennett et al. 2000). In the research sites in Bangladesh and India, PISCES were found useful and suitable as it is a simple, rapid and comprehensive tool. PISCES facilitated the collection of important information on conflict both in the context of inland and marine coastal fisheries. For the purpose of this project, a briefing (group discussion for conflict identification on conflict issues, causes, affected groups, impacts and recommendations for conflict resolution) was pursued as a preparatory exercise before undertaking the PISCES activities at the research sites. While the original PISCES was intended for primary stakeholders who comprised fisher communities, this study found that when dealing with conflicts of varied proportions and at different project sites there was need to involve secondary stakeholders from the initial stage during the data collection. This can be made through multi-stakeholder group discussions, meetings or workshops. The need to involve all parties through a participatory approach is important to reach consensus in formulating plans and actions to resolve conflicts.

- **Rapid Appraisal of Fisheries Management Systems (RAFMS)** – This is an appraisal tool involving key stakeholders from amongst local researchers and members of the

fishing community. A rapid appraisal methodology are useful critical first step in documenting and evaluating the existing informal (including traditional) fisheries management systems in a coastal community, and its relationship with the more formal fisheries management systems administered by the state authorities. RAFMS was designed as a research tool to extract important information required by the research community in a short time frame adopting a consultative mode. It is a suitable technique to be used to link researchers to the local community. The local communities provide a rich source of information, which is analysed using other rapid appraisal techniques. This technique was successfully applied in project sites in Indonesia and the Philippines (Pido et al. 1996).

Step 2: Communication Planning and Strategy

Communication channels in development have traditionally been used *vis-a-vis* linear transfer of information and knowledge to various audiences, with the object of influencing knowledge, attitudes and practices. A communication framework not only involves messages to convey to a defined audience, and the media through which to convey them, but also includes planning to improve access, to provide mediation between providers and users of information (Garforth 2001), and to use complementary methods to facilitate dialogue. Communication planning and implementation paved the way for the development and design of communication strategies used in this study. Country-specific communication plan was formulated to address conflicts at respective project sites, particularly in understanding conflicts in the area and in identifying stakeholders.

The Project introduced two tools to hone communication planning. These tools can be used for managing fisheries conflicts and for making sure research findings are promoted, and get a chance of being taken up by relevant people and organizations, more importantly, the policy-makers.

- **Actor-linkage matrix (ALM)** - An approach used to map information and flows of information between key stakeholders. In the ALM, stakeholders are called as actors. "Actors" are those who play - or should play - an active role in a particular situation. They are identified using other participatory approaches in information gathering. The matrix presents a map of linkages amongst different sets of actors in a specified situation. The actors are listed along the top and down the side of a square matrix. Each cell in the matrix then represents the linkage (existing and/or potential) between a pair of actors. The cells can be used to record details or observations relevant to the task in hand. When used to plan communication for fisheries conflict management, a cell can be used to record the constraints that are restricting or distorting communication between each pair of actors; and to give a rating of the importance of that particular interaction so that priorities can be established. Relevant actors to include in an ALM may include users of fishery resource, district and provincial administrators, NGOs working with the fisher communities, policy makers and administrators in the central government.

  Table 3.1 illustrates a typical ALM for fisheries conflict management and how communication between community fishers and central government is recorded using an ALM Matrix. The cells below the diagonal can be used to record information about or assessments of communication from the actor on the left to the actor on top and vice-versa. Cells in the diagonal represent communication between the same actors. The project partners used this approach in two ways - to gather information, and to identify communication constraints among stakeholders, who are also called as "actors" in the communications literature.

Table 3.1: Actor-Linkage Matrix for Fisheries Conflict Management

To From	Community Fishers	DOF Officials	Police	NGOs	Central Government
Community Fishers	*No formal communication. Communication happens only when conflicts arise.*				*Villagers are frustrated with the government on the time taken to implement policies.*
DOF Officials					
Police					
NGO's					
Central Government	*Government policy to promote community-based fisheries management has been communicated effectively.*				

- **Communication planning matrix (CPM)** – This matrix was specifically used to develop a communication strategy. A strategy is a planned set of communication activities designed to meet specific objectives among specified communication partners or stakeholders. The CPM has four columns. The first identifies the communication partners with whom a particular organization or project wants to communicate. The second lists the objectives when communicating with each set of partners. The third column contains the communication content to attain the objectives. The fourth column indicates the methods or channels through which communication with each partner could be conducted most effectively. To resolve conflicts, there is a need to communicate with several partners, many of whom are the same as the actors identified in the ALM above. For each stakeholder, the communication objective has to be established. Generally, these objectives entailed identifying the source and cause of conflicts, creating awareness amongst fishers towards conflict resolution, reducing use of illegal gears, etc. Once objectives are agreed upon, determine communication content/message before identifying the most effective ways of communicating with each communication partner. This CPM can be used by project executants as a planning tool compiled from multi-stakeholder group meetings, consultations or workshops.

- **Communication Strategy (CPM-CS)** – This extension of the CPM contains the planned strategic use of communication elements, such as the working media, to support effective policy making, public participation and some identified project implementation criteria (e.g. environmental sustainability of strategies). Typically, the CPM-CS matrix incorporates three further details: time frame, implementers of interventions, and tangible and intangible costs. This is necessary in prioritizing and selecting suitable methods and interventions to achieve objectives with a realistic timeframe and budget. Table 3.2 illustrates a communication planning matrix template for outlining an overall communication strategy.

Table 3.2: Communication Planning Matrix

Communication Strategy (Template)						
WHO	WHY	WHAT	HOW	WHEN	WHOM	COST
Communication partners	Communication objectives	Communication content/message	Communication channel/method	Timeframe for communication activities	Responsible for conducting communication activities	Estimated cost for communication activities

Step 3: Implementation of Communication Interventions

Conflict management refers to all kinds of interventions to resolve conflicts over the use of resources and to avert degradation of the environment arising from impacts of conflicts. Principally, a genuine conflict management refers to the processes involved in the resolution of conflicts from the perspectives of parties. It serves to transform hostile relationships between parties in conflict into cooperative relationship. If science is perceived as a cycle of understanding and conceptualizing data (e.g. basic research), followed by a phase of prescription and problem-solving (e.g. applied research), research on environmentally-induced conflicts can be dealt with in the first phase, while research on managing these conflicts can be positioned in the second phase.

Negotiation, mediation and arbitration are typical interventions used in achieving positive conflict resolution. They all require use of communication ranging from the involvement of all relevant stakeholders in planning of interventions to negotiation to reach a mutually agreeable resolution. Issues are not limited to environmental problems, but they encompass economic, social, cultural and political questions. Addressing such issues could be done through group and interpersonal communications: face-to-face meetings, focus group discussions, and dialogues. There are conflict situations that require a mediator to facilitate negotiations. A mediator could be the village chief, religious leader, government official, an NGO or any neutral party. Mediation might also be necessary to settle disputes, for example, between disciplines, and between economic sectors and social groups within a single conflict party with one group taking the mediator's role. Arbitration is used to resolve disputes in cross-national boundaries involving obligations under various conventions, treaties or laws. Workshops, meetings, group discussions, public forums and training are among communication channels that promote intervention approaches.

Step 4: Attitude-Change Measurement

This fourth step in the *FishCom* intends to measure changes in attitude towards conflict resolution and consensus building as influenced by communication interventions. A "re-survey of attitude" is a tool for determining change in attitude and perception of stakeholder groups after implementing a communication intervention. This step used a comparative study of the outcomes of the attitude survey before the implementation of communication intervention (*ex-ante*) and resurvey of attitude after the intervention (*ex-post*). This step used a similar set of *Attitude Survey Statements* to elicit *ex-post* responses from the same set of stakeholder-respondents in the *ex-ante* attitude survey. This step is not necessarily final because communication is a continuing and evolving process. Hence, the diagram in Figure 3.1 shows a feedback loop because the *FishCom* activities may require a repeat of the earlier steps until the desired change in attitude towards conflict and their resolution is achieved.

The ALM could also be used for monitoring and evaluating changes in the level, quality and effectiveness of each actor-linkage over time. For example, a provincial stakeholder committee could record their periodic (e.g. annual) assessment of the communication

relations between each pair of actors in the matrix. Overtime, the linkages could be evaluated if they improve or if they require further remedial intervention. Similar with other communication tools, the construction an ALM is not an end in itself. Rather, it is the first step in a decision-making process that aids in determining the necessary actions and its implementation strategy.

3.1.2 Lessons Learned from Output 1

The communication strategy (Output 1) has enabled gathering similarities and differences of circumstances (socio-political, cultural, literacy, etc.) influencing fisheries conflicts in countries covered by the study, namely Bangladesh, Cambodia and India. For example, the emerging socio-political exposures coupled with relatively lower levels of literacy among some fishers in Cambodia, compared with those in Bangladesh and India, required greater efforts from project executants in calling the attention and obtaining participation in communication interventions and fishing community members. Meanwhile, the experienced fisher counterparts in Bangladesh and India had comparatively wider exposure in exchanging facts and opinions on conflicts confronted mostly by poor fishers.

Overall, the information gathered using the tools identified in the *FishCom* provided useful inputs for identifying conflicts, stakeholders, communication plans and strategies, communication interventions, and appropriate feedback mechanisms for evaluating and resolving conflicts in these countries at varying degrees of effort.

There is one major limitation and difficulty encountered in developing the *FishCom*. The sampling techniques and methods used for analysing data is a crucial factor in measuring a change in attitude. In an ideal condition, the respondents of the ex-ante and ex-post surveys should be the same persons (sampling without replacement). However, the resurvey may involve respondents who appear to have similar characteristics as the respondent in the first survey (sampling with replacement). The replacement may be acceptable due to the limitations of finding exactly the same person during the village visit for the resurvey, and multi-stakeholder meetings. There should also be sufficient time interval between the Attitude Survey and Resurvey of Attitude, depending on the nature of conflicts and inventions undertaken, to allow for a realistic measure of attitude changes over time arising from an intervention.

Nonetheless, the Project was able to achieve its desired output of drawing communication plans and strategies for fisheries conflicts to reach policy makers and practitioners; in addition, it was able to organize the steps and assemble corresponding tools and means for each step in a *FishCom*. The framework was finalized during the Project's Final Writing Workshop in June 2005 and is recommended for further testing and evaluation in other sites in future studies.

3.2	Output 2: Conflict assessment methods and typologies tested and adapted / validated in additional countries.

The project achieved Output 2 by conducting case studies aimed at better understanding of conflicts, their origins and causes, and implications on people involved in two case study sites each in Bangladesh, Cambodia and India. The outcomes of Output 2 provided bases for the Fisheries Conflicts Communication Framework (*FishCom*). Recall that the conduct of the first step (i.e. information gathering) enabled conflict assessment method and typology identification. As planned, conflict assessment methods (i.e. surveys, multi-stakeholder workshops and PISCES implementation) and Bennett's typology were tested and adapted in

Bangladesh, Cambodia and India. The conflicts were categorized according to Bennett's five typologies, such as: (1) rights and access, (2) enforcement of regulations, (3) fishery group-related disputes, (4) non-fishery use of fishery resources, and (5) non-fishery concerns affecting the fishery.

3.2.1 The case study sites in Bangladesh, Cambodia and India

<u>**Case 1:**</u> <u>Bangladesh</u>

The country is characterized by large floodplains which support over 800 people per square kilometre. Over 70% of households in the floodplains catch fish as a source of food or livelihood. Apart from fishing, agriculture is intensively practised in the floodplains. Competition for use of and access to this natural resource leads to unsustainable utilization, decline in catch and increase in conflict. In spite of the co-management and community-based fisheries management (CBFM) initiatives on-going in Bangladesh for over a decade now, existing institutional arrangements for inland fisheries do not yet fully ensure sustainable exploitation or equitable access by poor fishers as planned. There are conflicts arising from these discrepancies. Thus, there is an inherent need to develop and use conflict resolution methods to strengthen the capacity of fishery stakeholders to enable their participation in resolving fisheries conflicts.

Fisheries in Bangladesh comprise three distinct areas: 1) inland capture (fresh openwater) constituting rivers and estuaries, *sundarbans*, beels, *kaptai* lakes and flood land; 2) inland culture (fresh closed water) comprising ponds and ditches, *baors*, and coastal shrimp and fish farms; and 3) marine capture (saline open waters of the Bay of Bengal). The study in Bangladesh focused on the inland fisheries in Titas Cluster and *Beel* Shapla to represent the conflict conditions faced by families dependent on such type of fisheries. Titas Cluster comprises ten waterbody components while *Beel* Shapla is a closed *beel* in the Brahmanbaria District (Figure 3.2.1).

Photo 1. Fishers in Hamil *Beel*, Bangladesh

Photo 2. Boats used by traditional fishers

Photo 4. Many families depend on fish catch from the *beels* as a source of food and livelihood

Photo 5. Children in a village in the Titas Cluster taking a peek at the catch of the day

In understanding the conflicts that potentially exist in the area, it is important to note the background and geographical location and boundaries of these study sites. Both sites were under the CBFM-2 Project being implemented jointly by the WorldFish Center-Bangladesh and Department of Fisheries, with financial assistance from Department for International Development (DFID). Titas cluster is situated in the eastern part of Brahmanbaria Sadar and Nabinagar Upazila of Brahmanbaria district. Titas is a cluster of ten waterbodies. Under CBFM Phase 2, these ten waterbody components were jointly named as Titas cluster. These are i) Titas River (Nodi) "ka", ii) *Beel* Shakla Jalmahal JB, iii) Kurulia Canal (Khal) West (WAPDA to west part), iv) Kurulia Canal (Khal) East (WAPDA to Titas 'Ka' river), v) Titas River (Nodi) (Gokorno-Gosaipur) "JR", vi) Titas River (Nodi) "Block B" (Shitarampur Ferighat-Dirgarampur), vii) Beel Alaikhali Fishery JB, viii) Titas River (Nodi) "Block Ka" (Gosaipur-Shitarampur), ix) Pagla River (Nodi) (Titas Nodi-Meghna river), and x) Titas River (Nodi) (Urkhulia- Bijoy Nodi). Under the CBFM-2 project, two management committees (River Management Committee for river management and Beel Management Committee for beel management) were formed to include all major stakeholders. The total number of fishers in the Titas was 1,453.

Beel Shapla is situated in Gokorno union of Nasirnagor Upazila of Brahmanbaria district, although a small portion of the *beel* is extended to Shabajpur union of Sarail Upazila of the same district. The *beel* is surrounded by Titas River in the east, west and south side. Hurul *Beel* is situated next to the beel at north, and they get connected during wet season. Official record describes the waterbody as a closed beel of 161ha, but during the rainy season it covers over 2,032ha. The Shapla *Beel* came under the CBFM project in 2001. Previously, it was under the control of leaseholders; fishers work for these leaseholders as day laborers. The total number of fishers of *Beel* Shapla was 195. A *Beel* Management Committee (BMC), which included major stakeholders, was formed to manage the fisheries under CBFM-2.

Figure 3.2.1: Location Map of Titas Cluster and Beel Shapla in Brahamanbaria District, Bangladesh

Case 2: Cambodia

Fisheries is important for the country, particularly at the areas around the Tonle Sap Lake that teems with rich natural resources. During the rainy season the Great Lake expands to over 10,000km^2 where over 280 fish species breed and feed in the inundated forest. The importance of this lake has a much wider expanse as its fish migrate through the Mekong River in Thailand and Laos. Fisheries conflicts in Cambodia, therefore, represent inland fisheries in the Southeast Asian region. However, in spite of the similar conflict circumstances, the fishing lot allocation system in Cambodia has its unique features that offer some lessons in the fisheries conflict literature. Previous fisheries management regulations in the country allowed lease of large lots to commercial fisheries enterprises, creating conflicts between small-scale fishers and lot operators, forest encroachers and private owners, and government officials and medium-scale fishery operators. In 2000, there was an order by then Prime Minister Hun Sen, that large sections of fishing lots be opened and returned to local communities for community fishery activities. This opened up the fishing areas, but also opened a floodgate of other conflicts. A report by the Project partner *Feast or Famine? Solutions to Cambodia's Fisheries Conflicts* (FACT, 2002) identified the major causes of fisheries conflicts. It included lack of governance, institutional gaps, and pressures from competing uses that adversely affected the poor fishers. To help address these key issues, participatory approaches and training for government officers in communication, negotiation and conflict resolution were recommended.

The case study sites for this Project in Cambodia included Anlong Raing Village in Kampong Por Commune, Krakor District in Pursat province (Figure 3.2.2a); and Tamol Leu village in Koh Tkov Commune in Chulkiry District in Kampong Chhnang province (Figure 3.3.2b). Anlong Raing village is a floating village located in the eastern shore of the Tonle Sap Lake and home to 93 families, most of them engaged in fishing, as a primary occupation. Meanwhile, Tamol Leu village is located along the Tonle Sap River. This village is submerged for three months during peak flooding period from July to September. It is home to 284 families, most of them engaged in fishing and farming. Fishing as livelihood is integral to the villagers' food security needs.

Photo 6. Almost 90% of the population in Tamol Leu of Kampong Chhnang province depend on the Tonle Sap for livelihood.

Photo 7. Anlong Raing, a floating village, with a 100% fishing population.

Photo 8. A floating school in Anlong Raing village of Pursat province during the dry season. Almost 80% of fishers in Anlong Raing are not literate.

Photo 9. A floating school in Anlong Raing village of Pursat province during flooding season.

Figure 3.3.2a. Location Map of Anlong Raing village in Kampong Por Commune in Krakor District
Figure 3.3.2b: Location Map of Tamol Leu village in Chulkiry District
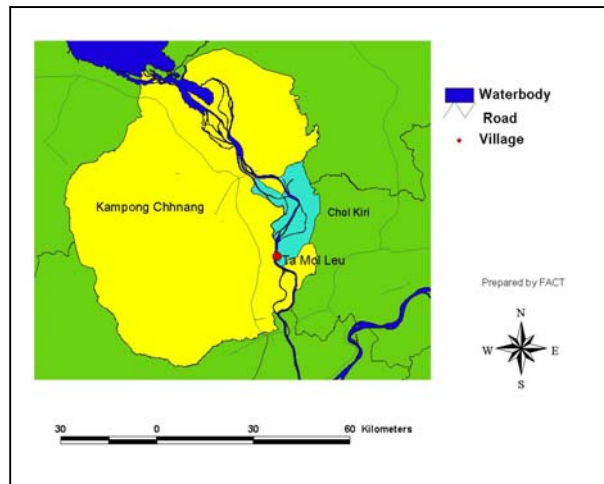
Case 3: India

India has a vast coastline rich in aquatic resources that are valuable to millions of people dependent on fishing and fishery-related livelihoods. Although coastal fisheries have benefited from zoning through legislation, this has not prevented numerous conflicts between small-scale and mechanized fishers. The marine fishing industry in India is generally categorized as having three sub-sectors, namely traditional, motorized and mechanized. Tensions between these sub-sectors arising from competition for access to fishery resources are the main cause of fisheries conflicts.
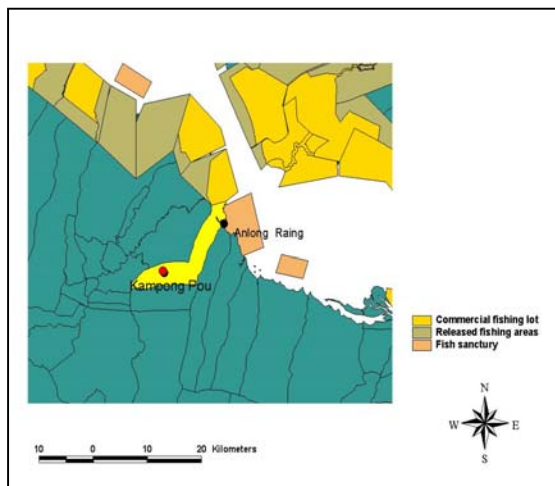
The government has implemented the Tamilnadu Marine Fisheries Regulation Act 1983 aimed at curbing the excess capacity of mechanized fishing boats by creating separate fishing zones for the three sub-sectors. However, desired results are not yet realised and the regulation itself are linked to the conflicts among fishery stakeholders, including conflicts between fishers and government officers who are perceived as not implementing the enacted regulations. Formal conflict resolution processes tend to be confrontational.

Three fishing villages were studied in India. Two study sites, Pedajalaripetta and Bheemunipatinam villages, are in Visakhapatinam district in Andrapradesh State. The third site is the Sakthikulangara village in Kollam district in Kerala State. Pedajalaripeta is a coastal fishing village situated near the urban limits of Visakhapatinam city. The village had 2,136 households with a total population of 8,128, about 84% of them are fishers. Fishing crafts used in the village include non-motorized fiber boats, motorized fiber boats, and wooden crafts; while using gears such as gill nets, trammel nets, hook and line and shore seines. The nature of fishing operation varied from traditional to motorized operations in the inshore and offshore areas. The catch typically include tuna, seer fish, shark and sailfish. The village had categorically good infrastructure facilities and there were social welfare organizations operating and located in the village. Socioeconomic constraints ranged from social backwardness, economic stagnation, low catch/income, no gainful subsidiary occupation to lack of access to institutional finance.

