Annex 5. India dissemination workshop (Activity 2.2)

Workshop Briefing Note

FMSP Project R8486 – Floodplain fishery management guidelines – Dissemination Workshop
Host: **West Bengal Department of Fisheries, Kolkata, India**
Venue: **Great Eastern Hotel, Central Kolkata**
Date: **5-6 August 2005**

Background

Since 1992, the Fisheries Management Science Programme (FMSP) of the UK Department For International Development (DFID) has produced a series of outputs about the management of inland water fish stocks. These have shown, among other things, that inland fish production could be increased by the careful placement and management of fishery reserves or sanctuaries, and by measures maintaining the natural migration patterns of floodplain river fish stocks. In flood control / irrigation systems, the operation of sluice gates at key times of the year has a critical role in maintaining fisheries as well as providing water for agriculture.

These FMSP projects have developed a strong biological basis for the management of fish stocks in floodplain river systems. The projects of DFID's Natural Resources Systems Programme (NRSP) have also developed 'systems' guidance on the integrated management of floodplain resources, recognising the needs of multiple resource users, especially the poor.

FMSP project R8486 aims to promote the knowledge developed by these FMSP and NRSP projects in Bangladesh and in India, and to provide access to key materials via project websites.

To promote these messages, a range of new communication products were agreed with stakeholders at a project inception workshop, held in May 2005 in Dhaka, Bangladesh. These are now being developed and promoted in Bangladesh using a range of different media and promotion pathways. They include policy briefs; a sponsored seminar and stall during the annual Fish Fortnight; and focus groups; drama and 'pot songs' for sluice gate and fisheries managers at the local level. Reports, leaflets, newsletters and posters are being distributed as hard copy products, and electronically on web sites or via e-groups etc.

This workshop

This dissemination workshop will present the key messages and information products (both technical and institutional) from selected FMSP floodplain fisheries projects and give summary information on the NRSP and other DFID projects. The outline programme is given below.

Following the presentations, participants will be invited to consider the relevance of the FMSP knowledge to their situation and to provide feedback in discussion sessions. At the end of the workshop we will attempt to identify indicators and processes by which the uptake of the project outputs may be monitored both within and beyond the term of the project. These will include a short 'Knowledge, Attitude and Practice' questionnaire survey that will be given out for completion both at the start and the end of the workshop.

Following the workshop, some of the new outreach materials (guidelines documents, leaflets, PowerPoint presentations) will be made available for download on the FMSP R8486 project web site (see 'current projects' on http://www.fmsp.org.uk/).

Logistics

Local arrangements for this dissemination workshop are being made by the West Bengal Department of Fisheries.

Sponsor: **DFID Fisheries Management Science Programme (FMSP)**
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Tel: + 44 207 255 7755 (General Enquiries)
Websites: http://www.mragltd.com/, http://www.fmsp.org.uk/, http://www.dfid.gov.uk/
Host: **West Bengal Department of Fisheries (WBDOF)**
Contact: Dr. Madhumita Mukherjee (madmita_mukh@yahoo.co.in)
Address: Office of the Joint Director of Fisheries (M&P), Pailan, P.O. Pailan Hat, P.S. Bishnupur, Diamond Harbour Road, Kolkata-700104.
Tel: 2497 8209, 2323 7614

Workshop programme

Day 1 – Friday 5 August

09.00 Registration

Opening Ceremony

10.00 Welcome ceremony
10.10 Welcome address — Mr Anoop K. Agrawal, I.A.S. Director of Fisheries, WB
10.20 Introductions and background to the workshop and project — Dr Daniel Hoggarth (DH)
10.30 Keynote address — Mr R.P.S. Khalon, Secretary, Dept. of. Fisheries
10.40 Presidential address — Mr Kiranmoy Nanda, Minister in Charge of Fisheries
10.50 Vote of thanks — Dr Madhumita Mukherjee, Jt. Director of Fisheries
11.00 *Tea / Coffee*

Review of programme and selection of chairperson/s

Session 1. Current practice in West Bengal

11.15 Pre-workshop questionnaire survey of participants current 'Knowledge, Attitude and Practice' (KAP) about floodplain fishery management in West Bengal — Participants
11.45 Floodplain Fisheries and their Management in West Bengal — Dr Madhumita Mukherjee
12.15 Discussion of current practices

