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2-pager IFWF Abstract Guidelines for Forum Preceedings

2-pager title: Scaling out enhanced floodplain productivity by poor communities – aquaculture and fisheries in Bangladesh and eastern India

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Session: reviewers suggested: Basin x TWG; TWG – Resilience; share fair

Key message/highlights

- Rearing fish in seasonal floodplains raises productivity but can adversely affect the poor and the biodiversity of important natural fisheries.
- Equitable community institutions enable poor rural households to cooperate with landowners and adopt innovative technologies to optimize seasonal floodplain productivity by cultivating fish and/or by conserving natural fish.

Short Abstract (No more than 250 words)

The “Community Based Fish Culture in Seasonal Floodplains” project tested this approach in three sites in Bangladesh. An additional 409 kg/ha of stocked and non-stocked fish were produced giving an additional income of US\$ 378/ha. This depended on forming community organizations involving fishers and landowners. However, the factors that underpin collective action, and the ecosystem consequences of further adoption need investigation. Separate studies reveal recent rapid enclosure of seasonal floodplains for aquaculture (77% of land converted in one area). Spontaneous adoption adversely impacts landless and marginal farmers and wild fish catches. However, other community organizations have restored wild fish catches and improved crop returns from scarce dry season water. Whereas earlier we thought successful community-led aquaculture in floodplains just needed to be scaled out, with rapid spontaneous adoption the questions are now: with what consequences, and what policies would foster equitable access and preserve ecosystems services?

Innovations include local institutions for collective action which ensure benefits for poor fishers from private land that is seasonally flooded, and conservation and stocking methods to maintain aquatic biodiversity.

Lessons for seasonal floodplains, particularly in Asia, are:

- Community fisheries can make highly productive use of floodplains.
- When influential landowners realize the potential of floodplain fisheries they try to appropriate seasonal common pool resources from traditional poor users.
- Choice of management strategy should be based on understanding of the wider ecosystem and local society.
- Community management of floodplain commons is more successful when there is strong and continued government support.

Illustrating the 2-pager

The figure shows the rapid spontaneous growth in floodplain aquaculture over the last decade in three regions of Bangladesh each following a different system: large enclosures operated by local companies in Comilla, smaller floodplain pockets operated by groups of landowners in Gazipur, and individual farmers in Narail.

Year

Year	new enclosure areas (acres)			Cumulated area of enclosures (acres)			cumulated %			
	Comilla	Gazipur	Narail	Comilla	Gazipur	Narail	Comilla (77% covered by 2008)	Gazipur (58% covered by 2008)	Narail (3% covered by 2008)	
1970	0	3	0	0	3	0	1970	0	0.437062937	0
1980	0	12	0	0	15	0	1980	0	2.185314685	0
1986	45	0	0	45	15	0	1986	1.0995993	2.185314685	0
1987	0	2	0	45	17	0	1987	1.0995993	2.476689977	0
1988	0	10	1.2	45	27	1.2	1988	1.0995993	3.933566434	0.26298142
1989	0	0	0	45	27	1.2	1989	1.0995993	3.933566434	0.26298142
1990	0	0	2.2	45	27	3.4	1990	1.0995993	3.933566434	0.74511402
1992	0	0	2.08	45	27	5.48	1992	1.0995993	3.933566434	1.20094849
1993	0	38.5	2.4	45	65.5	7.88	1993	1.0995993	9.542540793	1.72691133
1994	0	5.5	6.8	45	71	14.68	1994	1.0995993	10.34382284	3.21713938
1995	99	39	1.22	144	110	15.9	1995	3.5187176	16.02564103	3.48450382
1996	0	49.5	6.92	144	159.5	22.82	1996	3.5187176	23.23717949	5.00103001
1997	245.1	5.75	0.6	389.1	165.25	23.42	1997	9.5078682	24.07488345	5.13252072
1998	140	43.5	17.91	529.1	208.75	41.33	1998	12.928844	30.41229604	9.05751842
1999	21	20	3.27	550.1	228.75	44.6	1999	13.44199	33.32604895	9.77414279
2000	156.6	78.5	39.4	706.7	307.25	84	2000	17.268595	44.76252914	18.4086994
2001	793.2	15.3	67.776	1499.9	322.55	151.776	2001	36.650865	46.99155012	33.26189
2002	660.5	83	36.45	2160.4	405.55	188.226	2002	52.790539	59.08362471	41.2499507
2003	445.5	89	35.28	2605.9	494.55	223.506	2003	63.676571	72.04982517	48.9816044
2004	703.5	73	62.85	3309.4	567.55	286.356	2004	80.866973	82.68502331	62.7552563
2005	0	15	33.37	3309.4	582.55	319.726	2005	80.866973	84.870338	70.0683313
2006	24	51.35	55.11	3333.4	633.9	374.836	2006	81.453426	92.3513986	82.1457531
2007	759	3.5	38.5	4092.4	637.4	413.336	2007	100	92.86130536	90.5830736
2008	0	49	42.97	4092.4	686.4	456.306	2008	100	100	100
			08 as							
			% 98	773.4644	328.814	1104.06				

**Expansion of floodplain aquaculture enclosures
in three study areas in Bangladesh**