Bheemunipatinam, another fishing village near Visakhapatinam, has 8,763 households with an approximate population of 42,000 people, whose main occupation were related to marine fishing, animal rearing, fruit and vegetable vending, and rural artisanal works. Average income was Rs1204.77/month. Bheemunipatinam's fish landing center has traditional (stitched boats) and motorized boats. Catches included seers, sharks and sails. It has a health center, several primary schools, a higher secondary school, a Junior college, and a

girls' polytechnic and teacher training centre. Literacy rate was 29.6%.

Sakthikulangara village is a well-known coastal fishing village in Kollam district in Kerala. The introduction of mechanized boats changed the fishing landscape in the village and brought considerable strides in infrastructure development. All types of fishers could be found in the village landing centre. A study revealed that 770 (64%) of 1,209 families in Sakthikulangara were in debt, at an average of Rs 29,766 (1 US dollar = Rs60) outstanding debt per household.

Photo 10. Fishing as livelihood for many in this coastal village of Kollam, Kerala, India

Photo 11. Typical fish landing area in coastal Kerala.

Photo 12. Semi-motorized boats widely used by semi-mechanized fishers in coastal fishing villages in Kerala, India.

3.2.2 Conflict Assessment Methods

Participatory Institutional Survey and Conflict Evaluation Exercise (PISCES): Testing and Outcomes

As planned by the Project, PISCES was tested and applied in project sites to gather information that are useful for conflict assessment. The outcomes of PISCES implementation in Bangladesh and India are discussed below. Cambodia did not apply PISCES because socio-economic surveys and workshops have been extensively done by project partners in the study sites. Linked with the discussion on *FishCom*, stakeholders in fisheries conflicts were also identified during information gathering. Key stakeholders were invited to the national workshops. Groups of stakeholders filled the Actor-Linkage Matrix (ALM) during work sessions in these workshops. The ALM was used to record communication constraints between pairs of stakeholders, admittedly a limitation of a two-dimensional matrix. The ALM was updated through a series of informal discussions with more relevant stakeholders. Based on the details ALM prepared for the project sites, the common problem was that most of the stakeholders did not communicate effectively with each other. The results of the ALM for fisheries conflicts prepared for each study site are discussed in this Chapter.

After completing the ALM, the concepts and procedures for identifying communication strategies were introduced to key stakeholders in the national workshop. Communication plans and strategies were identified using the communication planning matrix (CPM) and the extended communication strategy (CS) tool described earlier. Overall, the CPM-CS showed that there is a wide range of plans, including participatory approaches that could be pursued to address fisheries conflicts. The results of the CPM-CS for fisheries conflicts in each study site are also elaborated below. After identifying the overall communication strategy, the interventions were then categorized according to the priority of interventions. The interventions undertaken at the Project sites are also detailed at the end of this chapter.

PISCES—developed by Bennett and Jolley in April 2000 based on the principles of participatory appraisal techniques from a DFID-funded project on Management of Conflict in Tropical Fisheries—was initially used to gather information on conflicts in artisanal fisheries in Ghana. Employing a participatory approach, the device was used in such a way that it could readily adapt to the Project's cultural context with minimum changes. The Project was one of the first to test the effectiveness of the newly developed tool on information gathering for fisheries conflict management.

Summary of PISCES Application in Bangladesh

In the research sites, PISCES worked well as a simple, rapid and comprehensive tool to collect basic information on conflicts in the context of inland fisheries of Bangladesh. PISCES is the combination of different tools, such as participatory geographic information exercise, timeline exercise, identification of communication partners and a semi-structured interview. However for the purpose of this Project an additional step on group discussion for conflict identification (conflict issues, causes, affected groups, impacts and recommendations for conflict resolution), was included as a preparatory exercise before undertaking other PISCES activities at the research sites.

PISCES was conducted in ten different locations within the research sites to identify the nature and types of conflicts prevailing in those waterbodies. Fifteen to 20 fishers and community members attended the PISCES. These persons were selected in consultation with the NGOs, CBOs and community members. Representation from general fishers, CBO members, and community members was ensured in the selection.

Conflict Identification through Group Discussion

The group discussion was organized to identify conflicting issues prevailing in their waterbodies. To identify conflicts through group discussion, the following procedure were followed:
- The participants formed three groups. Each group was asked to identify and list down conflict issues that prevailed in their waterbodies through flash cards given to them, with the help of facilitators.
- All conflict issues identified by the groups were written on the board, excluding overlapping issues.
- After recording all issues, the participants were requested to analyse each issue and record the following:
✓ Cause of each conflict
✓ Affected groups by the conflict

✓ Impact of the conflict
✓ Recommendation for probable solution
▪ The facilitators encouraged the participants to give their opinion on each of the issues. As participants came to a consensus on the issues, the facilitators immediately wrote such consensus on the board.

Participatory Geographic Information Exercise for Conflict Identification

The participatory geographic information exercise is a spot mapping exercise where the important features of an area are sketched. In the PISCES workshop, the participants first identified these features (fishing areas, farming areas, household cluster,, including interaction and characteristics of neighboring communities). Conflicts issues and locations of those conflicts were then identified in the map.

Historical Trend Analysis for Conflict

In the historical trend analysis, conflicts identified in the area over the years were analysed inclusive of the following years:
▪ 1970-1980 (first decade after independence)
▪ 1980-1990 (second decade after liberation)
▪ 1990 onward

Historical trend analysis has recorded the following items:
▪ level of conflicts in the period
▪ reasons for the decrease or increase of such conflicts as regulatory changes, changes of fishing practices and technologies, other issues considered important by the participants

Identification of Communication Partner/Institutional Wheel

Institutional wheel analysis was made to identify relationships of fishers with different persons and organizations directly and directly involved in the conflict or those that could play role to minimize conflicts. This was necessary to identify potential conflicts of fishers with different interest groups. The institutional wheel helped identify strong, perhaps weak, neutral relationships between various stakeholders and fishing communities.

Semi-structured Interview

Semi-structured interviews were conducted to minimize gaps in information collection. Questions were structured in such a way that it allowed the key informants to come up with answers rather than with question to another question. Questions asked to the communities were as follows:
▪ Has your locality witnessed any conflict? If so what was the conflict? What was the main reason of that conflict?
▪ What problems did you face due to the conflict?
▪ What were the steps taken by the community to solve the problems?
▪ Which organizations or parties often worked with your community to minimize conflicts?
▪ Who invited these parties to minimize conflicts?
▪ Do you have any recommendations or suggestions to avoid such conflicts?

Results of PISCES in Study Sites in India

The PISCES document was discussed at the international workshop held at Mitraniketan, India. The Indian team used PISCES to collect information on fisheries conflicts prevalent in the study area.

The Project team conducted the country planning workshop at Visakhapatinam on 1-2 June 2004 to identify fisheries conflicts and the inputs for developing the communication plan. The Indian team's application of PISCES was a confirmation on identified conflicts from the country planning workshop. Besides PISCES, the team used participatory geographic information exercise, timelines, institutional wheels and semi structured interview schedule to collect the information on fisheries conflicts in the study area.

Bennett and Jolly (2000), developers of the tool, stressed that the inspiration behind PISCES was the extensive work already done on PRA. However, PRA does not readily lend itself the technique to collect information on a specific topic, so a variety of the more pertinent tools were chosen and added to the collection.

A one-day PISCES workshop was held at Bheemlipatinam for 30 key informants from the village, using the local language. Results were then translated in English with the help of the staff of VIKASA. a local NGO. The National Coordinator (India) of the Project shared the information on PISCES with the VIKASA staff for effective conduct of the workshop.

Conclusion

As indicated in the background to this report the basis for the use of PISCES is with the application of PRA tools. Use of PISCES had the advantage of fishing information specific to fisheries conflicts. Before using PISCES, the researcher had to formulate questions that helped deduce the needed subjects on "Fisheries Conflicts". This technique helped in no small measure in eliciting needed information and in getting a better understanding of conflicts.

The PISCES workshop was useful for the team in the sense that:-
a. PISCES served as a tool to reconfirm conflicts identified by the team through the country planning workshop
b. The results of PISCES were used at various stages of reporting on the communication strategy of the project, especially with the institutional wheels
c. PISCES was inferred as a tool in the process of collecting information's related to conflicts

Following the application and testing of conflicts assessment methods, such as PISCES, the Project was able to identify the specific conflicts existing in the study sites in Bangladesh and India, while the conflicts in Cambodia were identified using socio-economic surveys and workshops.

In Bangladesh, the diversity of products and livelihood opportunities attract many users and stakeholders juxtaposed with the stagnating inland fishery harvests set the conflict scenario. Over the years, sharing among different resource users, competition between traditional and new fishers over the control of fisheries, and institutional weakness became major causes of conflicts. The major conflicts prevailing in Titas River and Beel Shapla are summarized below:

- Rivalry between general fishers and *katha* owners for fishing access
- Conflict due to pseudo-property (based on residency/ ancestral) rights
- Lack of enforcement against use of illegal gears
- Rising competition for resources in the river between traditional and new fishers
- Rivalry between general fishers and *kua* owners for fishing access
- Conflict between general fishers and *Beel* Management Committee (BMC)
- *Patibandh* (fencing) in the migration route.

Photo 13. Current net (monofilament net) is an illegal gear still widely used by fishers due to lack of enforcement.

Photo 14. Traditional fisher with large quantity of fingerlings

Photo 15. *Khata,* a prohibited gear, is still found in many waterbodies in Bangladesh. *Khata* owners, usually the rich and powerful, conveniently block access of traditional fishers to this portion of the beel by encircling seine net supported by bamboos

Photo 16. Note the "fence" across the beel. It is known as the *Patibandh*, a destructive method widely practised by the influential community (mostly non-fishers) in an effort to obstruct migration of fish, causing conflict between influentials and general fishers

Photo 17. Fingerlings dominate the catch

Photo 18. Conflict between fishers and *kua* owners in Bangladesh

In Cambodia, fisheries conflicts have long been in existence and have since intensified due to competing claims on fisheries resources mostly by commercial interest groups and a growing subsistence populace, notwithstanding the proliferation of illegal fishing and the increasing demand for agricultural land, water, and fuel wood. Conflicts occur amongst fishing lot operators, local authorities, military, police, fisheries officials and local communities

The lack of formal structures for conflict resolution, transparency and local participation reflects poor governance. This has naturally excluded fishers from decision-making and resource management. Disparities in power between conflicting actors have exacerbated the situation, resulting in conflicts being resolved through use of force rather than negotiation. Although conflicts are widely documented in existing literature and media reports, there is currently no central focus on the accurate collation of conflicts for dispute resolution. Major conflicts prevailing in those two waterbodies are listed below:

- Illegal fishing practices and poor governance in fisheries
- Sale of common access grounds or public fishing areas
- Illegal extension of fishing lot boundaries into community fisheries area
- Poaching inside the community fisheries areas by illegal poachers
- Agriculture activities versus fishing activities in fishing grounds
- Confiscating the fishing ground for lotus planting

Photo 19. Lotus plantation in Tamol Leu causes conflict among fishers and lotus farmowners

Photo 20. Signboard indicates public fishing ground in the fishing area of Tamol Leu. The signboard was removed by unknown source after a few days

In India, the nature of fisheries conflicts was identified through the country planning workshop held at Visakhapatinam. The key conflicts identified in the study area were due to resource sharing and indiscriminate fishing practices of certain groups of fishers. Specifically, conflicts were due to use of smaller mesh-sized nets, trawling in breeding grounds, and weak marketing structure. The preponderant use of mechanized boats encroaching in traditional fishers' area was one of the most common conflicts not only in the study area, but also in adjoining fishing areas. Conflict also arose due to pollution from effluent discharges and oil spill from various industries. Tourist promotion was also inferred as cause of conflict between promoters and traditional fishers. Major conflicts prevailing in those two waterbodies are listed below:

- Mechanized boat venturing in 8km inshore waters
- Use of ring seines
- Collection of prawn brooders
- Mesh size regulation
- Discharge of effluents
- Government
- Promotion of tourism

Analysis of Conflicts by Typology

The conflicts identified above were categorized into typologies in this section. Classification by typology was done at the initial stage of managing such conflicts to facilitate further analysis. This substantiates the organization of data collated from the baseline study and facilitates the formulation of suitable answers to policy problems that need resolution.

Table 3.3 Typology of fisheries conflicts reported in Bangladesh, Cambodia and India

Type	Description of Conflicts	Bangladesh	Cambodia	India
I	Conflicts on who controls the fishery	Rivalry between general fishers and *katha*[2] owners for fishing access ▪ Rich and powerful persons(non-fishers/*khata* owners) ▪ Traditional fishers **Conflict due to pseudo-property** *(based on residency/ ancestral)* **rights** ▪ Between small-scale fishers	*None reported in case study area*	Mechanized boat venturing in 8km inshore waters ▪ Traditional fishers ▪ Mechanized fishers
II	Conflicts on how the fisheries is controlled	Lack of enforcement on use of illegal gears ▪ Illegal gear operators ▪ legal gear operators	Illegal Fishing Practice and Poor Governance in Fisheries ▪ Fishers ▪ Fisheries officials ▪ Local authorities ▪ Illegal Fishers	*None reported in case study area*

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[2] *Katha* is a local term in Bangladesh that refers to a stationary fish attracting and aggregating device that makes use of huge piles of branches of trees and bushes to attract fish. Seine net is generally used to encircle the area, varying from 0.8-1.3ha, to catch fish. *Katha* fishing is prohibited under The Protection and Conservation of Fish Rules 1985.

Type	Description of Conflicts	Bangladesh	Cambodia	India
			Sale of common access grounds or public fishing areas ▪ Lot owner ▪ Powerful people ▪ Fisheries officials ▪ Military/Police ▪ Community	
III	Conflicts amongst fishery users	**Rising competition for resources in the river between traditional and new fishers.** ▪ Traditional fishers ▪ Neo-fishers **Rivalry between general fishers and _kua³_ owners for fishing access** ▪ _Kua_ owners ▪ Beel fishers **Conflict with General Fishers & Beel Management Committee (BMC)** ▪ Fishers ▪ BMC _Patibandh⁴ (fencing) in migration routes_ ▪ Fishers ▪ Agriculture farmers ▪ Influentials (non-fishers) ▪ Neo-fishers	**Illegal extension of the fishing lot boundaries into community fisheries area** ▪ Lot owner ▪ Community ▪ Local authority ▪ Local fisheries officials **Poaching inside the community fisheries areas by illegal poacher** ▪ Individual fishers ▪ Fishers ▪ Outside fishers	Use of ring seines ▪ Traditional fishers ▪ Mechanized fishers
IV	Conflicts between fishers and other resource users	_None reported in case study area_	**Agriculture activities vs. fishing activities in the fishing ground** ▪ Community fisheries ▪ Fishing lot owners ▪ Farmers ▪ Local authorities ▪ Fisheries officials **Confiscating fishing ground for lotus planting** ▪ Fishers ▪ Lotus farmers ▪ Fisheries officials ▪ Local authorities	Collection of prawn brooders ▪ Traditional fishers ▪ Mechanized fishers ▪ Hatcheries **Mesh size regulation** ▪ Fishers ▪ State government **Discharge of effluents** ▪ Fishers ▪ Industries ▪ Government **Promotion of tourism** ▪ Fishers ▪ State government
V	Conflicts between fishers and non-fishery issues	_Conflicts due to overlapping of functions and weak institutional structure at various levels._ ▪ Fishers ▪ Government agencies		

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³ _Kua_ is a local term in Bangladesh that refers to natural depressions or ditches near _beels_ or waterbodies. Fish takes shelter in _kua_ during monsoon. _Kuas_ are often located in privately owned property thus access was restricted and source of conflict.
⁴ _Patibandh_ is another local term in Bangladesh that refers to fencing device made of tree branches and bushes in river systems to block fish migration or movement paths.

Type I and Type III - Type I conflicts deal with who controls the access. This involves the rights a fisher has in the area where they are entitled to fish. In Bangladesh, this conflict arose when *khata* operators prevented or deprived traditional fishers of their inherent right to fish in open access areas or when fishers from other areas were not allowed to fish along certain stretches of the river based on pseudo-property rights of the surrounding village. Thus, the root cause of the conflict was one of access issue rather than conflict amongst fishery users.

Photo 21. *Khata*, a prohibited gear, is still found in many waterbodies in Bangladesh. *Khata* owners, usually the rich and powerful, conveniently block access of traditional fishers to this portion of the *beel* by encircling seine net supported by bamboos

Type I and Type II - In Cambodia, the access-issue conflict between small-scale fishers and lot owners is still considered Type II, since the conflict stems from the absence of an integrated legislation to address the issue on customary rights of the community fishing area. The passing of the decree in May 2005 would hopefully resolve the conflict, subject to its proper enforcement.

Photo 22. **Before** : A board shows fishing boundary at Anlong Raing Village in Pursat Province, Cambodia

Photo 23. **After**: Fishers from a different village photographed in the act of destroying the board put up the day before the incident

Type II and Type III - This is a two-pronged problem that could happen within the same groups from the fishing communities. In Bangladesh most neo-fishers use illegal gears that are cheaper. This could be classified as Type II conflict. It is then classified as Type III conflict based on the number of years fishers have been involved in this sector and their rights to it. Yet, in this case, it could be categorized as Type II as some of those who use illegal gears are not necessarily neo-fishers and could as well include other fishing groups using illegal gears.

Photo 24. Current net (monofilament net) is an illegal gear still widely used by fishers due to lack of enforcement

Photo 25. Big amounts of fingerlings are inadvertently included as by-catch.

Type III - Conflicts that are grounds for one affected party to be upset by the actions that another party undertakes, which have an adverse effect on the rights of the former. In Bangladesh, for instance, conflicts could be misconstrued as religious between traditional fishers, who are predominantly Hindus, and neo-fishers, who are predominantly Muslims. In reality, however, it is truly a non-religious conflict but one due to neo-fishers' shift from agriculture to fisheries.

Type V – It became imperative for the project to address Type V conflicts, which deal with issues of corruption, bribery, lack of coordination and overlapping functions, and jurisdiction of implementing agencies. Under this category, conflicts that contravened with existing rules and regulations went unresolved from lack of political will among the implementing agencies. The consensus of project partners and stakeholders involved in the surveys was that, by addressing Type V conflicts the other types would be resolved on their own and problems nipped in the bud, so to speak, and not aggravate to levels beyond finding an amicable resolution.

Actor-Linkage Matrix (ALM) for Fisheries Conflicts: Testing and Outcomes

As discussed under Output 1, the Actor-Linkage Matrix (ALM) for fisheries conflicts is one of the tools used and proposed by the project under the *FishCom*. Identification of stakeholders in fisheries conflicts was also done during the information gathering phase. The key stakeholders were invited to the national workshops where groups of stakeholders filled up the Actor-Linkage Matrix (ALM) during work sessions in the national workshop. The ALM was used to record details on how the state of the communication constraints between pairs of stakeholders – either there is good communication or there are communication constraints. Analysis of a pair of stakeholders at a time is admittedly a limitation of a two-dimensional ALM. The ALM was updated through a series of informal discussions with more relevant stakeholders. Tables 3.4a for Bangladesh, Table 3.4b for Cambodia, and Table 3.4c for India show the results of the ALM for fisheries conflicts in the study sites. The tables describe the state of communication between each referent stakeholder group (in the left-hand column) and the other party (in the top header row) as perceived by the referent stakeholder.

Based on the details of the ALM related to the Project sites, the common problem

demonstrated was that most of the stakeholders did not effectively communicate fisheries conflict issues between parties. In Bangladesh, only the fisher-to-fisher communication was evaluated as generally effective because they live in the same community and could meet face-to-face to discuss conflict issues. However, communication with those alleged as illegal fishers are not effective. It was noted that illegal fishers showed positive evaluation of the state of communication with the DOF, "local influentials" and the NGOs; but no or little communication with all other groups whose interests are often in conflict with theirs. Overall, the perception of most stakeholder groups on their level of communication with government agencies and administrators in general are not very effective as they either do not attend meetings about conflicts or do not act to solve these conflicts even when these are part of their mandates.

In Cambodia, the communication between groups of stakeholders is generally perceived negative, especially between groups with polar economic objectives (Table 5.3b). For example, the community fisheries groups who fish at subsistence level have negative evaluation of communication with illegal and fishing lot operators whose commercial scale of operation allegedly affect the community fishers. The community fishers also generally have negative communication ratings with secondary conflict stakeholders such as government authorities at various levels, police and the media, accordingly due to limited resources and lack of political will. Communication between groups of stakeholders and the media are also generally rated as poor was criticized with bias in disseminating information. The ALM below noted that the central government and DoF; and researchers reported that they often communicate with other stakeholders through workshops and meetings and notably through radio, television and the newspaper media. However, the perception of the other stakeholders noted the prevalence of centralized/top-down communication with the government or DoF. Meanwhile, researchers were noted as attempting to communicate with other stakeholders but were limited effectiveness due to lack of political profile, personnel and resources; and that research output had little influence to policy-makers.