Session 2. Review of DFID floodplain fisheries management knowledge and communication products

12.30 Introduction to DFID floodplains-related projects (FMSP Cluster 9 and others) — DH
See leaflets, web site addresses etc in registration pack
13.15 *Lunch*

Session 3. Floodplain fisheries management guidelines

14.00 Overview of FMSP floodplains guidelines published as FAO Fisheries Technical Paper 384 — DH
Including slide show of floodplain fishing gears, impacts etc — DH
15.00 Review of summary Managers Guidelines (5-pager) — Dr Ashley Halls (AH)
15.15 *Tea / Coffee*

Session 4. Harvest reserves – selection and co-management (project R7043)

15.45 Key messages presentation (including research on reserve impacts) — DH
16.15 Training presentation — DH
17.00 Discussion
17.30 *Close*

Day 2 – Saturday 6 August

Session 5. Invited presentations on floodplain related management from Indian experts

10.00 Dr. Maniranjan Sinha, Fisheries Advisor, Government of Tripura
10.15 Dr. Vass, Director, CIFRI, Barrackpore, Kolkatta
10.30 Dr. Ayar, Previous Director, CIFRI, Barrackpore, Kolkatta
10.45 Discussion

Session 6. Management of sluice gates for FCDI mitigation (Projects R5953 and R8210)

11.00 Fisheries impact of the Pabna FCDI scheme in Bangladesh (R5953 etc studies) — AH
11.15 Key messages on sluice gate management (R8210 results and recommendations) — AH
11.45 Discussion
12.00 *Tea / Coffee*

Session 7. Other FMSP floodplains-related research outputs

12.20 Floodplain fisheries modeling approaches — AH+DH
Including area-based predictive models (projects R5030, R7834); population dynamics models including hydrology (R5953, R7868); and multi-species, multi-gear modeling (R4791)

13.00 Data collection for co-management of inland river fisheries (project R8285) AH
13.15 Discussion of other research outputs
13.30 *Lunch*

Session 8. Floodplain fisheries management in Bangladesh
14.30 Presentation of draft Bangladesh Open-water Capture Fisheries Strategy Masood Siddique (BDOF)
15.00 Discussion of Bangladesh strategy
15.15 *Tea / Coffee*

Session 9. Workshop conclusions follow up
15.45 Planning for project monitoring and evaluation (M&E) DH
Leading to agreement on collection of any data for monitoring uptake
16.15 Final comments and recommendations by Indian experts
(A) Dr. Sugata Hazra, Director, School of Oceanographic Studies, Jadavpur University, Kolkata
(B) Dr P. Das, Retired Director, National Bureau of Fish Genetic Resources, Lucknow, ICAR
16.45 Post-training KA survey (pre-and post- results to be analysed to show any change in knowledge or attitude due to the workshop; actual practices to be monitored as agreed above Participants
17.15 Workshop evaluation and concluding remarks by the chair and others Chair / DH etc
17.30 *Workshop close*

List of Participants

Inaugural Programme

1. Sri Kironmoy Nanda, Minister in charge, Department of Fisheries, Aquaculture, Aquatic Resources and Fishing Harbour, Govt. of West Bengal, Writers' Buildings Kolkata – 700 001, West Bengal.
2. Raj Pal Singh Kahlon IAS, Secretary, Fisheries Department, Govt. of West Bengal, Writers' Buildings Kolkata – 700 001, West Bengal.
3. Mr Anoop K. Agrawal, IAS, Director of Fisheries, West Bengal.

Organizers

1. Dr. Daniel D. Hoggarth, SCALES Inc., C3/12 Graeme Hall Park, Christ Church, Barbados
2. Dr. Madhumita Mukherjee, West Bengal Department of Fisheries (Collaborator - Project R8486)
3. Dr. Ashley Halls, Aquae Sulis Ltd. Bath, UK