Table 3.4c shows the ALM for fisheries conflicts in India. Perceptions effectiveness of communication varied across stakeholders. Fishers generally communicate with other fisher groups even those with conflict of interest like illegal fishers. However, they have resentful perceptions on communication with groups of public agencies from police to state governments for lack of action on conflict issues. In contrast, groups of government agency stakeholders perceived that they communicate with other stakeholders, although the local level agencies noted lack of effective implementation on some central agency policies. The police and coast guards were generally rated as not communicating with other stakeholders, except with state government. Researchers reported as communicating with mechanized fishers and state government; and the research work was criticized as not being understood by traditional fishers.

Table 3.4a: Actor-Linkage Matrix (ALM) for Fisheries Conflicts in Bangladesh

	Fishers	CBO	Illegal Fisher	DOF	Local Admin	Police	Local Influential	NGO	Government	Media	Researcher
Fishers	Very effective. They were from the same community. Fishers discussed conflict issues among themselves.	Very effective. They were from the same community. Fishers discussed conflict issues among themselves. Communication was not effective in *Beel* Shapla as the BMC failed to inform them about any decisions taken.	No communication. They were destroying the resource. They were powerful. Some fishers were physically harassed by them.	Not very effective. The DOF staff didn't give conflicts attention. They did not even attend the meeting where the fishers discussed these issues.	Not very effective. Because they are not very frequent in attending the meeting where the conflict issues discussed. Not get any help to stop the illegal fishing	Not effective. No help to stop illegal fishing. Taking bribes, they allowed illegal fishers to catch fish.	Not very effective. They participated in the meeting, but did little work on conflict resolution. Could have been more effective had they really worked for conflict resolution.	Very effective. They participated in the meeting. They raised this issues to the higher government officials.	No communication. They never came to them before taking any policy decision or they never discussed with them about the fishers' problems.	Not very effective. Press people never came to them to discuss conflict issues. However, some IEC (information, education and communication) approaches like folk drama helped to create awareness.	Very effective. They discussed with them conflict issues and collected information and, in many occasions, talked in favor of them about conflict.
CBO	Communication effective. They were from the same community. Fishers discussed conflict issues with them. However, in the case of Beel Shapla it was not effective as fishers never communicated with each	They had interactions with other CBOs, mostly during the meeting organized by the CBFM project. Communication need to be strengthened amongst CBOs. If the CBOs shared experiences, it would help	No communication. They were destroying the resource. They were powerful. Some fishers were physically harassed by them.	Not very effective. They sometimes communicated with them but did not really do any work to solve the problem.	Not very effective because they did not attend the meeting where conflict issues were discussed. Not any help to stop illegal fishing.	Not effective. Not any help to stop illegal fishing. Taking bribes, they allowed illegal fishers to catch fish.	Not very effective. They participated in the meeting. It would have been more effective had they really worked for conflict resolution.	Very effective. They participated in the meeting. They talked to the government about the problem.	No communication. In decision making their views were not considered	Not very effective. Press people never came to them to discuss conflict issues. However, some IEC (information, education and communication) approaches like folk drama helped to create	Very effective. They discussed with them conflict issues and collected information and, in many occasions, talked in favor of them about conflict.

	Fishers	CBO	Illegal Fisher	DOF	Local Admin	Police	Local Influential	NGO	Government	Media	Researcher
	other. Tried to create problems in the waterbodies	resolve conflicts. resolution.								awareness.	
Illegal Fishers	Less communication. They knew the fishers who were from the same community. Tried to help them with their problems and tried to solve the conflict.	Less communication. They knew the fishers who were from the same community. Tried to help them with their problems and tried to solve the conflict.	Communication effective. They were from the same community. Discussed about the fisheries problem.	Communication with them. Attended meeting on conflicting issues.	Communication with them. Attended meeting on conflicting issues.	No communication.	Effective communication. Together, they all tried to solve the problem of their locality.	Communication with them. They attended the meeting organized by NGOs to solve the conflicts.	No communication.	No communication.	No communication.
DOF	Effective. The DOF discussed with them about conflict resolution and attended their meeting.	Effective. The DOF discussed with them about conflict resolution and attended their meetings. Even without meetings, DOF directed contact with them.	Not very Effective. Creating awareness took several steps. However, they were still doing the same things.	Very effective communication. During coordination meeting, they discussed conflicts in their area as well as the solutions.	DOF had communication with them. With their help, they tried to solve the conflicts.	DOF had communication with them, but not always very willing to solve the conflicts.	DOF have communication with them mainly in the meeting	DOF had effective communication with them. DOF helped the NGOS resolve conflicts.	DOF had effective communication with government. To solve the conflict, DOF and government should work together and make necessary changes in the policy.	DOF had communication with them. For effective conflict resolution they should work together.	DOF had effective communication with them. For effective conflict resolution they should work together.
Local Admin	No effective communication. However, local administration helped fishers when they communica-	They did not have a say on the implementation of CBFM. However, they helped when they communica-	No communication.	Effective communication. They attended the meeting on conflict resolution organized by DOF.	Effective communication. During the administrative meeting they talked about the problem on their area,	Effective communication. They sought the help of the police to solve some of the problems related to	Effective communication. They tried to talk to them and tried to involve them in conflict resolution.	Effective communication. Talked to them about conflict resolution process.	Talked to the government about the problems in their area.	Effective communication. Media made aware of the problems in their area	Researchers identified the conflict and discussed conflict resolution process with them.

	Fishers	CBO	Illegal Fisher	DOF	Local Admin	Police	Local Influential	NGO	Government	Media	Researcher
	ted with them	ted to solve the conflicts.			shared experiences and discussed what they could do to solve the problem.	conflicts.					
Police	When they received written complaints they communicated with fishers. Communication was not very effective.	When they received written complaints they communicated. It was at the minimum level.	No communication.	When DOF faced any problem in the waterbody, they contacted the police. The Project should include the police in similar projects.	Participated the meeting on fisheries problems and discussed conflict issues with the local administration.	Shared experiences during police internal meeting.	Limited scale. In case of conflicts, they talked to the influentials to know about the problems.	Limited scale. In case of conflicts they talked to the NGOs to know about the problems.	No direct communication with government on fisheries conflicts resolution.	No direct communication.	No direct communication
Local Influentials	Good communication with fishers as they were from the same community. Tried to help them solve conflict issues.	Good communication with fishers as they were from the same community. Tried to help them solve conflict issues.	No communication	No direct communication. Only during the meeting.	No direct communication. Only during the meeting on conflict issues.	No direct communication. Only during the meeting on conflict issues.	Good communication as they were from the same community. They all together tried to solve the conflicts between fishers.	No –direct communication. Only during the meeting about conflict issues.	No communication.	No communication.	Only when the researcher came to them for information.

	Fishers	CBO	Illegal Fisher	DOF	Local Admin	Police	Local Influential	NGO	Government	Media	Researcher
NGO	Good communication with fishers. Help fishers to solve the problems. Received feedback on conflict resolution method. Worked for awareness campaign.	Good communication with fishers. Helped fishers to solve the problems. Received feedback to solve the problem. Work for awareness campaign.	No Direct relationship. Illegal fishers did not like the NGOs that wanted them stop fishing.	NGOs communicated to DOF for conflict resolution.	NGOs talked to the administration for legal and administrative support on conflict resolution.	NGOs talked to the police for legal and administrative support on conflict resolution.	Good communication. On fisheries management NGOs talked to local influentials establish CBFM and conflict resolution.	Good communication. During CBFM coordination meeting, NGOs of an area shared experience with other NGOs on conflict issues and resolution method.	They had communication with government. NGOs influenced government to change the policy.	Good communication with the media. Sometimes the media invited them to work together to prepare documentaries.	Good communication. NGOs help them to collect information, They discussed about conflict resolution method.
Government	No direct communication.	No direct communication.	Not well communicated.	Government communicated with DFO on policy change.	No direct communication.	No direct communication.	No direct communication.	No direct communication.	Communication gap amongst institutions or agencies created conflicts.	No direct communication.	No direct communication.
Media	No direct communication. Discussed conflict issues during the meeting.	No direct communication. Discuss conflict issues during the meeting.	No direct communication.	Discussed conflict issues during the meeting.	No direct communication. Discussed conflict issues during the meeting.	No direct communication.	No direct communication.	Discussed conflict issues during the meeting	Effectively communicated to government though different IEC approaches.	No effective communication with the media on conflict issues.	No direct communication. Discussed conflict issues during the meeting.
Researcher	Direct communication. Provided information on conflicts and helped the researcher receive feedback on conflict resolution method.	Direct communication. Provide information of conflicts and help the researcher to receive feed back about the conflict resolution method	No direct communication. Sometimes they discussed conflict issues in the meeting.	Effective communication with DOF. Helped identify the conflict. The researcher also helped DOF to prepare proper policy and adopt conflict resolution method.	No direct communication. Discussed with them about conflict issues in the meeting.	No direct communication. Discussed with them about conflict issues in the meeting.	No direct communication. Discussed with them about conflict issues in the meeting.	Effective communication. NGOs helped them identify conflict, test different models on conflict resolution, and provide feedback.	Effective communication. The researcher provided research findings to influence policy makers on conflict issues.	Effective communication. Discussed conflict issues during the meeting.	Direct communication. Shared the findings

Table 3.4b: Actor-Linkage Matrix (ALM) for Fisheries Conflicts in Cambodia

	Community Fisheries	Illegal Fisher	Fishing Lot	Local Authority	District/ Province	Police/ Military/ Powerful People	NGOs	Central Gov't/DOF	Researcher	Media
Community Fisheries		Destruction of fisheries area and damaging fishing gears of small fishers.	Fishing lot owners expanded fishing boundary into community fisheries area.	Communication with fishers was conducted more often compared to the others, but was not very efficient. Lack of resources to allocate to the community.	Did not visit fisheries community often due to limited resources, remote distance of villages. Fisheries communities were not included in the political agenda.	Did not respond to fishers often, but backed up illegal fishers instead.	Contact with community more often than others. A few NGOs involved fisheries in their work. NGOs worked in small fishing areas.	Poor communication with local fishing community due to centralized system and lack of resources.	Researcher did not often focus on illegal fisheries due to the lack of political profile and limited skilled people.	Did not communi-cate often due to the remote distance of the area. Fisheries did not make good copy for the media.
Illegal Fishers	Strengthening of communication channels through enforcing community fisheries by law.	Competition between illegal fishers. Meeting	Illegal fishing in the fishing lot/ fishing lot owners allowed more illegal fishers in fishing lots even after they were done with their fishing.	Illegal fishers received support from corrupt local and fisheries officials.	Poor communica-tion due to remote, distance and limited resources. In some cases, corrupt officials supported illegal fishers.	Often Illegal fishers received support from corrupt armed groups and powerful people.	NGOs reported illegal fishing to the public, but there was poor communication with illegal fishers.	Poor communica-tion, illegal fishers were ignored. Some corrupt officials behind illegal fishers.	Small number of research done on illegal fishing, but no direct communica-tion with illegal fishers.	Illegal fishing not regularly covered by media, only if coverage was paid.
Fishing Lots	Meeting between fishers and fishing lot owners at district/province level.	Meetings and seminars at district/province level.	Boundary issues Regular meetings and open forums	Some corrupt local authorities received informal fees from fishing lot owners.	Some corrupt district/ province authorities received informal fees from fishing lot owners.	Fishing lot owners hired police and military to guard the lots. Fishing lot owners were supported by powerful people.	Poor communication.	Communica-tion often through bidding and auction.	A small number of researchers were involved in fishing lot issues.	Some media contacted fishing lot owners only when there were some forms of bad news to report. When fishing lot

	Community Fisheries	Illegal Fisher	Fishing Lot	Local Authority	District/ Province	Police/ Military/ Powerful People	NGOs	Central Gov't/DOF	Researcher	Media
										owners were willing to pay, the media would not cover it.
Local Authorities	Seminars and workshops at district/province level.	Local authorities met with fishers and illegal fishers at ground level.	Seminars/ workshops to enable local authorities to meet with fishing lot owners.	Met often, however not on fisheries issues but on politics.	Centraliza-tion, Administra-tion.	The police sometime did not cooperate with authorities.	NGOs often worked through local authorities.	Centraliza-tion.	Not often.	Not often.
District/ Province	Through meetings and workshops.	Seminars and workshops.	Seminars, meetings, media coverage.	Workshops, radio, hand phones.		Corrupt armed groups and powerful officials supported illegal fishing.	NGOs often worked through the authorities.	Top down system.	On specific occasions.	On issues related to fisheries.
Police/ Military/ Powerful People	Meeting/ workshops to discuss the issue on corrupt officials who supported illegal fishers.	-Seminars, workshops, meetings with people behind illegal fishing.	Meeting at district and province levels.	Local authorities should have more control.	District/ Province controlled army group.		No	Central gov't did not take action against them	Researcher documented the involvement of police/ military in fisheries.	Some time reported about the armed group and fisheries violation.
NGOs	NGOs worked at community level.	Workshops, newspapers, radio	Workshops, meetings	Meetings, workshops	Meetings at district or provincial level.	NGOs met police/military and powerful people through provincial meetings/ forums	Building NGO coalition.	Advocacy on fisheries policy.	NGOs contacted researchers to focus on fisheries.	Often media worked with NGOs since NGOs provided them information.
Central Government/ DOF	Radio/TV/ newspaper, workshops	-Law, radio, meeting.	Workshops/ meetings, radio and TV.	Meeting TV, radio and newspapers.	National workshop, TV, Radio and newspapers	Communica-ted through reporting line among agencies.	Workshops, media, newspapers		Research output had small influence on policy and decision makers	Often, but not on fisheries

	Community Fisheries	Illegal Fisher	Fishing Lot	Local Authority	District/ Province	Police/ Military/ Powerful People	NGOs	Central Gov't/DOF	Researcher	Media
Researcher	Workshops, field trips more often	Meetings/ workshops, telephone	Meetings, seminars, research findings presented to fishers.	Workshops, seminars, meetings	Meetings, seminars, and direct communica-tion with local authorities	Researcher presented the case in seminars, workshops and media.	NGOs used research results for advocacy.	Media and workshops for researchers to present their research outcome.	Good	Media contacted resear-chers to gain information on fisheries issues.
Media	Local newspapers, radio, TV	Telephone, newspapers, TV, radio	Telephone, radio, newspapers, other media.	TV, radio, newspapers, workshops	TV, radio, newspapers, workshops	TV, radio, newspapers, workshops	Direct meetings, telephone, TV, radio.	Workshops, TV, radio, newspapers	Media issues, research outputs to advocate for fisheries issues.	Good

Table 3.4c: Actor-Linkage Matrix (ALM) for Fisheries Conflicts in India

	Traditional Fisher	Mechanized Boat Owner	Illegal fisher	Local Government	Police/coast guard	Non Governmental Organisation	State/central gov't	Research
Traditional Fisher		Communication occurred when damages were caused by mechanized boats.	To an extent there was mutual cooperation between mechanized boat owners and illegal fishers during exploitation of mother prawns.	Did not have a say on the implementation process. Fishers were not helped by the local government in representing their issues.	The police were ignorant and claimed that they never received complaints.	There were communication gaps in certain areas other than development needs.	Not seen as effective in implementation	Nil (no awareness on research being undertaken).
Mechanized Boat Owner	Face-to-face discussion when conflict occurred.		Communication was effective and there was mutual help between them.	- as above -	Ignorant and never helped to resolve conflicts	They did not have any communication opportunity with NGOs. At times they meet face to face when on certain issue	Wanted a better say in the policy decisions	Access was more
Illegal Fisher	Face-to-face meetings	Effective communication		- as above -	- as above -	No communication.	Policies were there but not effectively implemented.	Nil
Local Government	Effective communication. However, it was not effective in certain parts of the formal system.	Effective communication	No communication		- as above -	Not in the forefront, but motivated the need	They implemented effectively but not fair at times.	Nil
Police/coast guard	Effective communication	Effective communication	No communication	Effective communication and were bound to communicate with each other.		No communication. However, at times NGOs took the issues for peace restoration.	Power was given but not implemented effectively.	Nil
Non Governmental Organisation	Effective communication	Never communicated on issues	Never communicated	Effective communication	No communication		Influential to the extent of creating an awareness of the problems.	Ineffective based on the need.
State/central gov't	Effective communication	Effective communication	Effective communication	Effective communication	Effective communication	Effective communication		Effectively Communicated
Research	Nil	Effective communication	Nil	Nil	Nil	No communication	Effective communication	

Communication Planning Matrix-Communication Strategies (CPM-CS) for Fisheries Conflicts: Testing and Outcomes

After completing the ALM, the concepts and procedures for identifying the communication strategies were introduced to the key stakeholders in the national workshop. Communication plans and strategies were identified using the communication planning matrix (CPM) and the extended communication strategy (CS) tool described earlier. Overall, the CPM-CS showed that there are a wide range of plans, including participatory approaches that could be pursued to address fisheries conflicts. The results of the CPM-CS for fisheries conflicts in each study site are shown in Tables 3.6a for Bangladesh, Table 3.5b for Cambodia, and Table 3.5c for India.

The CPM-CS for Bangladesh shown in Table 3.5a noted the prevalence of direct interactions through meetings and dialogues; and use of published media through leaflets and other press releases. The wide range of strategies for Bangladesh often focus on objectives of reducing illegal fishing, review of fisheries policies and rules to reduce sources of conflicts and facilitate resolution; application of CBFM methods for conflict resolution; and capacity building of fishers and institutions for conflict resolution. These strategies involved timeframes than are often short-term and a few are long-term which allows follow-up on outcomes over time. The costs are reasonably affordable but remain to be a problem in most local circumstances.

Table 3.5b shows the CPM-CS for Cambodia where direct contact through meetings and workshops prevail, together with options for dissemination of papers and leaflets to ensure creation of awareness on conflict issues. Similarly, the strategies focus on objectives of reducing illegal fishing, review of fisheries policies and rules to reduce sources of conflicts and facilitate resolution and capacity building of fishers and institutions for conflict resolution. CBFM was notably not mentioned as strategy unlike in Bangladesh where the stakeholders have been exposed to this concept. The cost associated with these communication strategies are relatively more costly than in Bangladesh considering local conditions and organizational logistics and effort to gather stakeholders.

The CPM-CS for India focused its objectives on enhancing awareness of local fishery policies and regulations and with intention to change behavior and ensure compliance. There is particular detail on conflicts on access to fishing grounds and on environmental issues related to capture of wild prawn brooders and treatment of effluents.

Strategies also often involve meetings and print media. Written complaints and telephone messages featured in India as a strategy for communicating fisheries conflicts to target some government authorities. The costs of these strategies also seem reasonable given local conditions.

Table 3.5a: Communication Planning Matrix-Communication Strategies (CPM-CS) for Fisheries Conflicts in Bangladesh

Communication Partners	Objectives	Contents	Channel	Time Frame of Communication Activities	Action to be Undertaken by Whom	Estimated Costs
Fisher	To identify the source and cause of conflicts	Creating awareness on fishing rules/CBFM conflict resolution method	Group discussion Direct dialogue Meeting/Workshop Leaflet Folk drama Public broadcast*	Short term Intermediate	CBFM (DOF, WorldFish & NGOs)	Direct dialogue: 1 man-day (md) of 1 staff and contact 20-25 person (Tk 1000) Meeting: 2 md of 3 staff (Tk 10,000) Workshop: 3 -4 md of 3 staff (Tk 40,000) Leaflet: 3 -4 md of 3 staff (Tk 20,000) Folk drama: 3 -4 md of 2-3 staff (Tk 5,000) Public broadcast*: 4-5 md of 1 person (Tk 1000)
CBO	To identify the source and cause of conflicts To be more accountable to the general fishers for institutional activities To influence the government through local administration/ DOF for policy change	Creating awareness on fishing rules and regulations on CBFM Conflict resolution method Capacity building of the institutions	Meeting Workshop Training Rallies	Short term Intermediate Long term	CBFM (DOF, WorldFish & NGO)	Meeting: 2 md of 3 staff (Tk 10,000) Workshop: 3 -4 md of 3 staff (Tk 40,000) Training: 4-5 md of 3-4 staff (Tk 20,000) Rallies: 4-5 md of 3-4 staff (Tk 10,000)

Communication Partners	Objectives	Contents	Channel	Time Frame of Communication Activities	Action to be Undertaken by Whom	Estimated Costs
Illegal Fisher	To reduce illegal fishing practice To stop illegal occupation of the river/beel area	To be aware of rules and regulations Effect of using illegal gears on fisheries resource Income generating activities (IGA)	Direct contact Meeting Workshop Leaflet Public broadcast* Coverage in TV/Radio Training on IGA Distribution of VGF Card (free distribution of food)	Short term Intermediate	CBFM (DOF, WorldFish & NGO) and Local Administration	Direct dialogue: 1 md of 3 staff (Tk 1000) Meeting: 2 md of 3 staff (Tk 10,000) Workshop: 3 -4 md of 3 staff (Tk 40,000) Leaflet: 3 -4 md of 3 staff (Tk 20,000) Folk drama: 3 -4 md of 2-3 staff (Tk 5,000) Distribution free card: Tk 400 per household/month 1 md for 1 person for distribution of food to 200 person
Local Influential	To cooperate with the communities on fisheries conflict management	Conflict resolution method CBFM	Meeting/Workshop at the local level Discussion in Local Administration meeting	Short term	CBFM (DOF, WorldFish & NGO)	Meeting: 2 md of 3 staff (Tk 10,000) Workshop: 3 -4 md of 3 staff (Tk 40,000)
NGO	To create awareness among fishers for conflict resolution To help the capacity building of fishers/ institutions through training support	Consensus building mechanism Institutional issues on CBFM Legal issues	Seminar/meeting/ Workshop Training Direct contact Group discussion Leaflets	Short Term Long term	CBFM (DOF& WorldFish)	Direct Dialogue: 1 md of 3 staff (Tk 1000) Meeting: 2 md of 3 staff (Tk 10,000) Workshop: 3 -4 md of 3 staff (Tk 40,000)

Communication Partners	Objectives	Contents	Channel	Time Frame of Communication Activities	Action to be Undertaken by Whom	Estimated Costs
	To give legal support to the fishers to establish their rights Influence government to change policy for conflict resolution			Short term Long term		Leaflet: 3 -4 md of 3 staff (Tk 20,000) Folk drama: 3 -4 md of 2-3 staff (Tk 5,000) Training: 4-5 md of 3-4 staff (Tk 20,000)
DOF	Improve enforcement of rules and regulations To change and prepare appropriate policy for conflict resolution	Policy issues Conflict resolution	Direct contact Meeting	Long term Long term	CBFM (Fishers, CBO & WorldFish)	Direct Dialogue: 1 md of 3 staff (Tk 1000) Meeting: 2 md of 3 staff (Tk 10,000)
Local Administration	Ask for legal support	Conflict resolution	Direct contact Meeting Public hearing	Short term	CBFM (DOF, WorldFish & NGO)	Direct Dialogue: 1 md of 3 staff (Tk 1000) Meeting: 2 md of 3 staff (Tk 10,000) Public hearing: 1 md of 3 staff (Tk 3000 – 4000)
Police	- To stop illegal activities	Illegal gear users Illegal encroachers of river/beel area	Direct contact Meeting Media (TV, radio)	Short term	CBFM (DOF, WorldFish & NGO)	Direct Dialogue: 1 md of 3 staff (Tk 1000) Meeting: 2 md of 3 staff (Tk 10,000) Media: 1 full time communication specialist
Government	Ask for policy support of conflicting rules and regulations	Fisheries rules and regulations Conflict resolution	Direct contact Meeting Mobile court to arrest	Long term	CBFM (DOF, WorldFish & NGO)	Meeting: 2 md of 3 staff (Tk 10,000)

Communication Partners	Objectives	Contents	Channel	Time Frame of Communication Activities	Action to be Undertaken by Whom	Estimated Costs
	Proper enforcement		violators			Mobile Court: 7 md of 6 staff (Tk 15,000)
Researcher	Identify source of conflict Effect of conflict	Fisheries conflicts issues Conflict resolution/ consensus building	Workshop/meeting at local and national levels	Short term	DOF& NGO	Meeting: 2 md of 3 staff (Tk 10,000) Workshop: 3 -4 md of 3 staff (Tk 40,000)
Media	To disseminate the issues on fisheries conflicts in a broader arena To highlight the advantage of CBFM to the fishing communities for conflict resolution To reach policy makers and give proper feedback on fishing rules and regulations	Violator of Fisheries laws Conflict issues CBFM	Through press release TV/Radio Newspaper	Short term Short term Short term	CBFM (DOF, WorldFish & NGO)	1 full time communication specialist. Tk 4000 – 5000 for each of the activities

Note: *Public broadcast using vans that travel from village to village relaying messages from government authorities. In local terms this is known as "miking", derived from the act of broadcasting using microphones.

Table 3.5b: Communication Planning Matrix-Communication Strategies (CPM-CS) for Fisheries Conflicts in Cambodia

Communication Partners	Objectives	Contents	Channels	Time Frame of Communication Activities	Action to be Undertaken by Whom	Estimated Costs
Police	Help to intervene and crackdown on illegal fishing activities Represent the power/law enforcement	Those who used illegal fishing gears Fishing tools/gears did not follow specification set by authorities	Direct dialogue Written papers Provincial/district meeting	Every quarter during the provincial/district meetings	Provincial Committee on natural resource conflict resolution, Provincial Governor and district governor and fisheries officials	$615 for one provincial meeting and $250 for district meeting.
Authority/Local Authority/Commune Councils	Ask for support regarding legal frameworks	Existing and new legal frameworks Need for cooperation to work on the issues	Direct meeting Participation	Every quarter during the district/provincial meeting	-Governor of Province -District governor. -Commune councils	$615 for one provincial meeting and $250 for district meeting. $180 for commune meeting.
Local Fisheries Officials	Ask for support regarding the fisheries legal framework	Fisheries laws, sub-decree, circular to support community.	Direct dialogue meeting/workshop	Every quarter during the district/provincial meeting	-Governor of Province -District governor. -Commune councils -Fisheries official/environment officials	$615 for one provincial meeting and $250 for district meeting. $180 for commune meeting.
NGOs	Help to provide training and technical support Help to push for regulations/laws related to fishery passed ASAP.	Community fishers did not yet clearly understand the concepts Community fishers were not yet fully recognized by legal frameworks.	Search for NGOs operating in the area to help Mass media	Every quarter during provincial/district meeting	-Fisher -Authority -District governor. -Commune councils -Community fisheries Committee	$615 for provincial meeting and $250 for district meeting. $180 for commune meeting.
Family Fishers	Reduce illegal fishing activities Understand the importance of community fisheries	Zoning fishing ground Limit the use of fishing tools Why illegal fishing gears Forest cutting, burning, and hunting Increasing population Decreasing natural resources Establishment of community / Fishers	Workshops at grassroots, provincial and national level Leaflets/brochures/ flyers	quarterly Commune, district & provincial meetings	-Fisher -Authority -NGOs	$615 for one provincial meeting and $250 for district meeting. $180 for commune meeting.

Communication Partners	Objectives	Contents	Channels	Time Frame of Communication Activities	Action to be Undertaken by Whom	Estimated Costs
Fishing Lot Owners	Understand needs/Perceptions of community fishers	Zoning fishing ground Good communication Navigation Violation issues	Direct contact Meeting/workshop at provincial level	Quarterly provincial meeting	Provincial Authority	$615 for provincial meeting
Farmers	Be aware of laws/regulations Understand about the decreasing of natural resources	Illegal fishing gears Clearing, cutting flooded forests Negative effects of pumping water from lake to catch fish	Meeting in the village, commune Direct observation Radio/TV Flyers/leaflets Bulletins	Quarterly provincial/district/commune meeting	Commune councils/District authority/Provincial authority	$615 for one provincial meeting and $250 for district meeting. $180 for commune meeting.
Government	Be more accountable and responsible Enact laws and regulations, and enforce existing ones supportive of community fishers and long-term sustainability	Need for laws/ regulations Need to implement the law more effectively	Workshop at provincial and national level Radio/TV Newspapers NGO support	Quarterly provincial/district meetings	Provincial/District authority in collaboration with NGOs	$615 for one provincial meeting and $250 for district meeting.
Media	Disseminate information widely to encourage conflict resolution and hold government to account	Fishery laws Importance of natural resources "Success stories" in conflict management Examples of illegal activities	Direct contact Through national and international NGOs Parliamentary members meeting Relevant institutions	Monthly media coverage	NGOs and fisher network	$80 per coverage.
Researchers	Understand sources and causes of conflicts identify appropriate research issues and methods	Fishery conflicts Bordering conflicts Fishing gears arising conflict Conflicts between fishers who have military support and vulnerable fishers	Direct contact through NGOs Parliamentary meeting Relevant institutions	Every quarter	NGOs, fishers and government	$1500 for one quarter.

Table 3.5c : Communication Planning Matrix-Communication Strategies (CPM-CS) for Fisheries Conflicts in India

Communication Partners	Objectives	Content	Communication Channels	Time Frame of Communication Activities	Action to be undertaken by whom	Estimated Costs
Traditional Fishers	To create awareness, increase knowledge level and understanding To stop juvenile fishing To stop illegal collection of prawn brooders	Non-availability of resources Their rights and the provisions of law Emphasis on mesh size regulations Collective effort to avoid brooder catch Transportation by traditional boats	Face-to-face contacts Village meetings Folk drama Mass media (Radio)	Long term	With the support of NGOs or any voluntary action groups	Continuous awareness programmes a.Half of a fishing day (2 to 3 days to impart knowledge items) b.Local artists can be used to conduct the folk drama with a minimum fund of Rs. 2500/- for a show c. Public mass media can be used for the purpose. The cost of the media is nil as the public media never costs for such programmes.
Mechanized Fishers	Change in behavior To emphasize banning of ring seines To fish beyond 8km and 30m depth zone	To adhere to mesh regulation code To adhere to MFR act To strictly adhere to the law and restrict beyond 8km zone To be united and oppose violation of law Not to treat prawn brooders as target catch	Meetings / Group discussions Unity to be strengthened through community gathering	Long term	Government has to take the initiative	A half fishing day required Another half fishing day used for actions to be taken
Village Head/Leader	To facilitate mediation	To provide an amicable solution	Personal meetings	Short term	NGOs and other voluntary action groups	Half fishing day required Another half fishing day used for actions to be taken

Communication Partners	Objectives	Content	Communication Channels	Time Frame of Communication Activities	Action to be undertaken by whom	Estimated Costs
State Department of Fisheries	Policy enforcement To strictly impose existing law	Better policies and their enactment To punish law violators To encourage hatcheries not to purchase wild prawn brooder To encourage captive brooder production	Circulars Mass media Training Collaboration programmes with hatcheries	Long term	NGOs and other voluntary action groups	The budget required for workshop, meeting and training on the subject calculated for 30 participants would cost about Rs.5000/intervention
Promoters of Tourism	To understand their problem and change their behavior	The reality and impact on coastal fishers	Meetings Committees Common forums	Long term	NGO and Tourism Development Authority	The budget required for workshop, meeting and training on the subject calculated for 30 participants would cost about Rs.5000/intervention
Shore Area Development Authority	To take appropriate decisions and enforcement	Statutes and provision of the law	Letters Circulars Telephone Press releases	Long term		The budget required for workshop, meeting and training on the subject calculated for 30 participants would cost about Rs.5000/intervention
Pollution control board	Catch depletion due to discharge of effluents To monitor ETPs To take appropriate decision and vigilance	To treat effluents Strict monitoring Statutes and provision of the law	Written complaints Circulars Telephone Press releases Protect rallies Penalties	Short term	NGOs and voluntary action groups	Cost not incurred
NGOs	To create awareness and educate fishers	The rights and privileges and provision in the law To educate on policies.	Printed literature Circulars Discussions	Long term	NGOs and voluntary action groups	Depends on the subject delivered to the fishers.
Researchers	To study the problem in detail	Present situation and future outcome. Better insight of the conflict	Workshops/Seminars Meetings Training	Attention taken as need arose	Researchers of the regional, state and central levels.	The budget required for workshop, meeting and training on the subject calculated for 30

Communication Partners	Objectives	Content	Communication Channels	Time Frame of Communication Activities	Action to be undertaken by whom	Estimated Costs
						participants would cost about Rs.5000/intervention
Media	To create awareness	On regulatory rules and regulations. Unbiased reports on the conflict	Print Electronic media	Long term	NGOs	Public electronic and print media could be used, where as there is no financial commitment. No charge from use of public media under the government for documentation or coverage

There should be repetitive programmes/replays |

Priority Communication Interventions in Study Sites: Testing and Outcomes

From the country-specific CPM-CS, each partner country identified priority actionable communication interventions. The implementation of the communication intervention was conducted in the study sites. The communication interventions varied from country to country. In Bangladesh, these priority options involved direct dialogues with fishery managers and fishers, video presentations, leaflets and folk drama & leaflets were identified interventions. In Cambodia, provincial forums and & newsletters were preferred. In India, the dissemination of FAO-CCRF and MFRA through local stakeholders' workshops was reported as a priority option. These priority communication interventions undertaken at the study sites are presented in Tables 3.7a for Bangladesh, Table 3.6b for Cambodia, and Table 3.6c for India.

Overall, the priority interventions applied and tested in the study sites in the three countries demonstrated that stakeholders, both primary and secondary, could indeed be gathered to discuss conflicts and how resolutions could be achieved. The number of participants stated in the three tables below reflects that there was interest in conflict resolution. The outcomes arising from the planning of the strategies specified in the CPM-CS that guided these interventions showed both achievements and constraints.

In Bangladesh, meetings, workshops and group discussion prevailed as a chosen communication intervention. Participation to these activities was reasonable by numbers and composition. Real conflicts were addressed by the stakeholders involved resulting in acknowledgement of the problems and actions needed to reduce these problems (e.g. *katha* fishing). Constraints that may prevent fulfillment of achievements were identified in meetings as well as further recommendations to ensure sustainable compliance.

The meetings as a communication intervention in Cambodia, especially those categorized as public forum, was able to call the attention and support of senators who brought the issue for high-level discussion. Meetings also enabled the formation of provincial committee for conflict resolution, although the constraint noted the lack of tools for conflict resolution during the application of the proposed intervention – hence, the specified need to extend the use of the tools tested in this Project such as the ALM, CPM-CS and the PAPD-CB tools. Newsletters also proved as useful communication interventions as it could get into the level of policy makers. However, the involvement of international institutions was felt needed to enhance research on conflict issues that would be disseminated.

In India, meetings and trainings proved as a priority intervention as they enabled ease of imparting information of existing policies and fishery regulations intended to give order to fisheries management and reduce conflicts. Conflicts in the study areas generally involved traditional and mechanized fishers. These are issues that are contained in the MFRA in particular and in the CCRF in general.

Table 3.6a: Priority Communication Interventions in Study Sites, Bangladesh

Intervention Chosen	Conflict Addressed	Stakeholders Involved	Details (No. of Participants/Venue)	Achievements (Were Objectives/Target Met?)	Constraints	Recommendations
Meeting	*Khata* (fixed engine) : • Identify problem • Probable solution • Action plan	• CBO Members • General fishers • *Katha* owners • Other gear owners • Local elite • NGO staff • WorldFish staff • GoB staff	Priority: 2 Date: April–May No. of participants: (25 -35) Venue: Project site (river section)	• Problems identified due to *katha* • Reached consensus to reduce number of *katha* • No new construction of *katha*	• Need continuous monitoring to implement the decision taken • More awareness meetings required	• Complete ban of *katha* fishing during the breeding months • Form committee to monitor execution of action plan • Create awareness through meetings
Meeting	*Kua* (depression) : • Identify Problem • Probable solution • Action plan	• CBO Members • General fishers • *Kua* owners • Other gear owners • Local elite • NGO staff • WorldFish staff • GoB staff	Priority: 1 Date: April–May No. of participants: (25 -35) Venue: Project site (river section)	• Problems identified due to *kua* • No construction of new *kua*	• Need continuous monitoring to implement the decision taken • More awareness meeting required	• Avoid destructive method to harvest fish • Find arrangements to share the benefit of *kua* with general fishers • Form committee to monitor execution of action plan • Create awareness through meetings
Workshop	Destructive gear use (*katha, kua* and other illegal gears) • To inform other stakeholders about the problems and action plan taken to minimize conflicts • To provide legal support to stop illegal activities	• CBO members • Local administration • Police • General fishers • *Katha/kua* owner • Gear owners • Local elite/Local Govt. • NGO staff • WorldFish staff • GoB staff	Priority: 1 Date: April – May No of participant: (25 -35) Where: District Fisheries Office	Reached some level of consensus on illegal gears both from the side of government and fishers	• Very short time given to monitor the implementation of decision taken • Difficulty of ensuring participation of fishers and government officers in a whole-day workshop without remuneration	• Strict enforcement of rules and regulations • Local level initiative to stop illegal fishing practice • Create public awareness through posters, leaflets, meetings • Public hearing, an important communication tool, proposed by the participants to enable fishers to talk to government officials/administration
Group Discussion	*Khata* (fixed engine) : • To monitor the implementation of the decision	• CBO Members • General fishers • *Katha* owners • Local elite • NGO staff • WorldFish staff • GoB staff	Priority: 6 Date: April–May No. of participants: (25 -35) Venue: Project site (river section)	Local initiative required to implement decision .	• Need continuous monitoring to implement decision taken • More awareness meeting required	• River Management Committee to supervise implementation of decision taken

Table 3.6b: Priority Communication Interventions Undertaken in Study Site in Cambodia

Intervention Chosen	Conflict addressed	Stakeholders Involved	Details (No. of Participants/Venue)	Achievements (Were Objectives/Target Met?)	Constraints	Recommendations
Provincial Meeting	This meeting focused on discussing the issues relating to natural resources management in Tonle Sap region and organizing provincial committee for conflict resolution on issues related to Tonle Sap's resource uses.	Provincial authority District governor Commune Councils Environment Dept Fisheries Dept Police, military Local fisher rep. NGOs	22 April 2004 the Provincial meeting conducted in Kampong Chhnang province, attended by 55 participants.	The provincial committee for resolving natural resource conflict was formed in the following quarter	The representative of DOF did not attend the committee regularly. Limited financial resources for follow up. Lack of tools used for conflict resolution. Conflict resolution was dealt without proper method. Politics involved in fisheries conflicts. Actions from stakeholders to put real solution still limited.	PAPD-CB tool needs to be developed for fisheries conflict resolution. Applying the ALM, Communication Plan, Communication and PAPD-CB tool in this meeting. Developing a Conflict Resolution Plan so this plan could be used for conflict resolution.
Provincial meeting	The meeting was aimed at improving coordination among stakeholders for conflict resolution on natural resources in the Tonle Sap Lake.	Provincial authority District governor Commune Councils Environment Dept Fisheries Dept Police, military Local fisher rep. NGOs	The meeting was held on 10 May 2005 in Kg. Chhnang. There were 50 participants including four women . The meeting was held on 11 Feb 2005 in Pursat and attended by 51 participants including seven women	Fisheries conflicts were raised and taken for conflict resolution. Stakeholders agreed on the issues and willing to cooperate for conflict resolution at the provincial level	Conflicts on natural resources were only discussed at the provincial levels and the related government institutions were not able to come down to the areas. The financial resource was limited to bring them to the conflict areas. Lack of tools used for conflict resolution. Conflict resolution was dealt without proper method. Actions from stakeholders to realize solution still limited.	PAPD-CB tool need to be developed for fisheries conflict resolution. Applying the ALM, Communication Plan, Communication and PAPD CB tool in this meeting. Developing a Conflict Resolution Plan so this plan could be used for conflict resolution.

Intervention Chosen	Conflict addressed	Stakeholders Involved	Details (No. of Participants/Venue)	Achievements (Were Objectives/Target Met?)	Constraints	Recommendations
Public Forum	Seeking intervention of parliamentary on fisheries conflicts	Fishers from Anlong Raing, village chief, commune council, NGOs and senators	Meeting three senators in Pursat on 21 January 2005 attended by 20 fishers	Fishing communities gained support from senators who brought the issues for high-level discussion	This forum was not regular. The follow-up relied upon NGOs, and local authority and fisheries did not have substantial means to hold the Senate accountable to the conflict	Improved communication with senators and other government agencies such as DOF, Environment Dept.
District Meeting	To engage district authority in conflict resolution	District authority, Environment Dept Commune Councils Local fisheries Local community fisheries	29 April 2005 in Krakor District, Pursat, attended by 40 people	District authority took issues and action on fisheries conflicts	No proper tool and techniques used for conflict resolution Conflict resolution somehow involved politics	Piloting the conflict resolution in one of study areas using the communication strategies, ALM and PAPD-CB.
Newsletter	To communicate issues from fishing communities to policy makers and decision makers	Government at various levels, NGOs, fishing community representatives, researchers and media.	Produced on quarterly basis about 1500 copies and distributed all over six provinces around the Tonle Sap Lake.	Fisheries conflicts were documented. Some conflicts were taken for resolution	Newsletter was used to raise awareness on fisheries conflict. Local fishers' high expectation from the newsletter	More research needed to involve international institutions

Table 3.6c: Priority Communication Interventions Undertaken in Study Sites in India

Intervention chosen	Conflict addressed	Stakeholders involved	Details(Dates/No. of Participants/Venue)	Achievements	Constraints	Recommendation
Meeting and Training	To address the conflict between traditional and mechanized fishers Imparting knowledge on Marine Fisheries Regulation Acts	Traditional and mechanized (for the attitude survey participants)	March 2005 (2 meetings) (50 participants)	Created awareness of stakeholders on the legal documents in the MFRA	More frequent interventions to impart the detail, required	Strict enforcement of the MFRA
Meeting and Training	To address the conflict between traditional and mechanized fishers Imparting relevant knowledge on Marine Fisheries Regulation Acts	Local government officials with the DOF	March 2005 (one meeting with the help of VIKASA) 15 participants	Stakeholders more aware of the details of the legal aspects of Marine Fisheries Regulation Acts and how to apply them	More frequent interventions to impart the detail, required	Strict enforcement through the MFRA and the role of public sector
Meeting and Training	To address the conflict between traditional and mechanized fishers Imparting relevant knowledge on the FAO Code of Conduct for Responsible Fisheries	Traditional and mechanized fishers	May 2005, Sakthikulangara, John Britto Community Hall 37 participants	Was able to deal with the segments of the FAO Code of Conduct of Responsible Fisheries	One day for each section of the code to be understood in detail, required	There should be a code of conduct on fisheries

Survey on Attitude towards Conflicts in Fisheries: Testing and Outcomes

The attitude-change measurement was conducted through a comparison of stakeholder responses to *Attitude Survey Statements* before and after communication interventions. Bangladesh conducted attitude surveys using the same set of respondents comprising fishers and a variety of fishery stakeholders (sampling without replacement), while India allowed other almost similar respondents to be interviewed during the resurvey (sampling with replacement). Cambodia was unable to conduct a resurvey using the same group of respondents due to time constraints and other staff commitments. In lieu of a resurvey, Cambodia organized a group of stakeholders to evaluate and respond collaboratively, rather than individually, with an average rating to attitude statements. This procedure was interpreted more as another attitude survey than a resurvey inasmuch as the respondents and the mode of eliciting responses were significantly different from the benchmark attitude survey. The results of these attitude-change measurements in the study sites in Bangladesh, Cambodia and India are presented below.