Special Guests

1. Massood Siddique, Bangladesh Department of Fisheries / Fourth Fisheries Project, Dhaka
2. Dr. Maniranjan Sinha, Advisor to the Govt. of Tripura, Department of Fisheries, Agartala (and Ex-Director, CIFRI) – 799 006
3. Mr. V. R. Chitranshi, Assistant Director General (Fisheries), DF, ICAR, Krishi Anusandhan Bhawan Bhawan- II, New Delhi.
4. Mr. S. P. Ayyar, Retd. Director of CIFRI, C-205, Usha's Apartment, 16 Main, 4th Block, Jayanagar, Bangalore 560001.
5. Mr. Y. S. Yadava, I.G.O. Coordinator, B.O.B.P. 91 St. Marys Road, Abhirampuram, P.B. No. 1054, Chennai 600018.
6. Dr. P. Das, Retired Director, National Bureau of Fish Genetic Resources, Lucknow, ICAR, Govt. of India

Participants

1. Dr. Vyas. Director, CICFRI Barrackpur.
2. Dr. Aniruddha Mukherjee, Environmental Department, Calcutta University.
3. Dr. Sugata Hazra, Director, School of Oceanographic Studies, Jadavpur University, Kolkata – 700 032.
4. Director, IIM, JOKA, Kolkata.
5. R. Chakraborty, Director, River Research Institute, Kolkata 700 087
6. Mr. S. Chakraborty, Joint Director of Fisheries (ME & MS).
7. District Magistrate, Nadia.
8. District Magistrate, North 24 Pgs.
9. Sri Gautam Sarkar, Dy. Director of Fisheries, (Central Zone).
10. Karmadhakshya, Irrigation Department, Nadia.
11. Karmadhakshya, Fisheries Department, Nadia.

12. Executive Engineer, Irrigation Department, Nadia.
13. Executive Engineer, Zilla Parishad, Nadia.
14. Principal Agriculture officer, Nadia.
15. Barun Mukherjee, Karmadhakshya, Irrigation Department, North 24- Pgs.
16. Karmadhakshya, Fisheries Department, North 24- Pgs.
17. Executive Engineer, Irrigation Department, North 24- Pgs.
18. Executive Engineer, Zilla Parishad, North 24- Pgs.
19. J. Chatterjee, Principal Agriculture officer, North 24- Pgs.
20. Assistant Director of Fisheries, Nadia.
21. Dr. S. Das, Assistant Director of Fisheries, North 24- Pgs.
22. Dr. Sailendra Nath Biswas, Deputy Director of Fisheries (Freshwater Aquaculture & Research), Govt. of West Bengal, Freshwater Fisheries Research Station, Kulia (Kalyani), Nadia District.
23. Sri Atish Ghosh, Steno to the Director of Fisheries, West Bengal.
24. Saynatani Raychoudhuri, i-land informatics Ltd, NGO.

25-27. Three Journalists.

Impacts on Knowledge and Attitude

Impacts of the India dissemination workshop on 'knowledge' and 'attitude' towards the FMSP recommendations was tested using parts 1 and 2 of the KAP survey questionnaire (see below).

Fishery management 'practices' in West Bengal were not recorded in the survey as it was not expected that such practices would change between the times of the pre- and post-workshop questionnaires. In India's West Bengal state, inland water resources, like Bangladesh, are already highly modified by flood control, drainage and irrigation projects. Due to the high level of impoundment, management has focussed on the establishment of fishermen's co-operatives and attempts to increase fish production by stocking of carps in sewage-fertilised impoundments. FMSP floodplains-related knowledge is currently little used, but relevant to this resource, as in Bangladesh.

Results from the questionnaire surveys, taken both at the start and end of the dissemination workshop are given in Tables A5.1 and A5.2 below for knowledge-related and attitude-related questions respectively. Since some participants did not attend the full two days of the workshop, and some others declined to complete the questionnaire at the end of the workshop, the numbers of post-workshop respondents is only half the number of pre-workshop ones.

In the two tables, the themes (harvest reserves, sluice gates etc) given in the second column indicate those questions specifically relating to a particular theme, where a particular 'right' answer was being tested (see below for the full text of the questions in the questionnaire). Questions were sometimes framed so that the 'right' answer required a positive response; others required a negative one (see shading in the main block of responses indicating the 'right' answer in each case). The 'difference' column in the tables gives the absolute difference between the mean value given by the respondents and the 'right' answer for that question. This ranges in principle between 0 if all respondents give the 'right' answer, up to say 4 if the right answer is '5' (e.g. 'strongly disagree') but all respondents answer with a 1 (e.g. 'strongly agree'). The values in the bottom right give the change in these 'difference' values between the pre- and post-workshop surveys. Where this value is negative (as shown by shading in the table), this means that the respondents have on average moved towards the 'right' answer for that question. In these cases, the training may be said to have been successful in developing knowledge or changing attitudes.