Overall, the method of measuring attitude change was able to capture some small levels of attitudinal changes. The method used comparison of significant differences between statistical means of Likert responses to the Attitude Statement Survey before and after implementing communication interventions. Attitude changes could be attributed as outcomes of the implementation of communication intervention. By category of attitude statements, generally small significant changes were noted among fishers and conflict managers on some statements about: 1) understanding of conflicts, 2) manageability of conflicts, 3) prerequisite for conflict resolution, 4) process of resolution, and 5) responsibility for conflict resolution.

Results of Survey on Attitude towards Fisheries Conflicts in Bangladesh

The attitude survey was conducted to gain a better understanding of the conditions, values and priorities of the fishers and various stakeholders in fisheries conflicts. Hence, plans and policies emerging from this Project were considered based on attitude and perceptions of fishers and various stakeholders., A total of 261 primary stakeholders from *Beel* Shapla and Titas Cluster, and 30 conflict managers (community leaders -8; fisher leaders - 5; fishery officers - 5; NGO staff -1; school teacher - 1) were interviewed for the first survey. The respondents selected were those the fishers considered as being able to help them reduce conflict.

In the resurvey of attitude, the same group of conflict managers was interviewed. Only 177 of the 261 primary stakeholders interviewed in the first survey were available during the resurvey. The rest of the respondents were not available for various reasons. The mean attitude statements of 177 respondents in both surveys are compared in Table 3.7a below to show the impact of communication interventions in the attitude level of respondents.

Table 3.7a. Results of Statistical Analysis of Attitude Survey among Fishers and Conflict Managers, Bangladesh, 2005

Attitude statements	Fishers' attitude before intervention	Fishers' attitude after intervention	t-ratio	Conflict managers' attitude before intervention	Conflict managers' attitude after intervention	t-ratio
	Mean (Standard deviation)	Mean (Standard deviation)		Mean (Standard deviation)	Mean (Standard deviation)	
i. Understanding of conflicts						
Too many people trying to catch a limited quantity of fish is a major cause of fisheries conflicts	1.93 (1.08)	2.50 (1.30)	-4.92	1.83 (.79)	1.80 (.66)	0.18
Non-cooperation between fishers and BMC/RMC leaders is a major cause of fisheries conflicts	2.75 (1.29)	3.11 (1.56)	-2.67	3.17 (087)	3.13 (82)	0.15
Fisheries conflicts lead to serious hardship for fishing families	1.35 (.49)	1.04 (.22)	7.07	1.47 (.86)	1.43 (.82)	0.15
Influx of new people (non-traditional fishers) into fishing leads to severe conflicts in fisheries	2.05 (1.04)	1.66 (1.01)	4.04	1.60 (.67)	1.53 (.57)	0.41
If government agencies did their job properly, there would be very few conflicts over fisheries	**1.31** (.53)	**1.02** (.24)	6.74	**1.40** (.81)	1.40 (.81)	0.00
Use of destructive fishing gears/practices (*katha* fishing, use of current nets) are the reasons for fisheries conflicts	1.47 (.53)	1.41 (.91)	0.88	1.43 (.63)	**1.37** (.56)	0.44
ii. Manageability of conflicts						
Powerful groups will always be able to win their conflicts with less powerful groups of fishers	2.11 (1.16)	1.69 (.85)	4.17	**1.53** (.57)	**1.43** (.57)	0.68
Local cooperation on conflict resolution will be effective if the government agencies participate	1.74 (.86)	1.88 (.97)	-1.54	1.73 (.64)	1.60 (.81)	0.71
Conflicts are getting worse every year	1.60 (.63)	**1.28** (.51)	5.54	1.97 (1.00)	1.70 (.92)	1.71
All fisheries conflicts can be resolved	**1.57** (.65)	1.48 (.78)	1.26	1.70 (.60)	1.57 (.50)	0.94
Community can manage fisheries conflicts themselves	4.34 (.70)	4.66 (.78)	-4.48	2.83 (1.15)	2.60 (1.04)	0.83
iii. Prerequisites for resolution						
If all parties are willing to compromise, solutions to conflict can be found	1.95 (.91)	1.92 (1.04)	0.27	1.60 (.50)	1.63 (.49)	-0.26
All parties need to understand existing policy and regulations before a process of conflict resolution can begin	1.40 (.56)	1.41 (.64)	-0.14	1.80 (.41)	1.77 (.43)	0.31
Conflicts can be resolved if the fishing communities organized	3.88 (.88)	3.82 (.98)	0.65	2.13 (.86)	2.10 (84)	0.15
Fisheries conflicts can be resolved if the fisheries rules are strictly enforced	**1.15** (.40)	**1.03** (.26)	3.49	1.90 (.55)	1.87 (.43)	0.26
Effective solutions of conflicts can be found if the communities and government work together	1.48 (.52)	1.21 (.57)	5.17	**1.47** (.51)	**1.57** (.57)	-0.72
Better understanding of one another's needs and points of view will not make it easier to resolve conflicts	2.30 (.93)	1.71 (.72)	3.79	2.00 (.64)	2.00 (.69)	0.00

Attitude statements	Fishers' attitude before intervention	Fishers' attitude after intervention	t-ratio	Conflict managers' attitude before intervention	Conflict managers' attitude after intervention	t-ratio
	Mean (Standard deviation)	Mean (Standard deviation)		Mean (Standard deviation)	Mean (Standard deviation)	
iv. Process of resolution						
Conflicts between fishers cannot be resolved by village leaders bringing the parties together to discuss the issues	2.44 (1.26)	2.10 (1.16)	2.88	1.90 (.31)	2.03 (.41)	-1.42
By strengthening the capacity of local institutions conflicts can be resolved	3.05 (1.14)	2.92 (1.22)	1.18	1.73 (.52)	1.73 (.52)	0.00
All conflicts can be resolved through dialogue and negotiation	4.13 (.76)	4.32 (1.21)	-1.98	1.70 (.84)	1.70 (.75)	0.00
Strict enforcement of rules and regulations can help manage conflicts	**1.17** (.40)	**1.09** (.34)	2.11	1.60 (.56)	1.53 (.51)	0.48
Community- based fisheries management (CBFM)/co-management approach can help resolve conflicts	2.22 (.81)	2.07 (.92)	1.79	**1.23** (.43)	**1.40** (81)	-0.99
v. Responsibility for resolution						
Government is the only agency that can manage conflicts	2.48 (1.37)	1.44 (.74)	10.02	3.83 (.83)	3.93 (1.14)	-0.39
The NGOs can play an important role to influence the communities to manage conflicts	2.07 (1.01)	1.88 (.90)	2.01	1.80 (.89)	1.67 (.96)	0.56
Village leaders can play an important role on conflict resolution	3.47 (1.13)	3.45 (1.07)	0.23	1.67 (.55)	1.63 (.56)	0.23
Fishers and their leaders should take the initiative to resolve disputes and conflicts	**1.49** (.54)	**1.40** (.57)	1.66	1.80 (.41)	1.70 (.47)	0.88
I cannot do anything to help to resolve conflicts over fisheries (or: It is not my job to help to resolve conflicts over fisheries)	2.07 (1.31)	2.22 (1.08)	1.12	**0.63** (.72)	**0.47** (.57)	-1.00

Below are the analyses of the statistics relevant to the attitude survey conducted in Bangladesh that were presented in Table 3.7a above.

i. Understanding of the conflicts

The results showed that both the fishers and the conflict managers believed that government agencies had to do their job properly to reduce conflicts in fisheries. Fishers and the conflict managers stressed that current rules and regulation were beneficial for the resources. However, they felt that the government had to take proper steps to enforce these rules and regulations. Use of destructive fishing gears, influx of new people into fisheries and a growing number of fishers for a limited number of fish were also identified as major sources of conflicts in fisheries. The results showed that after the intervention, no significant changes were noted in the case of the conflict managers about the understanding of conflicts. In the case of the fishers, some positive and significant changes were noted in their understanding of the level of conflict. They now strongly believe that the role of the government is crucial in managing the conflicts in fisheries. However, they also believe that the entrance of new fishers is putting an increased pressure in the sector, which is the main reason for the declining trend in fish production in the recent years. It is also creates

conflicts amongst fishers as more and more fishers are entering the sector and compete for an already declining resource.

ii. Manageability of conflicts

The attitude statement shows that the fishers and the conflict managers believed that all the fisheries conflicts could be resolved although the conflicts are getting worse every year. Most of them expressed that the community could not solve the problem themselves. Conflict management is only possible if the government agencies participate with the local communities to resolve conflicts. Results of the comparison of average responses to attitude statements of fishers and conflict managers before and after intervention showed, in most of cases, that their perception has been significantly changed in the same direction, especially in the case of primary stakeholders.

iii. Prerequisites for conflict resolution

The attitude statement indicates that strict enforcement of rules and regulation, willingness of all parties to compromise, awareness of the current rules and regulations and effective cooperation between government and communities are the main prerequisites for conflict resolution. They believe that fisheries conflicts could not be resolved by the fisheries administration alone. It needs effective cooperation amongst government, community and other stakeholders. Moreover, the fishing communities are required to be organized for the resolution of conflicts. Results of comparison of responses to the attitude statements of fishers and conflict managers before and after intervention showed that they held to the same perceptions on the prerequisites for conflict resolution as they first thought about.

iv. Process of resolution

It was believed that most of the conflicts in Bangladesh fisheries occurred due to the weak enforcement of laws. Fishers and the conflict managers argued that strict enforcement of rules and regulations would improve fisheries management to a large extent that could help minimize conflicts in the fisheries. However, in the case of vast fisheries like Bangladesh, it is very difficult and costly to enforce rules and regulations on the part of an enforcement authority. Therefore, besides strictly enforcing rules and regulations, strengthening the local institution, organizing the community in a community-based approach, and bringing all parties together to discuss conflicting issues through the village leaders' initiative are important for the process of conflict resolution. These were likewise revealed in the results of the attitude statements before and after interventions.

iv. Responsibility in conflict resolution

The attitude statement emphasized that the fishers and their leaders, village leaders, NGOs, government as well as all the stakeholders should bear the responsibility for conflict resolution. The responsibility for conflict resolution lies with the government. However, it is strongly believed that the community could assist government agencies in reducing conflicts. But, they need support from other stakeholders and community members to minimize conflicts. Responses to before and after intervention on attitude statements strongly emphasized similar positive attitude towards resolution of fisheries conflicts.

Table 3.7b: Results of Statistical Analysis of Attitude Survey among Fishers and Conflict Managers, Cambodia, 2005

Attitude Statement	Primary Stakeholder before intervention[*1] Mean (Standard Deviation)	Primary Stakeholder after intervention[*2] Mean	Conflict Managers before intervention[*1] Mean (Standard Deviation)	Conflict Managers after intervention[*2] Mean
i. Understanding the Conflict from Conflict Manager and Primary Stakeholders				
Too many people trying to catch a limited quantity of fish is not a major cause of fisheries conflicts	**1** (0)	1	1.33 (0.73)	1
The locals' livelihood is fishing and they know that they have no choice other than fishing, so it causes fisheries conflict	1.18 (0.58)	1	2.10 (0.99)	1
Fisheries conflicts lead to serious hardship for fishing families	1.42 (0.74)	1	2.07 (1.0)	1
When fisheries conflict occurs it reduces the daily fish catch of the fishers.	1.38 (0.49)	1	1.67 (1.14)	1
If government agencies did their job properly, there would be very few conflicts over fisheries	1.04 (0.19)	1	**1.19** (0.56)	1
If without the support of community fisheries, the government would not be able to reduce fisheries conflict effectively.	**1** (0)	1	1.33 (0.68)	1
ii. Manageability of conflicts				
Powerful groups will always be able to win their conflicts with the less powerful groups of fisher	1.33 (0.71)	1	**1.30** (0.70)	1
Community fishers could not manage fisheries conflict by themselves	**1.22** (0.59	1	1.78 (0.93)	1
All fisheries conflicts can be resolved	1.35 (0.75)	1	2.37 (0.93)	1(3)*
Only the government (official/not official) can manage fisheries conflict	1.40 (0.77)	**3**	2.15 (0.99)	**3**
iii. Prerequisites for resolution				
If all parties are willing to compromise, solutions to conflict can be found	1.02 (0.09)	1	1.10 (0.30)	1
Conflict managers can start solving the fisheries conflict	**1** (0)	1	**1** (0.2)	1
All parties need to understand existing policy and regulations before the process of conflict resolution can begin	**1** (0)	1	1.70 (0.95)	1
Community fisheries need the influence from government to contribute to reducing fisheries conflicts	1.11 (0.42)	1	1.10 (0.50)	1
Better understanding of one another's needs and points of view will be easier to resolve conflicts	1.22 (0.59)	**3**	1.85 (0.99)	1
Common understanding and an equitable use of natural resources can solve fisheries conflict	1.07 (0.38)	1	1.11 (0.42)	1
iv. Process of resolution				
Conflicts between fishers cannot be resolved by village leaders bringing the parties together to discuss the issues	1.70 (0.92)	1	2.44 (0.89)	1(3)**
Fisheries conflicts can be resolved more effectively through capacity building of community fishers	1.07 (0.30)	1	1.50 (0.80)	1
Conflicts can be resolved easily by strict enforcement of regulations	1.04 (0.13)	1	**1.26** (0.66)	1

Attitude Statement	Primary Stakeholder before intervention[*1] Mean (Standard Deviation)	Primary Stakeholder after intervention[*2] Mean	Conflict Managers before intervention[*1] Mean (Standard Deviation)	Conflict Managers after intervention[*2] Mean
The by-laws of community fisheries should be adhered to by the stakeholders involved in community fisheries	1 (0)	1	1.40 (0.70)	1
All conflicts can be resolved through dialogue and negotiation	1.02 (0.10)	1	1.40 (1.0)	1
Fisheries conflict caused by the uncertainty of the fishing grounds and the encroachment of the outside fishers to community fisheries ground can be resolved by face-to-face meetings and consensus building	1.07 (0.38)	1	1.30 (0.70)	1
v. Responsibility for resolution				
The government is the only agency that can manage conflicts	1.28 (0.67)	1	1.89 (0.97)	3
Local community such as community fishers, associations and other groups (informal) can also help to manage the fishery conflicts	1.04 (0.19)	1	1.59 (0.89)	1
Fishers and their leaders should take the initiative to resolve disputes and conflicts	1 (0)	1	1 (0.20)	1
All stakeholders and institution should work together to manage fishery conflicts	1.04 (0.19)	1	1.20 (0.60)	1
I cannot do anything to help to resolve conflicts over fisheries	2.04 (0.96)	3	2.60 (0.80)	3
I have ability to joint in social work which a part that can support to resolve a fishery conflicts	1.04 (0.13)	1	1.11 (0.42)	1

Source: [*1]Field Survey, 2004-2005[*2] – Workshop, April 2005
Note: 1= Agree, 2= Neutral and 3=Disagree; Government officials rate 1 and NGOs rate 3

The attitude survey in Cambodia was adapted to the local context. In particular, the Project proposed a 5-point Likert scale to standardize approach in all three countries. However, a 3-point scale was decided as more suitable in Cambodia. The overall literacy and level of understanding, the respondents were observed to be able to better differentiate the concept of "agree", "neutral" and "disagree" in three scales, rather than 5 scales. The simplified approach was preferred and would facilitate interview. Furthermore, the 3-point scale would avoid "measurement errors" compared with the 5-point scale in this case where respondents have limitations in categorizing responses. A household survey conducted in Anglong Raing village showed that only 20% of the villagers had basic formal education. In Tamul Leu village, 65% of the villagers had basic formal education. Another modification in the attitude survey of Cambodia was the conduct of a multi-stakeholder workshop to evaluate the change in attitude rather than conducting of a re-survey due to the difficulty in finding the exact fishers interviewed in the initial attitude survey. The fishers in floating villages in Tonle Sap move houses as flooding and fishing seasons change. The results from the attitude survey in Cambodia, indicated that most of the stakeholders were quite aware of conflict issues. The involvement of FACT in the project area over the past two years may have influenced their attitude towards conflicts. The fishers who were interviewed individually and those who formed the focus group in the workshop agreed with most of the attitude statements. However, a difference of views between government and NGO's occurred in attitude statements. This divergence of attitude ratings is a statement that all conflicts can be resolved and that conflicts cannot be resolved with the help of village leaders alone, it need government support.

Table 3.7c : Results of Statistical Analysis of Attitude Survey among Fishers and Conflict Managers, India, 2005

Attitude statements	Fishers (before) Mean (Standard deviation)	Fishers (after) Mean (Standard deviation)	Conflict Manager (before) Mean (Standard deviation)	Conflict manager (after) Mean (Standard deviation)
i. Understanding of Conflicts				
Too many people trying to catch a limited quantity of fish is not a major cause of fisheries conflicts	2.13 (1.24)	2.69 (1.27)	3.86 (1.36)	**2.80** (1.20)
The fish caught in areas by you is not enough for the growing number of village residents.	2.19 (1.22)	**2.42** (1.17)	3.84 (1.31)	2.75 (1.12)
Fisheries conflicts lead to serious hardship for fishing families	2.06 (1.06)	2.77 (1.07)	**2.67** (1.46)	3.71 (1.12)
Fisheries conflicts have reduced the number of fishing days	2.19 (1.11)	2.83 (1.17)	2.77 (1.15)	2.38 (1.47)
If government agencies did their job properly, there would be very few conflicts over fisheries	**1.93** (1.05)	2.56 (1.06)	4.09 (1.27)	3.69 (1.04)
Without community support government cannot reduce fisheries conflicts	2.36 (1.54)	2.78 (1.06)	4.57 (1.04)	4.12 (1.11)
ii. Manageability of conflicts				
Powerful groups will always be able to win their conflicts with less powerful groups of fishers	2.30 (1.24)	2.50 (1.17)	**1.65** (1.15)	3.91 (0.87)
Community can manage fisheries conflicts themselves	2.43 (1.40)	2.65 (0.92)	2.11 (0.98)	4.12 (0.86)
All fisheries conflicts can be resolved	**2.11** (1.05)	2.61 (1.12)	1.72 (0.96)	3.91 (1.09)
Only institutions (formal and informal) can manage conflicts	2.59 (1.35)	2.72 (1.22)	2.59 (0.85)	**1.60** (0.97)
iii. Prerequisites for resolution				
If all parties are willing to compromise, solutions to conflict can be found	2.03 (1.03)	**2.39** (1.05)	3.03 (1.49)	2.98 (0.68)
Conflict managers can initiate conflict resolution	2.09 (1.06)	2.78 (1.18)	2.91 (1.96)	3.84 (0.88)
All parties need to understand existing policy and regulations before a process of conflict resolution can begin	**1.80** (0.92)	2.51 (1.14)	2.79 (1.10)	3.07 (1.18)
Community should have an influence in the development of fisheries policies	1.93 (0.98)	2.87 (1.19)	**2.64** (0.59)	**2.92** (1.39)
Better understanding of one another's needs and points of view will not make it easier to resolve conflicts	2.03 (1.04)	2.70 (1.12)	2.91 (0.92)	3.15 (1.18)
Common understanding of equitable sharing of available resources can resolve conflicts	2.22 (1.19)	2.61 (1.11)	3.48 (0.91)	3.70 (0.94)
iv. Process of resolution				
Conflicts between fishers cannot be resolved by village leaders bringing the parties together to discuss the issues	2.00 (1.09)	2.59 (1.08)	2.32 (0.99)	2.77 (0.74)
Conflicts can be resolved by community-based fisher's organizations (CBFOs) by capacity building more effectively	**1.79** (0.86)	2.86 (1.07)	2.92 (0.49)	**2.29** (1.06)
Conflicts can be resolved easily by strict enforcement of regulations	**1.79** (1.16)	2.60 (1.04)	2.05 (0.65)	3.02 (0.93)

Attitude statements	Fishers (before)	Fishers (after)	Conflict Manager (before)	Conflict manager (after)
	Mean (Standard deviation)	Mean (Standard deviation)	Mean (Standard deviation)	Mean (Standard deviation)
Marine Fisheries Regulation acts can be enforced with the involvement of the community	2.11 (1.27)	2.72 (1.13)	2.13 (1.10)	3.46 (1.01)
All conflicts can be resolved through dialogue and negotiation	2.37 (1.21)	2.73 (1.09)	2.67 (0.82)	2.52 (1.05)
Conflicts on sharing the resources can be resolved through compromise and understanding the whole system	2.33 (0.96)	**2.39** (1.15)	**1.94** (0.63)	2.82 (0.86)
v. Responsibility for resolution				
Government is the only agency that can manage conflicts	1.95 (1.08)	2.84 (1.15)	3.84 (1.03)	2.75 (1.22)
CBFOs and informal grouping can help to manage fisheries conflicts	1.97 (0.95)	**2.48** (1.02)	2.36 (0.85)	3.21 (1.20)
Fishers and their leaders should take the initiative to resolve disputes and conflicts	1.93 (0.95)	2.83 (1.04)	2.13 (0.53)	3.03 (1.11)
All stakeholders should join together to manage conflicts	**1.87** (1.92)	2.60 (0.99)	4.10 (1.03)	**2.59** (0.97)
I cannot do anything to help resolve conflicts over fisheries	1.98 (1.03)	2.66 (1.08)	3.66 (0.94)	2.99 (0.74)
I have a social responsibility in harvesting and sharing the resources judiciously	2.01 (1.13)	2.88 (1.11)	**2.10** (1.13)	2.60 (1.04)

In the case study sites in India, the results of the attitude survey indicated that the primary stakeholders were in strong agreement that if the government agencies did their job well, there would be fewer fisheries conflicts. The fishers felt that they should be included in the resolution process and agreed that community support was important for reducing fisheries conflicts. However, these views were not shared by the conflict managers and their results were on the other end of the scale. From the attitude survey, the fishers were in strong agreement that all conflicts can be resolved but all parties need to understand existing policies and regulations before a process of conflict resolution could begin. This enabled the project partner to identify interventions workshops to create awareness of the Marine Fisheries Regulation Act (MFRA) and other policies. Capacity-building initiatives through community-based fisher organizations and the strict enforcement of regulations by the conflict managers were perceived to offer help in fisheries conflict resolution.