It will be noted that some questions are not shaded to indicate any 'right' answer, or given any theme. These questions were not included in the quantitative analysis, as with hindsight, they were considered too difficult to allocate clear 'right' answers. In most of these cases, the answer would depend on the particular local circumstances, or the objective of management. With hindsight, some of these questions could perhaps have been removed from the questionnaire if time had been allocated to pre-testing etc.

Looking at the results, it is clear that the training has increased the respondent's knowledge of the

FMSP results, and changed attitudes towards the recommended approaches. The bottom right blocks of cells are mostly shaded, indicating reductions in the 'difference' scores between the pre- and post-workshop surveys. For the post-workshop surveys, nearly all of the modal responses were on the 'right' side of the distribution, if not necessarily on the 'strong' answer defined as 'right'.

The largest of the few non-negative changes in difference scores (for Question 5 in the attitude survey) related to the self-recruiting species (SRS) results. These results were not a major focus of the training, due to the controversy over the recommendations in preparing ponds).

Table A5.1 Frequency of responses to the knowledge related questions/statements in the pre- and post-training KAP surveys conducted at the India workshop (see below for the full questionnaire text). Sample sizes: n = 20 pre-workshop, and n=9 post-workshop.

Pre-workshop responses

Q	Theme	Questions/statements (shortened version)	Not at all (1)	Low (2)	Med-ium (3)	High (4)	Very High (5)	Difference (mean - 'correct')
1	HR	Benefit of harvest reserves	0	0	7	**9**	4	1.2
2a	SL	Benefit of opening sluice gates during flood	2	4	4	**6**	4	1.7
2b	SL	Benefit of closing sluice gate in dry season	0	0	2	**10**	8	0.7
3	SR	Importance of SRS in diet of poor	0	3	4	6	**7**	1.2
4	SL	Benefit of diversifying crops in beel areas	0	1	**6**	**6**	**6**	1.1
5a		Benefit of monsoon/high water closed season	1	0	4	8	7	
5b		Benefit of dry season closed season	2	9	4	4	1	
			Corr-ect (1)		No Idea (2)		Inco-rrect (3)	
6	M	Less than 10% of fish survive each year in B'desh	3		**8**		**8**	1.3
7	M	Benefit of dry season closed season	**10**		1		9	1.0
8		Benefit of closed season (any month)	11		2		7	
9	HR	Importance of blackfish/whitefish issues	**11**		5		3	1.4
10	HR	Importance of sanctuary locations	**14**		4		2	0.4

Post-workshop responses

Q	Theme	Questions/statements (shortened version)						Difference (mean - 'correct')	Change in 'difference' scores since first pre-workshop survey
1	HR	Benefit of harvest reserves	0	0	0	**6**	4	0.6	-0.6
2a	SL	Benefit of opening sluice gates during flood	0	0	2	**7**	1	1.1	-0.6
2b	SL	Benefit of closing sluice gate in dry season	0	0	0	4	**6**	0.4	-0.3
3	SR	Importance of SRS in diet of poor	0	0	4	1	**5**	0.9	-0.3
4	SL	Benefit of diversifying crops in beel areas	0	1	**3**	**3**	**3**	1.2	0.1
5a		Benefit of monsoon/high water closed season	0	1	3	3	1		
5b		Benefit of dry season closed season	1	0	3	1	4		
6	M	Less than 10% of fish survive each year in B'desh	**4**		2		**4**	1.0	-0.3
7	M	Benefit of dry season closed season	**8**		0		2	0.4	-0.6
8		Benefit of closed season (any month)	6		1		3		
9	HR	Importance of blackfish/whitefish issues	3		1		**6**	0.7	-0.7
10	HR	Importance of sanctuary locations	**5**		1		3	0.8	0.4

Notes:
Themes: HR = Harvest reserves; M = Management (generally); SL = Sluice gates; SR = Self-recruiting species
Themes given in the second column indicate questions specifically relating to a particular theme, where a particular 'right' answer was being tested
Shading in the main block of responses indicates the 'right' answer to each question, where appropriate
Shading in the bottom right block of cells indicates those questions where the 'difference' between the mean answer of the respondents and the 'right' answer had decreased between the two surveys.
Bold numbers give the most frequently given (modal) response for each question.
Coding of answers for questions 6-10 changed for the analysis to recode the 'no idea' answer to use the middle value, 2, and the 'incorrect' answer to the value 3.