3.2.3 Lessons Learned from Output 2

The lessons learned from Output 2 can be categorized into two. The first is on the nature of the conflicts and the attitude of the stakeholders towards the prospects for their resolution. The second type of lesson is on the methods for evaluating such conflicts and attitudes towards conflict resolution. On the first type of lesson, conflicts mainly evolved due to competition for access and usage of the fishery resources among direct fishery stakeholders; and due to diverging motivations among secondary stakeholders involved in the conflict. In Bangladesh, the floodplain areas have various uses aside from fishing (e.g. agriculture) and competition for use of and access to these natural resources leads to indiscriminate and unsustainable utilization, decline in catch and increase in conflict. In Cambodia, conflicts occur amongst fishing lot operators, local authorities, military, police, fisheries officials and local communities due to diverging values and interests. In India, the

key conflicts identified in the study area were also due to competition for resources in "shared" fishing grounds; and indiscriminate fishing practices of certain groups of fishers, such as mechanized fishers, that negatively affect or marginalize the operations of the generally traditional fishers with smaller boats.

On the second lesson, the Project overall experienced the usefulness of the PISCES in gathering information for conflict assessment. Though the component tools/steps comprising the PISCES have similarities with other socio-economic survey tools, the PISCES has organized a stakeholder-participatory process that interests and engages the involvement of all types of stakeholders to fisheries conflicts. As reported by research partners in Cambodia, they had to carefully evaluate the need to implement PISCES in the study sites when earlier socio-economic surveys have already been done.

Another lesson under this category is the usefulness and suitability of five conflict typologies proposed by Bennett et al. (2001). However, there were conflicts that could both fall in two categories due to the causal relations between conflicts and their origins. For example, conflicts due to illegal fishing operations was argued by stakeholders as being classified Type II or due to how the fishery is controlled or the lack of such control; and also as Type III being a conflict among groups of users, i.e. traditional 'illegal' vs new 'legal' fishers. This relates to the concept of 'conflict inversion' wherein disputes evolve into other issues and the main cause that are often the key in describing the nature and typology of the conflict could be mislead.

On the premise that communicating conflicts between stakeholders is a part of a process for conflict resolution, the actor-linkage matrix (ALM) as a tool for evaluating communication levels between groups of stakeholders showed as a very useful tool for recording such relations. Further, the ALM could be updated over time so that changes/improvements could be tracked, including the perception on how conflicts could be communicated to other parties. The current two-dimensional matrix of the ALM, however, limits analysis of conflicts to pairs of stakeholders. Thus, another matrix could be constructed for other dimensions of the conflict involving another stakeholder.

The communication planning matrix-communication strategies (CPM-CS) also proved as a very useful tool that organized the process for planning a strategy for communicating the conflicts to the intended parties, including an insight on the resources (timeframe and finances) needed for such strategies. This tool facilitates decision-making on the most suitable and realistic (vs ideal) strategies for communicating conflicts to target parties.

The method of measuring attitude change arising from the effect of any applied conflict awareness or resolution intervention using Likert responses in an ex-ante and an ex-post attitude survey was able to capture some small levels of attitudinal changes. The method used the comparison of significant differences between statistical means of Likert responses to the Attitude Statement Survey before and after implementing the communication interventions. Generally, small significant changes were noted among fishers and conflict managers on some statements about: 1) understanding of conflicts, 2) manageability of conflicts, 3) prerequisite for conflict resolution, 4) process of resolution, and 5) responsibility for conflict resolution. However, as in most cases, ex-ante and an ex-post survey are limited by the availability of same set of respondents especially in long-time interval between surveys. And in the study of attitude changes, time is an essential factor as attitudes typically do not change in short-time intervals.

3.3 Conflict Resolution and Consensus-Building

Output 3a: Testing and adaptation of conflict resolution and consensus-building methods in different contexts.

Output 3a, the first sub-group, refers to the testing and adaptation of conflict resolution and consensus-building methods in different contexts. To deliver this third category of project output, the WorldFish collaborated with the Center for Natural Resources Studies (CNRS) in Bangladesh to conduct training on Participatory Action Plan Development (PAPD), a tool for building consensus in action plan development for the Project executants and partners. The PAPD was developed by the Bangladesh-based CNRS through an earlier DFID-funded research project and was planned to be adapted and tested by this fisheries conflict management Project.

The participants to this PAPD training included the Project partners and other key stakeholders such as Proshika - A Center for Human Development, and some Department of Fisheries staff in Bangladesh working in Project sites in *Beel* Shapla and Titas Cluster in Bangladesh. The report of PAPD Training in Tangail, Kalihati, Bangladesh, is given as Annex 3.3 to this main report.

The trainees were exposed to various applications of the PAPD process as a tool for building consensus. As a result of this collaboration, suggestions were made to develop action plans that would address concerns of farmers, fishers and women's groups. This essentially implies that PAPD could be adapted in different contexts.

Output 3b: Adaptation, Testing of and Promotion of Consensus Building (PAPD) in India for Coastal Fisheries

Output 3b is about adaptation, testing and promotion of a consensus-building method in India for coastal fisheries. The training with CNRS in Bangladesh spurred interest in conducting a PAPD field trial in Sakthikulangara, a fishing village in Kerala, India. The field trial also served a viable venue to introduce PAPD to partners in India, particularly to relevant other NGOs and other organizations in Kerala province. They include the Quilon Social Service Society; Central Marine Fisheries Research Institute, and Kerala Institute for Forest and Development whose key staff served as co-facilitators during the field trial. The report of the Sakthikulangara PAPD field trial is provided as Annex 3.4.

Participating fishers (e.g. local officials and community leaders) expressed their appreciation and commended the holding of the more PAPD field trials). Feedback from other participating NGO's and government officials indicates toward the potentials of applying the PAPD process to conflicts in fisheries. Thus, these feedback from participating NGOs and the evaluation results arising from the Post-PAPD Trial meeting of project partners and PAPD trial facilitators called for the need to produce a PAPD-Based consensus-building tool specific for managing fisheries conflicts. Table 3.8 below shows the analysis of similarities and differences between the PAPD-Based CB Tool and the PAPD developed by CNRS.

Table 3.8   The PAPD Facilitators Guide of the CNRS and the Proposed PAPD-Based CB Tool: Where Lies the Difference? The Similarities?

Focus	CNRS' PAPD Guide	PAPD-Based CB Tool (CBT)
Thrust	Whole gamut of natural resources management	Fishery resources management
Stretched goal	The result of managing the PAPD process so as to arrive at anticipated outcome: developing an action plan	The result of applying or adapting the PAPD process so as to allow for anticipated outcome: reaching a consensus—an overwhelming agreement—to resolve fisheries conflicts
Duration	Ideally, full eight days	Four consecutive days
Facilitation mode	Ensures structured, democratic participation that is both creative and empowering. After the pre-PAPD stage, actual PAPD process begins, comprising four major sessions, subsuming 11 activities. Initial stage identifies problem, which are re-framed in terms of interests, a variety of options for dealing with the conflict usually appear, which were not apparent before.	Ensures structured, democratic participation that is both creative and empowering; more enhanced CB CBT Sessions comprising four major sessions, subsuming 10 activities CBT encompasses a pre-PAPD already, when underlying conflict/s shall have been determined thru a community immersion activity that likewise involves getting firsthand knowledge of the intended community and prospective stakeholder-participants. Innovation shall be the hallmark of using the CB Tool, i.e. an expanded process that allows participating stakeholders to stay in control of the process and the decision, already with known/pre-determined conflicts. The process shall guide them then to identify, analyze, cluster problems that cause such conflicts; agree overwhelmingly on resolving the conflict/s based on the solutions they agree would solve their identified problems Stage begins with conflict rather than on problem before decision/s are considered in trying to reach/build consensus on the resolution process
	Both use brainstorming technique	
	CB processes involve technical issues in which use of natural resource, means of livelihood and other interventions are in dispute	
Major Clientele	Varied, depending on target natural resource	Fishers
General use	Communication tool	Communication tool
Manageability	Allows for retooling as demonstrated in the Sakthikulangara PAPD field trial though the process is endemic to Bangladesh	Deliverable and easily manageable; hence, viable for adapting in any poor fishing community in a developing country context.

3.3.3 Lessons Learned from Output 3

The PAPD training exposed the participants to various applications of the PAPD process. One of them is as a tool for building consensus to conflicts in fisheries. The PAPD steps and corresponding activities manifest the nurturing of consensus-building attitude among conflict stakeholders. In particular, the trainees noted that the process demonstrated an evolution of levels of compromises that a conflict party or participant had undergone in a PAPD process. For example, the problem identification process demonstrated an "intra-personal consensus building process" where an individual has to reconcile his personal indifferences to problems and choose a problem over a range of other problems. Then, the problem prioritization process illustrated an "inter-personal consensus building process" where individuals have to compromise that the problem identified by another person in the same category of stakeholder was indeed a priority over an individual problem. Finally, the plenary with the other conflict parties demonstrated an "inter-stakeholder group consensus building process" where a group of stakeholders unite and form consensus with other parties over decisions on priority problems and solutions to resolve them. Thus, the PAPD process was evaluated as truly suitable as consensus building tools for fisheries conflicts as fisheries conflicts has similarities with other natural resources conflicts. The stakeholders in fisheries and natural resources conflicts also have some resemblance of characteristics.

The collaboration between WorldFish and CNRS has indeed pointed that PAPD was adapted in different contexts as it demonstrated relevance and utility in resolving fisheries conflicts that potentially involve a range of stakeholders including fishers, farmers, women's groups, local officials, NGOs and policy-makers, among others. Furthermore, the Project has adapted PAPD in different contexts by engaging the collaboration of other local NGOs as facilitators and observers in the training in Bangladesh and the field trial in India, aside from the originally planned involvement of project partners in Bangladesh, Cambodia and India.

Output 4:   Appropriate products produced and promoted in partner countries and disseminated internationally; and initial uptake understood

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3.4.1 Good practice guidelines for managing conflicts and policy briefings

The Under this fourth and final Output, the Project developed three main products that could guide the process of managing conflicts. The first product is the *Fisheries Conflicts Communication Framework* (*FishCom*) developed from the first component as it was the Project's main emphasis. Further verification is required, however, to enable generalizations. The second product was the draft *PAPD-Based Consensus Building Tool: A Facilitator's Guide* prepared from the second component of the Project on consensus building. The PAPD-Based CB Tool is shown in **Annex 3.1**. The third product, the draft *Policy Brief on Managing Fisheries Conflicts: Communication and Consensus Building in South and Southeast Asia* is shown in **Annex 3.2**. The Brief compiles the lessons learned from the project and the conflict literature, in general, and recommends policy options for managing fisheries conflicts in the context of developing countries in South and Southeast Asia. This product is intended primarily as an easy to read reference that aids advocacy and guides uptake of lessons for policy makers, researchers, academicians, the wider public and other practitioners.

3.4.2   Lessons Learned from Output 4

The research activities of the Project that enable the production and delivery of the three products noted above, aside from a number of conference papers prepared and presented by members of the project team, elicited lessons for partners and other co-facilitators.

First, the development of the *FishCom* marked a lesson on the importance of organizing communication strategies and institutionalizing multi-stakeholder participation in fisheries conflict management to reach policy-makers. Else, the lack of coherent communication process may further breed conflict among stakeholders instead of envisioning the conflict as an opportunity for positive changes. Furthermore, conflict management, including consensus building measures, should be embedded in natural resource governance. As such, the need for facilitators and skilled third party negotiator is often required to catalyze understanding of conflicts, origins and options for resolution.

Second, the lessons above learned by researchers, conflict facilitators and managers were shared at the level of the primary stakeholders such as groups of fishers, with whom the research team had the privilege to interact with during project workshops and site visits. The fishers and the community organizers verbally expressed expectations to refer to the Project's then proposed consensus building guide (PAPD-CB tool) and extend field trials in their respective project sites through organizational activities. These tools, if disseminated to more stakeholders, facilitate understanding of conflicts and ease negotiations.

The third lesson learned is the role of a policy brief intended to reach policy-makers who comprise a broad spectrum of fishery and non-fishery constituents, either from a range of government agencies, including legislators, and in consultation with academicians and experts. This type of printed material could facilitate influencing decisions of policy makers who either participate directly or indirectly in the interventions or activities for communicating and resolving typically not widely known fisheries conflicts identified in this Project (e.g. workshops, meetings, forums, dissemination of newsletters).

The fourth lesson is about the conduct of the Project activities to enable delivery of planned outputs and products. Timing and chronology of activities is crucial in studies such as this conflict management in fisheries. Fishing is an activity for sustaining household food needs and livelihoods among the poor. The opportunity cost to fishers and other poor stakeholders is a factor to consider in participatory activities. Thus, gathering of fishers and other direct fishery dependent households in conflict management activities is quite an enormous effort among researchers, and in most cases compensations are fair necessities. Similarly, research activities, especially those involving follow-ups such as the attitude surveys should be synchronized with seasonality of fishing and non-fishing activities. Dissemination and uptake of newly generated products should also consider these factors in the field.

Chapter 4
Research Activities

The research activities that delivered the Project's four major outputs are described in the extracts of the project logical framework below. Table 4.1 describes the success of the Project activities vis-à-vis the objectively verifiable indicators of the Project logical framework, whilst Table 4.2 details the achievements and modifications of each activity undertaken by the Project. In general, all of the proposed activities were delivered by the Project although at different timeframes and in some cases resulting in shorter time intervals between activities. Nevertheless, the activities led to the design of such products as: Communication Framework for Managing Fisheries Conflicts (*FishCom*), draft PAPD-Based CB tool, and draft policy brief. These products would contribute to the achievement of purpose described earlier.

Table 4.1: Proposed Objectively Verifiable Indicators under each Output vs. Actual Achievements

Objectively Verifiable Indicators	Achievements and Means of Verification
Output 1: Communication strategy to reach policy makers and practitioners.	
At least ten key stakeholders from different institutions in each of three countries participated in developing the communications strategy.	The Project held three multi-stakeholder national and international workshops. The objective of the national workshops was to gather information on conflicts and stakeholder groups. The output from these workshops provided the basis for the communications strategy. The national workshops brought together 49 participants in Bangladesh, 29 in Cambodia and 63 in India. Sixteen participants attended the international workshop. These participants included various government agencies involved in fisheries resource management. The national workshops provided an avenue for them to be a part of the process of formulating the communication strategy framework. Workshop programme and list of participants are given as **Annex 4**.
Output 2: Conflict assessment method and typology tested and adapted / validated in additional countries.	
Conflicts assessed and categorized and their institutional/ policy contexts and causes identified in at least two sites in each of three countries.	The conflicts were accessed and the root cause and effects were identified through group discussions and multi-stakeholder workshops. Project partners assessed the conflicts in their respective countries and identified two case study sites per country. In Bangladesh and Cambodia the case study sites represented inland capture fishing while the case study sites in India represented marine fisheries.
	The Project adopted various PRA methods to collect information on fisheries conflicts at the Project site. The methods put forth in PISCES, were used with adaptations to the local context. The conflicts were categorized into typologies put forth by Bennett et al. (2001). The relevance of categorizing fisheries conflicts into typologies was undertaken as it facilitated analysis of conflicts and formulation of suitable policies to address them.
Output 3a: Conflict-resolution and consensus-building methods tested and adapted in different contexts.	
Methods adapted to country context and applied in at least two sites in each of three	The Project team collaborated with CNRS to conduct training for the project partners in using PAPD as a CB tool for fisheries conflict. The training was conducted in Agcharan Village, Kalihati, Bangladesh and tested in Sakthikulangara Village in Kerala, India. Prior to the field trial in Kerala, a 16-

Objectively Verifiable Indicators	Achievements and Means of Verification
countries.	page training report (**Annex 5**) was prepared as a guide for facilitators in India. A one-day training workshop was held in Mitraniketan, Kerala to facilitate the facilitators.
Use of conflict resolution in bipolar conflicts in three cases, and consensus building in three cases of multi-stakeholder competition for resources.	Fishers, conflict managers and facilitators in the PAPD training in Bangladesh and the Sakthikulangara field trial acknowledged that these dissemination and promotion activities sharpened skills in conflict-resolution facilitation and affirmed the utility of the experience in respective undertakings. The Sakthikulangara field trial tested PAPD in resolving bipolar conflicts as a group of 15 traditional fishers and ten mechanized fishers participated and experienced conflict resolution process using PAPD methods. Consensus building was demonstrated during the two plenary sessions in the PAPD trial as multiple groups of stakeholders (community leaders, church/priest, district fishery officer, the village level NGO Quilon Social Services Society, researchers with stake on the science behind the fish breeding season versus seasonal fishing closure) took turns evaluating the conflicts, solutions, impacts and compromises that each group had to deal with to be able to arrive at consensual solutions. However, due to time and budget constraints, only one field trial was undertaken.

Output 3b: Consensus building (PAPD) adapted, tested and promoted in India for coastal fisheries.

PAPD successfully adapted, tested and promoted through trial and training for targets.	The Sathikulangara field trial proved that the PAPD process could be used as a CB tool to address fisheries conflicts. However, some modifications were necessary as identified during the Post-PAPD Field Trial Workshop done in Mitraniketan, Vellanad, Kerala, India on 30 April; and 2-3 May 2005. This Workshop was attended by the local NGO staff who served as co-facilitators, local fisheries, social science researchers, and the Project Team. A PAPD Field Trial Report was produced (**Annex 6**) and distributed to government organizations and NGOs based in Sakthikulangara.

Output 4: Appropriate products (e.g. good practice guidelines for managing conflicts and policy briefings) produced and promoted in partner countries and disseminated internationally; and initial uptake understood

At least two different communication approaches tested for raising awareness on conflict management and resolution internationally	The Project held an international workshop to present its findings. In addition, project partners were invited to present their respective country-specific communication strategies at other workshops. Through the multi-stakeholder workshops and forums, the conflicts addressed at Project sites were disseminated to a wider audience (eg. Asian Fisheries Society Forum in Malaysia, "Fish Fights over Fish Rights" Regional Workshop in the Philippines)
Networking on fisheries conflicts and resolutions amongst practitioners in-country and internationally established	The Project enabled Project partners to steer this initiative and stress the importance of putting in place an effective communication strategy to resolve conflicts. The involvement of government implementing agencies, NGOs, CBOs and various other stakeholders helped establish a network for collective interventions.
At least 20 key decision makers from different institutions in each of three countries reached and made aware of conflict resolution efforts through an awareness campaign and other information materials by 2005	The Project's proposed Policy Brief would be beneficial in addressing fisheries conflicts in the region. In addition a PAPD-based CB Tool would be disseminated to the Project sites.