Table A5.2 **Frequency of responses to the attitude related questions/statements in the pre- and post-training KAP surveys conducted at the India workshop (see below for the full questionnaire text). Sample sizes: n = 20 pre-workshop, and n=9 post-workshop, not including single Bangladeshi respondent.**

Pre-workshop responses

Q	Theme	Questions/statements (shortened version)	Strongly agree (1)	Agree (2)	Not sure (3)	Disagree (4)	Strongly disagree (5)	Difference (mean - 'correct')
1	M	Aquaculture more important than fishery management	**6**	5	2	5	1	2.5
2		Fishing effort control could increase yields	10	9	0	0	0	
3		Increase in rice production more important than fishery	4	1	3	8	3	
4		Pond aquaculture can be alternative of capture fishery	1	9	5	4	1	
5	SR	Removal of SRS by pesticides should be discouraged	**10**	4	2	1	1	0.8
6	SL	Open sluice gates in flood will not benefit fish	3	4	5	**7**	0	2.2
7	SL	Sluice gates can only be used to protect crops	2	4	1	**9**	4	1.6
8		3 month closure in dry season better than in flood	0	9	2	7	0	
9	SL	Frequent short opening of sluice gates better…	1	**13**	5	1	0	1.3
10	HR	Beels best location for white fish reserves	3	**13**	0	3	0	2.8
11		Intensive fish stocking best option to increase prod'n	3	9	3	3	0	
12	SR	Govt. should make legal framework for SRS	7	**12**	0	1	0	0.8
13	M	Poor should not be involved in floodplain management	2	4	2	5	**7**	1.5
14		Data/information sharing would … hamper main work	1	3	1	13	2	
15	HR	One large reserve better than several small ones	2	**7**	4	6	0	2.3
16	SL	Sluice gate managers should only open/close gates	2	**7**	3	**7**	1	2.1
17	SL	Not possible to diversify rabi crobs in beel basins…	2	5	3	**7**	2	1.9
18		Biodiversity and poverty higher priority than total catch	8	8	0	2	1	
19	HR	Community-led management better than strict govt…	**7**	12	0	0	0	0.6
20	HR	Sanctuary need strict rules, so co-manage"t no good	0	**9**	1	6	2	1.9
21	M	Wetlands less important than crop lands	3	2	1	5	**8**	1.3
22	HR	Whitefish sanctuary more important than blackfish…	0	**7**	**7**	5	0	2.1
23	HR	No fishing should ever be allowed in sanctuary	2	**13**	0	3	2	2.5
24	HR	Sanctuary manage't plan must be centrally developed	2	**11**	2	3	1	2.5
25	M	Catchment-wide management best approach…	4	**14**	0	0	0	0.8

Post-workshop responses

									Change in 'difference' scores since pre-workshop survey
1	M	Aquaculture more important than fishery management	2	3	0	**4**	0	2.3	-0.2
2		Fishing effort control could increase yields	2	6	1	0	0		

3		Increase in rice production more important than fishery	0	1	1	5	2		
4		Pond aquaculture can be alternative of capture fishery	1	0	0	7	1		
5	SR	Removal of SRS by pesticides should be discouraged	2	5	0	1	1	1.3	0.5
6	SL	Open sluice gates in flood will not benefit fish	0	**6**	0	2	1	2.2	0.1
7	SL	Sluice gates can only be used to protect crops	0	1	0	**4**	3	0.9	-0.7
8		3 month closure in dry season better than in flood	1	3	0	3	2		
9	SL	Frequent short opening of sluice gates better…	1	**7**	0	1	0	1.1	-0.2
10	HR	Beels best location for white fish reserves	3	**4**	2	0	0	3.1	0.3
11		Intensive fish stocking best option to increase prod'n	2	3	0	4	0		
12	SR	Govt. should make legal framework for SRS	4	**5**	0	0	0	0.6	-0.2
13	M	Poor should not be involved in floodplain management	1	0	0	**5**	3	1.0	-0.5
14		Data/information sharing would … hamper main work	1	0	0	7	1		
15	HR	One large reserve better than several small ones	0	3	0	**5**	1	1.6	-0.7
16	SL	Sluice gate managers should only open/close gates	0	2	0	**7**	0	1.4	-0.7
17	SL	Not possible to diversify rabi crobs in beel basins…	0	0	1	**8**	0	1.1	-0.8
18		Biodiversity and poverty higher priority than total catch	2	2	0	2	1		
19	HR	Community-led management better than strict govt…	**4**	**4**	0	1	0	0.8	0.1
20	HR	Sanctuary need strict rules, so co-manage"t no good	0	3	0	**5**	1	1.6	-0.4
21	M	Wetlands less important than crop lands	0	0	0	**6**	3	0.7	-0.6
22	HR	Whitefish sanctuary more important than blackfish…	0	0	3	**5**	0	1.4	-0.7
23	HR	No fishing should ever be allowed in sanctuary	1	2	0	**5**	1	1.7	-0.8
24	HR	Sanctuary manage't plan must be centrally developed	0	**6**	0	2	1	2.2	-0.3
25	M	Catchment-wide management best approach…	1	**7**	1	0	0	1.0	0.2

Notes:
Themes: HR = Harvest reserves; M = Management (generally); SL = Sluice gates; SR = Self-recruiting species
Themes in the second column indicate questions specifically relating to a particular theme, where a particular 'right' answer was being tested
Shading in the main block of responses indicates the 'right' answer to each question, where appropriate
Shading in the bottom right block of cells indicates those questions where the 'difference' between the mean answer of the respondents and the 'right' answer had decreased between the two surveys.
Bold numbers give the most frequently given (modal) response for each question.

KAP (Knowledge, Attitude and Practice) survey on FMSP
FMSP Project R8486

Respondent:

Name of the enumerator: _____ Date: _____

Name of the respondent: _____ Designation: _____ Organization: _____

Education: _____ Work Station: _____ Work Experience: ____

_____

1. Current knowledge of stakeholders on improved floodplain fisheries/resources management issues and options

Please answer the questions in this section using the following scale:

If you wish to clarify your answer, please add text to the lines underneath (insert more lines if required). However, please always use the scale to insert a number in to the box.

1 = Not at all
2 = Low
3 = Medium
4 = High
5 = Very High

1. In your understanding, to what extent can fish sanctuaries/reserves produce floodplain fisheries benefit? *(on the scale of 1-5)* ☐

_____

_____

_____

2. In your understanding, to what extent would there be fisheries benefit within FCD/I schemes if the:

- sluice gates are open during rising flood water? *(on the scale of 1-5)* ☐
- some water is retained inside the FCD/I scheme over the dry season by closing sluice gates (before the end of the ebb flow) ? *(on the scale of 1-5)* ☐

_____

_____

_____

3. To what extent do SRS (self recruiting species) like puti, chanda, small shrimp, etc. contribute to the diet and income of poor households? *(on the scale of 1-5)* ☐

_____

_____

_____

4. To what extent could diversification of alternative rabi crop (other than boro rice) in beel areas benefit floodplain fisheries production? *(on the scale of 1-5)* ☐

_____

_____

_____

_____

5. To what extent the Impact would be on fisheries production if closed period is maintained:

- in monsoon / high water season (June-August)? *(on the scale of 1-5)* ☐
- in pre-monsoon / dry season (February-April)? *(on the scale of 1-5)* ☐

Please answer the questions in this section using the following scale:

If you wish to clarify your answer, please add text to the lines underneath (insert more lines if required). However, please always use the scale to insert a number in to the box.