Objectively Verifiable Indicators	Achievements and Means of Verification
At least 20 key decision makers in each of three countries demonstrated positive change in understanding of fisheries conflict issues by 2005	The Project ensured participation and delivery of research outcomes in the Fish Fights Over Fish Rights Workshop; hence, representations came from 60 research partners, resource persons, including policy-makers and researchers from 12 countries (Bangladesh, Cambodia, India, Malaysia, Philippines, Singapore, Thailand, Vietnam, United Kingdom, United States of America, Germany, and Denmark). The Workshop discussed institutional perspectives and agenda for fisheries management.
At least three organizations in target countries tested (or demonstrated) and reported on conflict resolution/ consensus-building methods in their own programmes by 2005	To date, fishers, conflict managers and facilitators in the PAPD training in Bangladesh and the Sathikulangarara trial acknowledged that these dissemination and promotion activities sharpened skills in conflict-resolution facilitation and affirmed the utility of the experience in respective undertakings.
The process of uptake through consultation, piloting and dissemination documented in three countries.	Quarterly progress reports submitted to DFID, Project Activity Reports (eg. workshop proceedings, PISCES application reports, PAPD training report, PAPD field trial report, accomplished *FishCom* pro-format tools such as ALM, CPM-CS, communication intervention results, and attitude survey results) and this Final Technical Report as major documents to verify achievements and provide for the process uptake indicator.

Table 4.2: Proposed Research Activities under each Output vs. Actual Detailed Activities Implemented and Corresponding Achievements and Modifications

Research Activities to Achieve Outputs	Achievements / Modifications to Proposed Research Activities
Output 1: Communication strategy to reach policy makers and practitioners.	
Activity 1.1 Develop communication matrix linking stakeholders with needs and appropriate products based on overall experience (with updating through feedback)	Detailed activities and resources: Theoretical inputs in formulating the Communication Framework [i.e. Actor-linkage matrix (ALM)], communication planning matrixes (CPM) obtained from the Project's communications consultant from the University of Reading-UK. Series of multistakeholder national workshops in Bangladesh (September 2004), Cambodia (May 2004), and India (June 2004) to gather conflict and stakeholder information, and to develop ALM and CPM. Partners invited other NGOs in workshops. Literature provided to partners and issues on conflicts in fisheries, typologies, stakeholders, communication and resolution methods discussed in the international workshop. Achievements: Country-specific communication matrices identified for Bangladesh, Cambodia and India. CPM includes dialogues, responsible publicity through press releases, and use of training materials. Modifications: Planned inputs achieved but schedule of national workshops needs realistic

Research Activities to Achieve Outputs	Achievements / Modifications to Proposed Research Activities
	time intervals between other activities such as gathering baseline data, e.g. PISCES and socioeconomic surveys.
Activity 1.2 Partners consult stakeholder categories in each country to understand their interests, needs and relevant media	Detailed activities and resources: Surveys, interviews or PISCES completed in study sites, such as Shapla beel and Titas cluster in Bangladesh; Anlong Raing and Tamul Leu village in Cambodia; and Sakthikulangara village in Kerala and Pedajalaripetta and Bheemili villages in Andra Pradesh, India. Partners networked with other NGOs to facilitate surveys. Achievements: Data collected on attributes of trial sites are useful inputs for CPM, CS and in developing CB tools.
Activity 1.3 Survey key stakeholders to identify current attitudes to conflict and methods used in resolving it	Detailed activities and resources: Formulated attitude survey statements during the International Workshop in July 2004. General and country-specific statements included. Surveys conducted by partner countries. Achievements: Attitude surveys completed in three countries and provided insights for evaluating communication plan and strategies. Results discussed earlier in Section 3. Modifications: Timing of baseline attitude survey and resurvey need sufficient interval to capture attitude change arising from communication strategies implemented.
Activity 1.4 National planning meetings to develop local communication strategies, plan research	Detailed activities and resources: Workshop guidelines, including objectives and expected outputs from each two-day country workshop, were provided to country partners. Invited various stakeholders in fisheries conflicts in workshop. Work groups formulated CPM and CS Achievements: From the country-specific CPM and CS, each partner country identified actionable communication interventions. For Bangladesh, direct dialogue with fishery managers and fishers, video presentation, folk drama and leaflets were identified interventions; in Cambodia, provincial forum and newsletter; and in India, dissemination of FAO-CCRF and MFRA through local stakeholders' workshops. The international planning meetings (July 2004, February and May 2005) enabled comparison of plans and sharing of outcomes across countries. Modifications: Administration costs (transaction cost for organizers and participants) of meetings reviewed and factored in communication planning activities. Timetables adjusted to meet real situations, i.e. inviting a variety of stakeholders in fisheries conflicts needs sufficient time and enormous effort.
Activity 1.5 International workshop to review best practice and knowledge based on theory and experience.	Detailed activities and resources: Workshop guidelines provided to country partners, including objectives and expected outputs from the three-day International workshop. Invited researchers and policy-makers engaged in studies or regulation of fisheries conflicts. Achievements: International workshop held in July 2004 in India to identify country communication plan and strategies arising from review of theories and country profile of conflicts. Modifications:

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Research Activities to Achieve Outputs	Achievements / Modifications to Proposed Research Activities
	Time interval between country and international workshops should be sufficient to enable exhaustive review of best practice and knowledge in management of fisheries conflict.
Activity 1.6 Specific communication strategies developed for three target countries.	Detailed activities and resources: Consultation with communications expert, project team and stakeholders in country workshops; stakeholders' profile understood from surveys; characteristics of communities and fishers known thru PISCES; CPM determined and CS identified during consultation in the international workshop. Achievements: Communication strategies for each country identified at the international workshop in July 2004; action on strategy followed in each country. Modifications: Generalizations and regional synthesis of communication strategies should be taken with caution. Hence, this study analyzed and presented results by country due to differences in socio-political conditions and characteristics of their fisheries, consequently leading to variation in conflicts and stakeholders involved.
Output 2:Conflict assessment method and typology tested and adapted / validated in additional countries.	
Activity 2.1 Initial development of materials for training and dissemination of methods/ tools for partner countries.	Detailed activities and resources: Project team evaluated and compiled CPM and CS results from three countries. Achievements: Training materials such as Policy Brief and PAPD-Based CB Tool for partners' reference and guidance in conducting data gathering schemes and participatory approaches for conflict management drafted by WorldFish in collaboration with country partners. Modifications: Project duration only enabled drafting of materials for training and dissemination.
Activity 2.2 Train partners in methods	Detailed activities and resources: Project Team introduced to PISCES, ALM, CPM and CS tools during the international workshop held in July 2004 in Kerala, India and was co-organized by the WorldFish Center and Mitraniketan. Achievements: Partners from Cambodia, Bangladesh and India; local partners NGOs, fishery officers, researchers and academicians participated in the international workshop to discuss Communication Planning and Strategies for Managing Fisheries Conflicts. The outcomes are briefly discussed in Section 5.
Activity 2.3 Finalize two trial locations in each country based on initial assessment of social, institutional and conflict contexts	Detailed activities and resources: Prior experience and consultation with fishery agencies and stakeholders provided inputs for selection of sites, also considering country workshop results in the case of Cambodia Achievements: Two sites per country were easily identified and selected by partners (Sakthikulangara coastal fishing village in Kerala, India; Pursat and Tamol Leu in Tonle Sap Lake in Cambodia; and Beel Shapla and Titas in Bangladesh) Modifications: India modified study sites due to logistical reasons and costs and conflicts existed in Kerala where Mitraniketan is located. Not difficult activity as many fishing communities in the Region met trial site criteria.

Research Activities to Achieve Outputs	Achievements / Modifications to Proposed Research Activities
Activity 2.4 Apply PISCES (modified as needed) in trial sites including assessment of institutional constraints	Detailed activities and resources: Conducted PISCES following Bennett's procedure in Bangladesh with some modifications. India link PISCES with socioeconomic survey. Achievements: Applied as proposed in Bangladesh with success; applied in principle through community surveys in India and Cambodia. Modifications: The Project had start-up delays as explained earlier, thus had difficulty synchronizing chronology of activities with limited time; PISCES steps have similarities with other survey measures done earlier in India & Cambodia.
Activity 2.5 Partners work with local agencies and stakeholders applying relevant methods to improve fishery management institutional performance (conflict resolution or consensus building as appropriate) in trial sites as demonstration	Detailed activities and resources: FACT in Cambodia organizes forum and attend dialogues on a range of fishery conflict stakeholders from top-end DOF to grassroots fishing community groups. The project by WorldFish-Bangladesh is linked with bigger CBFM-2 with >100 sites and many NGOs. Mitraniketan in India is a community-focused NGO with network with stakeholders in Kerala and Andra Pradesh. Achievements: All three partners invited other NGOs and agencies as they were NGOs themselves. They interact with fisheries institutions as major activity. Communication planning and implementation of interventions were expected to be applied in various ways, especially when they facilitated their own workshops. In Bangladesh, staff of Brahmanbaria district DOF and Proshika, an education training NGO working in Shapla Beel and Titas Cluster, were invited to the Training. In Cambodia, partners collaborated with the Cambodia Family and Development Services (CFDS) in Anlong Raing village and with the Phnom Neang Kong Rey Association (PNKA) in Tamul Leu Village. In India, partners collaborated with Central Institute of Fisheries Technology (CIFT).
Activity 2.6 Feedback of results and experiences to key stakeholders.	Detailed activities and resources: Feedback of results from researchers and policy makers made through presentations and participation in workshops and meetings. Wide-range feedback to key stakeholders would be through future publications. Achievements: The results were recently analyzed. Feedback is yet limited within researchers' circle for dissemination and verification of results thru workshops. Feedback to key stakeholders, such as fishers, may follow thru proposed uptake methods. Modifications: Project duration is very limited considering thorough process for developing well-tested materials for training and dissemination.
Output 3a: Conflict-resolution and consensus-building methods tested and adapted in different contexts.	
Activity 3.1 Develop and adapt CB method materials for uptake in India.	Detailed activities and resources: Studied PAPD manual (NRSP research project R8223) developed by CNRS and its potential as CB tool for fisheries conflicts; then WorldFish networked with CNRS for PAPD training in Bangladesh in March 2005; and finally the Project team field tested PAPD in India on April 2005 and drafted an adaptation of the manual for CB in fisheries conflicts. Achievements: PAPD successfully adapted, tested and promoted through training of additional local co-facilitators and for trial in target fishing community in Sakthikulangara in

Research Activities to Achieve Outputs	Achievements / Modifications to Proposed Research Activities
	India. Modifications: No modifications, PAPD was adapted and tried as designed to enable appropriate conclusion on its suitability for resolving conflicts in fisheries.
Output 3b: Consensus building (PAPD) adapted, tested and promoted in India for coastal fisheries — separate funding from NRSP).	
Activity 3.2 Pilot CB method and promotion in one site, including pre- and post-surveys of institutions, conflict, attitudes, etc.	Detailed activities and resources: Project team reviewed CPM and CS results from three countries; studied PAPD manual and its potential as CB tool for fisheries conflicts; PAPD training conducted in Bangladesh; and Project team field tested PAPD in Sakthikulangara in Kerala, India, participated by about 45 traditional and mechanized fishers in India. Achievements: PAPD successfully adapted, tested and promoted through trial and training for targets in India. Modifications: Project Team waited until CNRS completed English version of PAPD manual by early 2005. Complete PAPD training on an 8-day process and training cost reasonably high, thus training fitted to four days with tight schedule. Conduct of trial successful with many lessons learned, but generalizations from one trial need caution.
Activity 3.3 Review experience in pilot and finalize promotion materials	Detailed activities and resources: Experience reviewed immediately in two-day Post-Field Trial Meeting on 2-3 May 2005 in India; documented lessons; drafted outline of new PAPD-Based CB tool. Achievements: Drafted outline of new PAPD-Based CB tool. Modifications: Experiences in one site need careful analysis and avoid generalizations.
Activity 3.4 Train target institutions in CB including a practical application	Detailed activities and resources: After PAPD training in Tangail, Bangladesh, in 20-24 March 2005, Project team field tested PAPD in Sakthikulangara in India from 25-29 April 2005 with invited and pre-trained staff of other NGOs tasked as co-facilitators in field trial. Achievements: A five-day Training Workshop on Participatory Action Plan Development (PAPD) was held in Agcharan, Kalihati, Tangail, Bangladesh, from 20-24 March 2005. The training workshop was coorganized with CNRS. A 16-page training report is attached with this report (**Annex 5**). Project Team and other invited NGOs in Kerala, India (e.g. Quilon Social Service Society; Central Marine Fisheries Research Institute & Kerala Institute for Forest and Development), tasked as co-facilitators trained; appreciated PAPD process and ensured to apply in their own activities. Modifications: Generally no problem project partners and other targeted institutions as NGOs were easy tasks in India with many such active NGOs in fishing communities, some of which were Church-based.

Research Activities to Achieve Outputs	Achievements / Modifications to Proposed Research Activities
Output 4: Appropriate products (e.g. good practice guidelines for managing conflict and policy briefings) produced and promoted in partner countries and disseminated internationally; and initial uptake understood.	
Activity 4.1 Revise methods and products with partners based on communications strategy, related projects, experience and on survey of key stakeholders (including adaptation of consensus-building manual/best practice guidelines as appropriate).	Detailed activities and resources: The Project ensured delivery of outputs as planned by organizing (1) team follow-up meetings; participation and presentation of papers in regional workshops and conference; and writeshop to review and package lessons learned into publishable communication materials. Achievements: Presented synthesis of CPM and CS results from Cambodia and India in the 7th Asian Fisheries Forum on 1 December 2004 in Malaysia. Project Update Meeting held in Penang on 10-11 February 2005 participated by Project country collaborators and WorldFish team. Presented CPM and CS project results in joint Regional Workshop in Los Baños, Philippines, on 17-20 May 2005 (papers presented listed in this report). Project team reviewed overall project outcomes on 19 May 2005, including attitude survey analysis and results. Organized writeshop on 23-29 June 2005 in Penang, Malaysia Modifications: In view of the close interval series of inter-country project activities, time was the Project's most eminent problem. After June 2005, the Project needs another three months to publish Policy Brief and PAPD-Based CB Tool in glossy materials; another 6-12 months to publish scientific journal articles; and further months for dissemination and uptake.
Activity 4.2 Uptake activities in target countries as appropriate to influence change in practice: e.g. brochures, policy briefs, trainings, site visits, awareness campaign through local media	Detailed activities and resources: Through the WorldFish network of partnerships, the publications would be widely circulated in Bangladesh, Cambodia and India; and other countries with similar conflict cases and nature of fisheries. Achievements: Engaged in dissemination of results and uptake activities such as paper presentation in workshops and conferences (**Annex 7**); drafted Policy Brief covering findings from CPM and CS; and drafted a PAPD-Based CB Tool for Managing Fisheries Conflicts. Modifications: Again, extensive uptake activities would require time after Project completion in view of the long process of testing tools, processing, verification, and packaging of results.
Activity 4.3 Resurvey key stakeholders in target countries to assess attitudes to conflict resolution/consensus building and policies, and any use of methods promoted	Detailed activities and resources: Attitude survey statements would be used again for the resurvey to evaluate change in attitude after implementation of communication interventions. Achievements: Partner conducted and analyzed resurvey of attitudes in May-June 2005 in three countries. Modifications: Less than a year-interval between baseline and resurvey might not capture change in attitude, which might require longer period to effect changes due to

Research Activities to Achieve Outputs	Achievements / Modifications to Proposed Research Activities
	communication interventions applied by the Project.
Activity 4.4 General promotion of findings/lessons and best practice—cross visits for target organizations, media as appropriate.	Detailed activities and resources: Primary and secondary stakeholders in fisheries conflicts were the first groups invited by the Project to country workshops; researchers and policy makers were engaged in international evaluation workshops; NGOs and similar advocacy groups were invited and trained as co-facilitators in PAPD activities. Achievements: Participation of key stakeholders and network of NGOs in Project activities in the three countries have promoted and created potentials for application of findings/lessons from communication and participatory activities for managing fisheries conflicts taken and innovated by the Project. Modifications: Similarly, promotion of findings would require time after the 24-month project duration in view of the meticulous process of testing tools, processing, verification, and packaging of results as noted earlier.
Activity 4.5 Final Technical Report (FTR)	Detailed activities and resources: A writeshop for the Project team organized on 23-29 June 2005 in Penang, Malaysia, to revisit CPM and CS outputs and finalize FTR; presentation of draft PAPD-Based CB tool; and drafting of Policy Brief. Achievements: Research outputs and activities consolidated.

Chapter 5
Contribution of Outputs

5.1   Market studies that need to be done

There is need to study markets to help advance Project uptakes and efficient implementation of what it has achieved. There are lessons and products generated from this Project that must be viewed and promoted from the attributes of potential users. For example, succinct study of priorities of parties in conflict and of the thrusts of institutions and government agencies could help hit relevant users of the *Fisheries Communication Framework* (*FishCom*) bull's eye, so to speak.

There have been preliminary contacts made with potential users of the PAPD-Based Consensus-Building Manual developed by the Project as an adaptation of the CNRS PAPD Manual. While the field trial was being conducted in India, the involvement of other NGOs as co-facilitators already gave hints on the market potential of the product. Indeed, facilitators involved in fisheries conflict management are in dire need of an easy to follow manual, which at the same time presents a conceptual discussions of the theoretical underpinnings of consensus building in the context of stakeholders in fisheries. Meanwhile, the participation of project partners from Cambodia and Bangladesh also gave insights that there are potential markets for the product among conflict resolution facilitators in these countries. Further market study may then look into the suitability of this product in more complex geographical locations such as the archipelagic nature of fisheries in the Philippines and Indonesia. Possibly, conflicts in these circumstances are more complicated and the manual could be tested for its suitable applications.

In targeting users of the Policy Brief, for instance, prior understanding of mandates, missions, and human and financial resources of policy-making bodies is also of the essence. This would allow putting in order relevant and enabling policy advice. A clearly defined geographical scope and location of target areas is something that market studies cannot do without to ensure marketability of Project products.

5.2   Methods for Making Products Available to Intended Users

Making the products available to the intended users applies the use of communication, specifically materials and methods that ensure efficient and effective delivery of the products. One classic case was one done in Bangladesh where use of direct dialogue with fisheries managers and fishers, video presentations, distribution of the printed material like leaflets, and use of the folk media in the form of local drama proved successful; in Cambodia, through provincial forums and newsletters; and in India, by disseminating training leaflets through local stakeholders' workshops. The project envisions developing and packaging printed materials from Project outputs for distribution in three partner countries through such dissemination modes as workshops, trainings and forums with the end-view of reaching all levels of key stakeholders across a wide range of geographic coverage.

Networking with a wider web of target institutions equally needs promotion through existing national, regional and international allies. Papers and posters would further catalyse and give further boost to promotions through international workshops and conferences. Another veritable means would be by submitting articles to international journals and ensuring that the materials get published. Interconnectivity is essential; hence, maintaining a Project website and electronic project newsletters would hopefully stimulate promotion of Project outputs within global reach.

Box 5.1 Post-project uptake of Fisheries Communication Framework (*FishCom*) in Bangladesh

The *FishCom* was adopted and tested in a collaborative project involving the WorldFish Center, Bangladesh and South Asia Office and the Empowerment of Coastal Fishing Communities (ECFC) Project of FAO-UN. The project on *Enabling Conflict Resolution for Better Fisheries Management* was initiated in February 2005 and is expected to wrap up in March 2006. One of the targets of the study is to provide support to the ECFC project for its future action plan for marine fisheries management. The ECFC project is working in all the eight *upazillas* of Cox's Bazar district covering a total of 117 fishing villages. A total of 10 villages were selected for this study. The project adopted *FishCom* as the project research framework.

In each village the project team organized a PISCES workshop with a purpose of the identifying the nature and the causes of conflicts and institutional constraints faced by villagers in managing fisheries conflicts.

An attitude survey was then conducted by trained field staffs to assess the initial attitude of villagers towards managing fisheries conflicts within their geographical location. The team is currently analyzing the data collected during the survey.

As of September 2005, two local level stakeholders' workshops are being organized to complete the Actor Linkage Matrix (ALM) and develop appropriate communication strategies (CPM-CS) to manage the conflicts identified during the PISCES workshop. The workshops will be conducted in mid-October. Communication intervention activities will be conducted from November to December 2005. A re-survey of attitude is scheduled in January 2006.

The project team found the tool favorable at the grass root level. Communication is widely acknowledged by the locals to be one of the best and most effective modes in managing conflicts. Furthermore, the activities conducted are designed for full-force participation from the locals – who generally are the primary conflicting parties and have wider knowledge of the source and current situation of the conflict.

The PISCES activity was slightly modified in its approach. It was made more interactive to extract information on on-going conflicts within the village. Thus, it was held in a participatory workshop mode.

5.3 Stages that Need to be Developed, Tested and Established to Ensure Manufacture of the Product

The following results need follow-thru for adoption:

c-1) Further application of the "*Fisheries Conflicts Communication Framework: A tool for developing plans and strategies for managing fisheries conflicts* (*FishCom*)" in other countries such as the Philippines, Malaysia, Indonesia and Thailand. Issues and concerns in the coastal fisheries in these countries have some similarities with those in India. Vietnam is likely to have conflicts in inland fisheries similar to Cambodia and Bangladesh. Further applications could test the robustness of the framework, not for trying them only across countries, but also for evaluating its use for other types of conflicts and potentially enable exposure of other innovative communication approaches and strategies. Note that the Project was only able to implement a limited

number of communication interventions, such as group meetings, workshops, forums and trainings due to project duration constraints.

c-2) CNRS' PAPD, which the Project field tested in India, could be tried in Cambodia, where fisheries stakeholders are generally receptive to participatory approaches in managing fisheries conflicts. Such positive outlook could be attributed to these stakeholders' similar exposures through the country's many NGOs. The results in Cambodia could be compared to this Project's first trial in India, and the enormous participation and experiences gained from years of Community-Based Fisheries Management (CBFM) project of the WorldFish Center in Bangladesh.

c-3) Recommendations in the Draft Policy Brief also merit adoption so that mutually acceptable arrangements could be designed and tested with stakeholders and policy makers in South and Southeast Asia.

5.4 Factors to Consider in Further Stages

The next step to take, in pursuit of the above items, is for WorldFish to:

c-1) Put up a research proposal to test the communication framework for managing conflicts developed through this Project, in collaboration with government agencies in developing countries that deal with fishery regulations and management of conflicts, and with advocacy groups. Complement this research with further tests on some recommendations ensconced in the draft Policy Brief. Funds could be sourced from regional and international donor agencies through standard procedures for research grant application; and with counterpart funds or other resources (i.e. staff resources) from national government agencies.

c-2) Strengthen advocacy of this communication framework for adoption by government implementing agencies in managing fisheries conflicts. Project recommendations should specify the importance of government agencies as lead partners for testing and adopting this approach to fisheries conflict management,

c-3) Provide technical support to the research partner Fisheries Action Coalition Team (FACT) in Cambodia, which forms part of the WorldFish Center's network of research partners. FACT could look for grants in collaboration with other local partners from regional NGOs and donors with interest in Cambodia.

5.5 Publications and other Communication Materials

(a)   Peer-reviewed publications (published);
None yet, though the Project team is in the process of writing journal article for publication.

(b)   Peer-reviewed publications (in press or submitted)
None yet.

(c)   Non-peer-reviewed publications and reports and communications materials;

Fisheries Action Coalition Team (FACT). 2004. *Proceedings of the country workshop on "Developing Communication Strategies for Fisheries Conflict Management in Cambodia"*. Organized by the Fisheries Action Coalition Team (FACT) in collaboration with The World Fish Center-Penang, Malaysia, and NGO Partners in Pursat, Cambodia, with financial support from DFID-UK. 10-11 May 2004, Provincial Rural Development Center, Pursat Province, Cambodia. Copy available at http://www.fact.org.kh/english/download document online.htm

The WorldFish Center. *PAPD-Based Consensus Building Tool: A Facilitator's Guide*. Draft.

Nerissa D. Salayo, Paulino L. Manalo, Jahan Khondker, Ananth Natarajan, Mak Sithirith, Usha Kanagaratnam, Christopher J. Garforth, Mahfuzuddin Ahmed and Kuperan Viswanathan. Policy Brief on Managing Fisheries Conflicts: Communication and Consensus Building in South and Southeast Asia. Draft.

The WorldFish Center. 2005. Enabling Better Management of Fisheries Conflicts: Final Technical Report submitted to DFID-UK. 20 July 2005.

(d)   Verbal presentations & project dissemination and other workshops

Viswanathan, K., C. Garforth, N. Salayo, N. Ananth and M. Sithirith. 2004. *Abstract on Communication Planning for Participatory Management of Fisheries Conflicts in Cambodia and India*. Presented at the 7th Asian Fisheries Forum, 1 December 2004, Penang, Malaysia. (**Annex 5.1**)

Salayo, N., M. Ahmed, L. Garces and K. Viswanathan. 2005. *An Overview of Fisheries Conflicts in South and Southeast Asia: Challenges and Directions*. Paper presentation in the Regional Consolidation Workshop on Fish Fights over Fish Rights: Managing Conflicts and Exit from the Fisheries and Security Implications for South and Southeast Asia, 17-20 May 2005, International Rice Research Institute Complex (IRRI), Los Baños, Laguna, Philippines. (**Annex 5.2**)

Khondker, M.J. and A. Hossain. 2005. *Enabling Conflict Resolution for Better Fisheries Management: Experience from the Inland Fisheries of Bangladesh*. Paper presentation in the Regional Consolidation Workshop on Fish Fights over Fish Rights: Managing Conflicts and Exit from the Fisheries and Security Implications for South and Southeast Asia, 17-20 May 2005, International Rice Research Institute Complex (IRRI), Los Baños, Laguna, Philippines. (**Annex 5.3**)

Sithirith, M. and T. Sokkhoeun. 2005. *Enabling Fisheries Conflict Management: A Case Study in Cambodia*. Paper presentation in the Regional Consolidation Workshop on Fish Fights over Fish Rights: Managing Conflicts and Exit from the Fisheries and Security Implications for South and Southeast Asia, 17-20 May 2005, International Rice Research Institute Complex (IRRI), Los Baños, Laguna, Philippines. (**Annex 5.4**)

Natarajan, A. 2005. *Enabling Better Management of Fisheries Conflicts: A Case Study in India*. Paper presented at the Regional Consolidation Workshop on Fish Fights over Fish Rights: Managing Conflicts and Exit from the Fisheries and Security Implications for South and Southeast Asia, 17-20 May 2005, International Rice Research Institute Complex (IRRI), Los Baños, Laguna, Philippines. (**Annex 5.5**)

Garforth, C. 2005. Communication and Public Awareness Strategies. Paper presented at the Regional Consolidation Workshop on Fish Fights over Fish Rights: Managing Conflicts and Exit from the Fisheries and Security Implications for South and Southeast Asia, 17-20 May 2005, International Rice Research Institute Complex (IRRI), Los Baños, Laguna, Philippines. (**Annex 5.6**)

Sithirith, M., V. Piseth and T. Sokkhoeun. 2004. *Communication Strategies for Fisheries Conflict Management: A Case Study in Cambodia*. An invited verbal presentation of the Fisheries Action Coalition Team (FACT) during the National Workshop on "Fish Fights over Fish Rights: Managing exit Managing exit from fisheries & security implications for Southeast Asia", held at the for Inland Fisheries Research and Development Institute (IFReDI) of the Department of Fisheries in Phnom Penh, Cambodia, 11-12 November 2004. (**Annex 5.7**)

(e) Other types of project outputs
Enabling Better Management of Fisheries Conflict Project Activities Photo Compilation (**Annex 4.2)**

References

Bennett, E. and T. Jolley. 2002. PISCES Field Manual. *The management of conflict in Tropical Fisheries* (R7334). Final Technical Report. CEMARE.

Bennett. E., A. Neiland, E. Anang, P. Bannerman, A. A. Rahman, S. Huq, S. Bhuiya, M. Day, M. Fulford-Gardiner and W. Clerveaux. 2001. Towards a Better understanding of Conflict Management in Tropical Fisheries: Evidence from Ghana, Bangladesh and the Caribbean, *Marine Policy* (25): 365-376.

Charles, A.T. 1992. Fishery conflicts: A unified framework, *Marine Policy*, 16(5): 379-393.

CNRS/ITAD 2004. *The PAPD Facilitators' Guide*. Version 1 November 2004. Dhaka, Bangladesh: Center for Natural Resources Studies (CNRS).

Delgado, C.L., N. Wada, M.W. Rosegrant, S. Meijer, and M. Ahmed. 2003. *Fish to 2020: Supply and Demand in Changing Global Markets*. WorldFish Center Technical Report 62, 226 p.

FACT. 2002. *Feast or Famine? Solutions to Cambodia's Fisheries Conflicts*. Fisheries Action Coalition Team, Phnom Penh and Environment Justice Foundation, London.

FAO. 1998. *Integrated Coastal Area Management and Agriculture, Forestry and Fisheries*. Rome: FAO.

FAO. 2002. *The State of World Fisheries and Aquaculture*. FAO Fisheries Department, Rome, Italy.

Knight J. 1992. *Institutions and Social Conflict*. Cambridge: Cambridge University Press.

Pido, M.D., R.S. Pomeroy, M.B. Carlos and L.R. Garces. 1996. *A handbook for Rapid Appraisal of Fisheries Management Systems* (Version 1). ICLARM Educ. Ser. 16, 85p.

Salayo, N.D., L. Garces, K. Viswanathan and M. Ahmed. "*Fish Fights over Fish Rights*": Non-Traditional Security Issues in Fisheries in Southeast Asia, *In*. Non-Traditional Security Issues: 2nd Regional Plenary Meeting of Ford Grantees. Ford Foundation and Institute of Defence and Strategic Studies, Singapore (in press).

Torell, M. and A. Salamanca (eds.) 2002. Institutional Issues and Perspectives in the Management of Fisheries and Coastal Resources in Southeast Asia. ICLARM Technical Report 60. 212 p.

Warner, M. 2000. *Conflict Management in Community-Based Natural Resources Projects: Experiences from Fiji and Papua New Guinea*. Working Paper 135 (edition). London: ODI.

The log-frame below shows the planned project logical framework submitted and approved by DFID at project inception. Overall, the log-frame has been a useful guide in the implementation and monitoring of the Project. The outputs were explicit and delivered as discussed and presented in respective annexes in this Report. This assessment was based on the verification methods listed for corresponding output and project activities in the log-frame. The completed media products for wider dissemination would benefit from another round of technical and editorial review prior to printing. As explained earlier, the Project encountered delays in start-up implementation. The bar chart that follows the project log-frame shows a comparative schedule of activities over the life of the Project. The bar chart indicated discrepancies between the proposed monthly schedule and the actual implementation timetable. Nevertheless, the Project Team continues with keen interest in pursuing the journal and other publications even after project funding expiration.

As discussed in *Chapter 4: Research Activities* of this Report, modifications have been made mainly on the implementation of activities by project month but the research and technical underpinnings of the Project were pursued as planned. Modifying schedules was necessary to cope with the delay in Project start-up date. The delay was due to staff promotions and reassignments that took place at the WorldFish Center-Malaysia. Dr K. Kuperan Viswanathan, principal investigator, was promoted as Regional Director of the WorldFish Center Bangladesh Office. Dr Paul Thompson, project collaborator, had to leave WorldFish also. The proposed collaboration with Bangladesh Environmental Lawyers Association (BELA) as local project partner also did not materialize and the WorldFish Center-Bangladesh Regional Office, with Dr Jahan Khondker, took the task. The collaboration with Dr Christopher Garforth of University of Reading-UK; Dr Ananth Natarajan of Mitraniketan, India; and Mr Mak Sithirith of the Fisheries Action Coalition Team (FACT) in Cambodia was successfully completed. The Project also engaged research assistance from Arif Hossain in Bangladesh, Te Sokkhoeun in Cambodia and Anthony Joss Vangese in India.

At the WorldFish-Malaysia, Dr Nerissa D. Salayo assisted in the implementation of the Project in April 2004, and was tasked as Project Leader effective July 2004 until its completion. The project obtained assistance from Ms Usha Kanagaratnam, Research Assistant, from January 2004 until completion; Ms Komathi Kolandai, Research Associate from April to May 2004; and Ms Carrol Marie Lawrence, Research Associate, from May 2005 until completion. The Project also engaged Mr. Paul L. Manalo's consulting service as communication specialist for two-man months, spread over from March to June 2005.

Project Logical Framework at Inception

Narrative summary	Objectively verifiable indicators	Means of verification	Important assumptions
Goal Livelihood of poor people improved through sustainable management of land/water interface systems	Access to capture and enhancement fisheries by the poor understood and consensus-building methodologies encapsulated within at least two adaptive capture fisheries projects by 2005. Access issues specific to enhanced fisheries investigated for at least one geographic target by 2005. Alternative Institutional arrangements for improved capture/enhancement fisheries management understood, and promoted in at least one geographic target by 2005. From April 2002 increased promotion of new knowledge by FMSP project researchers and programme management to relevant stakeholders at all levels. By 2005 at least four project outputs applied beyond the pilot study sites.	Satisfactory final reports received from contractors - Peer review - publications, reports, manuals produced - Requests for manuals received - Reports of field tested institutional models - Uptake of research results by target institutions monitored in Annual Programme Reports - National fisheries statistics and sectoral plan - Quarterly reports - Annual reports - International networks and databases	Policies as researchable constraints for development remain constant. Government policies continue to support co-management Research activities lead to enhanced understanding in a form useable by poor people, target institutions, and governments. Research outputs are transferable.
Purpose Benefit for poor people generated by application of new knowledge (on conflict management, consensus building and institutional assessment) to fishery management systems	By project end conflict assessment frameworks and management products and consensus-building methods for multiple use environments have reached key practitioners and policy stakeholders through appropriate media based on field testing in a diversity of Asian contexts.	Surveys of target institutions and key stakeholders	Piloting and testing are successful

Narrative summary	Objectively verifiable indicators	Means of verification	Important assumptions
Outputs 1.Communication strategy to reach policy makers and practitioners developed (a) for generic products on conflict assessment and resolution, and (b) specific to target countries, based on needs of stakeholders and current best practice	At least ten key stakeholders from different institutions in each of three countries participate in developing the communications strategy.	Communication strategy and survey of participants Reports	Testing and piloting successful. Approaches adapted in target countries. Stakeholders and target institutions interested in managing conflict.
2.Conflict assessment method and typology tested and adapted/ validated in additional countries 3a.Conflict resolution and consensus-building methods tested and adapted in different contexts 3b Consensus building (PAPD) adapted, tested and promoted in India for coastal fisheries – separate funding from NRSP	Conflicts assessed and categorized and their institutional/ policy context and causes identified in at least two sites in each of three countries. Methods adapted to country context and applied in at least two sites in each of three countries. Expect to use conflict resolution in bi-polar conflicts in three cases, and consensus building in three cases of multistakeholder competition for resources. PAPD successfully adapted, tested and promoted through trial and training for targets.	Trainings on conflict resolution and consensus building held and materials adapted in country context. Reports on site-case studies and conflict-resolution or consensus-building processes (as appropriate). Media materials	
4. Appropriate products (e.g. good practice guidelines for managing conflict and policy briefings) produced and promoted in partner countries and disseminated internationally; and initial uptake understood	At least two different media types tested for awareness of conflict management and resolution internationally. Networking on conflict in fisheries and its resolution among practitioners in-country and internationally established. At least 20 key decision makers from different types of institutions in each of three countries made aware of conflict resolution efforts by 2005 At least 20 key decision makers in each of three countries demonstrate positive change in understanding of fisheries conflict issues by 2005 At least three organizations in target countries tested (or demonstrated) and reported on conflict-resolution/consensus-building methods in their own programmes by 2005 Uptake documented through consultation, piloting and dissemination in three countries.	Communication between network members, links made with wider networks Reports on awareness campaigns and media materials Resurvey of key stakeholders and targets of media and promotion activities. Reports of other organizations Report on process assessment and resurveys of key stakeholders	
Activities **Output 1** 1.1 Develop communication matrix linking stakeholders with needs and appropriate products based on overall experience. Pm 2 (with updating through feedback)	Project budget: £ 175,010	Communication strategy Progress reports	Suitable field testing locations identified and linkages with projects and target institutions made.

Narrative summary	Objectively verifiable indicators	Means of verification	Important assumptions
1.2 Partners consult stakeholder categories in each country to understand their interests, needs and relevant media. Pm 4 1.3 Survey key stakeholders to identify current attitudes to conflict and methods used in resolving it. Pm 4 1.4 National planning meetings to develop local communication strategies, plan research. Pm 5 1.5 International workshop to review best practice and knowledge based on theory and experience. Pm 6 1.6 Specific communication strategies developed for 3 target countries. Pm 7 **Output 2** 2.1 Initial development of materials for training and dissemination mode/tools for partner countries. Pm 8 2.2 Train partners in methods. Pm 8 2.3 Finalize two trial locations in each country based on initial assessment of social, institutional and conflict contexts. Pm 9 2.4 Apply PISCES (modified as needed) in trial sites including assessment of institutional constraints. Pm 11 2.5 Partners work with local agencies and stakeholders applying relevant methods to improve fishery management institutional performance (conflict resolution or consensus building as appropriate) in trial sites as demonstration. Pm 14 2.6 Feedback of results and experiences to key stakeholders. Pm 15 **Output 3 (Consensus Building)** 3.1 Develop and adapt CB method/materials for uptake in India. Pm 6 3.2 Pilot CB method and promotion in one site, including pre- and post-surveys of institutions, conflict, attitudes, etc. pm 7 3.3 Review experience in pilot and finalize promotional materials. Pm 13 3.4 Train target institutions on CB including practical application. Pm 15		Reports on trial sites and application of PISCES, institutional assessment, conflict resolution and consensus-building methods. Process documentation of interactions with key stakeholders Promotional materials Reports on application of methods. Report on changes linked with piloting. Report on training and feedback from target institutions.	No adverse external factors, such as natural disasters or political disturbances.

Narrative summary	Objectively verifiable indicators	Means of verification	Important assumptions
Output 4 4.1 Revise methods and products with partners based on communication strategy, related projects, experience and on survey of key stakeholders (including use of consensus-building manual/best practice guidelines as appropriate). Pm 18 4.2 Uptake activities in target countries as appropriate to influence change in practice: e.g. brochures, policy briefs, trainings, site visits, awareness campaign through local mass media Pm 21 4.3 Resurvey key stakeholders in target countries to assess attitudes to conflict resolution/consensus building and policies, and any use of methods promoted. Pm 21 4.4 General promotion of findings/lessons and best practice—cross visits for target organizations, media as appropriate. pm 22 4.5 FTR pm 24.		Media and dissemination materials and events in target countries and beyond. Project reports Updating of communication strategy and stakeholder assessments. Workshop report and publicity	

Bar chart of key project activities over the life of the Project, as proposed (diagonally-shaded cells) vs actual implementation (green-shaded cells), 1 July 2003 to 30 June 2005

Financial Year	Year 1 (2003-2004)												Year 2 (2004-2005)														
Calendar Year	2003												2004												2005		
Calendar Month	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
Project Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Contract Project Month				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

Activities/Sub-activities

- Develop communication matrix linking stakeholders with appropriate products based on overall experience. Pm 2
- Partners consult stakeholder categories in each country to understand their interests, needs and relevant media. Pm 4
- Survey of key stakeholders to identify current attitudes to conflict and methods used in resolving it. Pm 4
- Country planning meetings Pm 5
- International workshop to review best practice and knowledge on fisheries conflict to guide communications. Pm 6
- Specific communication strategies developed for three target countries. Pm 7
- Revise communication matrix Pm 7
- Initial development of materials for training and dissemination of methods/ tools for partner countries. Pm 8
- Train partners on methods. Pm 8
- Finalize two trial locations in each of three countries based on initial assessment of social, institutional and conflict contexts and in consultation with relevant stakeholders. Pm 9

Financial Year	Year 1 (2003-2004)												Year 2 (2004-2005)														
Calendar Year	2003									2004												2005					
Calendar Month	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
Project Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Contract Project Month				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Activities/Sub-activities																											
Apply PISCES (modified as needed) in trial sites including assessment of institutional constraints. Pm 11										D	D							G	G			G					
Partners apply relevant methods to improve fishery management (conflict resolution or consensus building as appropriate) in trial sites. Pm 14													D	D	D									G			
Feed results and experiences back to key stakeholders. Pm 15																D								G	G		
Revise methods and develop products with partners for wider communication based on communication strategy, their experience and on survey of key stakeholders (including adaptation of consensus- building manual/best practice guidelines as appropriate). Pm 18																D	D	D									G
Uptake activities in target countries: e.g. brochures, policy briefs, workshops, trainings, awareness campaign through local mass media (in local languages as appropriate). Pm 22																			D	D	D				G	G	G
Consensus Building (CB) in India																											
Critical review of CB methods and decision tool for use in India towards enhancing participation of the poor. Pm 6					D	D																		G			G
Develop and adapt materials on CB methods for uptake in India Pm 6					D	D																					
Select site, conduct survey to assess social capital, conflict and institutions Pm 7						D	D						G			G		G	G			G					G
Pilot application of consensus building Pm 8							D																		G		

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Financial Year	Year 1 (2003-2004)												Year 2 (2004-2005)														
Calendar Year	2003									2004													2005					
Calendar Month	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
Project Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Contract Project Month				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Activities/Sub-activities																											
Review experience of piloting consensus-building method and finalize dissemination methods Pm 13													▨												▩		
Train target institutions on CB methods including practical CB in one site and promote materials in India Pm 15															▨	▨								▩	▩		
Resurvey key stakeholders in target countries to assess attitudes to conflict resolution / consensus building and policies, and any use of methods promoted. Pm 20																			▨	▨	▨					▩	▩
General promotion of findings/lessons and best practice through workshops and electronic media, policy briefs, etc. pm 22																					▨	▨				▩	
Final Technical Report pm 24																								▨	▨	▨	▩

Note: Activities with shaded descriptions fall under uptake in India of consensus-building methods (PAPD) to be supported through funding under NRSP