1 = Correct
2 = Incorrect
3 = No idea

6. In Bangladesh there is so much fishing that less than 10% of fish survive each year *(on the scale of 1-3)* ☐

7. Fish production could be substantially increased by restricting fishing particularly during the dry season (January-April).*(on the scale of 1-3)* ☐

8. Closed season during any month of the year would increase fish production a little (say less than 5%)*(on the scale of 1-3)* ☐

9. It is not important to consider whitefish or blackfish issue in establishing floodplain fish sanctuary (reserve) as there would be no differences in benefit. *(on the scale of 1-3)* ☐

10. Selection of sanctuary site must consider the locations where extra fish produced due to the reserve will be caught by the people. *(on the scale of 1-3)* ☐

2. Attitude Related: Please express your opinion by putting tick (√) in any of the 5 options against each statement

Statements	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
1. We should emphasize and promote increased aquaculture production as opposed to put much effort in floodplain fisheries management					
2. Fishing effort control could contribute in increased fishery yield					
3. Considering the high population, we need to increase rice production at the cost of floodplain capture fisheries					
4. Pond aquaculture can be the alternative of open water (floodplain) fisheries					
5. Removal of self recruiting / wild species (SRS) using pesticides during pond preparation should be discouraged					
6. Keeping sluice gates open during rising flood water will not benefit fish as high current and turbulence would restrict fish movement					
7. Sluice gates can not be operated for the benefit of fish as these are built for crop protection only					
8. Three months closed season in pre-monsoon (February - April) would produce better results than 3 months closure in monsoon (June-August)					
9. Frequent opening of gates (even for short period) in rising water stage may benefit the fishery more than continuous longer opening in other times					
10. Beels could be the best location for making sanctuary for migratory species (white fish)					
11. Intensive fish stocking in floodplain beels can be the best option for increased fish production					
12. Government should formulate a legal framework for SRS conservation and management					
13. Poor has no land and thus they should not be involved in floodplain fisheries management planning and implementation					
14. Data/information sharing among relevant stakeholders/institutions would increase paper that would hamper main work					
15. Establishment of one large beel as sanctuary is better than several small reserves in a wider catchment					
16. Gate managers scope of work should be limited to opening and closing gates only					
17. It is not possible to diversify rabi crops (other than boro rice) in beel basins – as beels are only suitable for boro cropping					
18. In floodplain management environment, biodiversity and poor peoples livelihood should be given priority instead of production increase					
19. Community-led flexible management of sanctuary can produce better results/benefit than strict government managed closed ones					
20. Sanctuary need strict rules thus collaborative co-management approach would not work for sanctuary management					
21. Wetlands are less important (Waste lands) than crop lands					
22. White fish sanctuary could produce wider benefits than black fish reserve – we should promote only white fish sanctuary to get wider benefit					
23. All sanctuaries should be managed strictly and there should be no fishing year round					
24. Sanctuary management plan must be developed centrally by the concerned authority with strict rules and conditions					
25. Catchment wise integrated floodplain management can be the best approach as opposed to single water-body management					

Local follow up by collaborators

The letters pasted below were received from the Indian project collaborators on 2 December 2005, describing the actions they had taken since the workshop at that time.

GOVERNMENT OF WEST BENGAL
DIRECTORATE OF FISHERIES
JESSOP BUILDING
63, N. S. ROAD, KOLKATA-700001.

No. FTR- 323 **Date 2 / 12 / 2005.**
FTR-1/18/97-II

To
Dr. Daniel Hoggarth,
Scales Consulting Ltd.,
66B, Creffield Road,
London W3 9PS,
UK.

Sub: Feedback on the uptake and adoption on the collaborative Project on FMSP tools.
Ref: Your e-mail on November 28th 2005

Sir,

With reference to your e-mail dated November 28th 2005 we are to furnish our comments on the basis of the points raised in bullet points.

Sl No.	Query	Action Taken
1	Any further training of staff within the department (if so, when?, where?, to how many participants?, summary of training messages or materials)	Training on flood plain management and stock assessment tools is regularly being imparted from State Level Training Centre at Kalyani, Nadia. 40 nos of WBJFS – Grade II officers in 2 sets of trainings on basic data collection have been completed during October & November 2005 utilizing GOI funds.
2	Any writing of papers, newsletters, policy recommendations referring to the FMSP guidelines (either directly or indirectly – e.g. recommendations for more sanctuaries, but without mentioning the FMSP guidelines)	Manuscript on 'Area Report on West Bengal' comprising of 50 pages and 20 photographic plates has been completed and we are awaiting funds for publication. Preparation of leaflets and exhibition posters for awareness campaigning is in progress.
3	Any promotion of the messages within field sites (e.g. promotion of sanctuaries/sluice gate managements/alternative cropping by NGO Collaborators) – if so, in which locations?, when?, by whom (NGO name)?, and potentially affecting how many stakeholders (numbers in any specific categories?)	1. A meeting between Ministers of West Bengal and Bangladesh Fisheries has been written to and negotiations are expected to fall in place (see second letter below). 2. Two meetings in Nadia and 24 Parganas (North) have been called to constitute sluice gate committees for each of the gate which were deferred by the District Magistrates, likely to be activated soon. 3. Sluice Gates and Sanctuaries is in our policy level decisions and are likely to be framed by 2006. 4. Data is being filtered into an Agri Portal which will serve up to the Block Levels in local language also. 5. Agricultural Biodiversity Committee the JDF (HQ) has been selected to be one of the board members responsible to tract down the following: a. Formulate strategies for Agricultural Biodiversity inventorization. b. Keep the board informed about present status of

		Agricultural Biodiversity of W.B. c. Suggest germplasm conservation strategies. d. Promoting traditional cultivable bio resources. e. Identification of Agricultural Biodiversity. f. Introduce economically viable eco-friendly methods of cultivation.

A list of participants is attached along with the copies of each bill – expenditure incurred for finalization of accounts.

Yours faithfully,

Director of Fisheries
West Bengal

Copy forwarded for information to:
1. P.A. to the Minister-in-Charge, Department of Fisheries, West Bengal for apraisal.
2. Mr. G.D. Chandrapal, Deputy Commissioner (Fisheries), Govt. of India, Ministry of Agriculture, Department of Animal Husbandry, Dairying and Fisheries, Krishi Bhawan, New Delhi – 110 001.
3. The Secretary, Fisheries Department.

GOVERNMENT OF WEST BENGAL
DIRECTORATE OF FISHERIES
JESSOP BUILDING
63, N.S. ROAD, KOLKATA –1

Memo No:FTR 295 **Dated: 26/10/2005**
1/18/97(II)

To
The Secretary,
Department of Fisheries
Writer's Buildings
Kolkata – 1

Sub**: Organizing of periodical meetings between the Ministers-in-Charge of the two countries of Bangladesh and West Bengal, Department of Fisheries.**

Sir,

The Department of Fisheries, West Bengal, has successfully completed the **FMSP Project R8486 – Floodplain fishery management guidelines – Dissemination Workshop at Great Eastern Hotel, Central Kolkata on 5-6 August 2005.** It was represented by Massood Siddique, Bangladesh Department of Fisheries / Fourth Fisheries Project, Dhaka on behalf of your Government as special guest.

It has been felt that organizing of periodical meetings between the Ministers-in-Charge of the two countries of Bangladesh and West Bengal, India Department of Fisheries would be beneficial for both the land masses and its people. The border districts of our state are ecologically connected with Bangladesh and would be much benefited if joint management of flood plains is performed. Also there would be an erupting need of a discussion on effluent discharge into the Ichamati River along with migratory and other species particularly Hilsa species. It is very disturbing to note that the recent market trends of Hilsa species shows that the size of catches are diminishing (even below 60 gms). This implies that recruitment of new generations would be difficult due to lack of natural brooders. A foolproof quarantine would help to check unwanted disease needs to be looked into. An exchange of technical knowledge base can eventually benefit each other. It would be fruit bearing on excavation of beels for restoration of natural cycle and riverine eco-system. It would enhance production, generate employment and resources. Besides the two sides are optimistically looking forward towards equal mindedness in handling pollution threatening to go out of control because of the huge population pressure.

I am therefore to request you to consider opening a dialogue between the Minister-in-Charge, Bangladesh Department of Fisheries and our Department as to how a joint meeting could be organized on the above subject at the convenience of both the Departments.

Yours faithfully,

-sd-
Director of Fisheries
West Bengal

Copy forwarded for information to:
1. P.A. to the Minister-in-Charge, Department of Fisheries, West Bengal.
2. Mr. G.D. Chandrapal, Deputy Commissioner (Fisheries), Govt. of India, Ministry of Agriculture, Department of Animal Husbandry, Dairying and Fisheries, Krishi Bhawan, New Delhi – 110 001.
3. Massood Siddique, Bangladesh Department of Fisheries / Fourth Fisheries Project, Dhaka