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DEVELOPMENT OF SUSTAINABLE AQUACULTURE PROJECT

**A project implemented by the
WorldFish Center**

**Funded by the
U.S. Agency for International Development (USAID)
(Cooperative Agreement 388-A-00-00-00068-00)**

**PROGRESS REPORT
(1 April 2003 - 30 June 2003)**

Prepared by

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INTRODUCTION

The Development of Sustainable Aquaculture Project (DSAP) was authorized by USAID under the Cooperative Agreement # 388-A-00-00-00068-00 on 28 June 2000. This technical progress report covers activities for the three months of the project, 1 April 2003 through 30 June 2003. Financial reporting for the Project is handled separately from the WorldFish Center (previously called ICLARM-The World Fish Center) headquarters in Penang, Malaysia.

The main thrust of the Development of Sustainable Aquaculture Project is to sponsor on-farm aquaculture production demonstrations implemented through co-operating NGO partners. These demonstrations are expected to show farmers and their neighbors the profitability of managed aquaculture systems as small business operations. Both small ponds and integrated rice and fish systems, based on research proven production results, are the target of these demonstrations. The Project also has a research component directed to understanding and exploring additional production options, improving the technology transfer process and monitoring the impact of the adopted aquaculture practices.

This quarterly technical progress report covers (i) the final selection of the new demonstration sites and participating households/farmers, (ii) the monitoring of the members of supported Demonstration Farmer Groups, (iii) the collection of data for the demonstration performance surveys, (iv) the design of the 2000-01 impact assessment (v) the first one-day workshop disseminating the research findings of the awarded studies and (vi) training of partner NGO and associate partner NGO staff.

Details about the support of on-farm demonstrations, research, training and administrative actions are presented in the respective sections of this report.

DEMONSTRATIONS AND NGO ACTIVITIES

The partner NGOs (35) responsible for the implementation of the 2003-04 demonstration program finalized the selection of the new demonstration sites/households. As decided during the last national NGO evaluation workshop, the partners first introduced themselves to the villagers, organized meetings with local leaders and sensitized the interested villagers regarding the program and its potential benefits, in particular in respect to innovative technologies such as rice cum fish culture and fish nursery practices. Then the selection was conducted following a participatory approach using different tools such as transects, resource mapping, wealth ranking etc. Selection of both male and female members of household (household or couple approach) was encouraged to reflect the actual implication of different household members in the aquaculture activity and to increase the participation of women in the program. The organization of some 6-10 selected demonstrators per village in Demonstration Farmer Groups (DFG) was promoted. During the selection process efforts were made to avoid clustering of demonstrations ensuring optimal farmer-to-farmer spread over. Like in the previous year, the partner NGOs made a written or verbal three-year agreement with selected households/farmers reflecting clearly the responsibility of the concerned parties.

Following the training course on monitoring and evaluation (cf. previous progress report) the partner NGOs surveyed the new Demonstration Farmer Groups (DFG) as well as those of 2001-02 and 2002-03, whose members are presently receiving extension services in the third year (i.e. phase-out year) and in the second year, respectively.

A total of 11,925 new demonstration sites were selected for the 2003-04 program, covering a total production area of more than 1,550 ha and participating households/farmers are

organized in 1,447 Demonstration Farmer Groups (cf. attachment 1). Most of the DFGs have effectively between 6-10 members (average 8). This limited number of members should stimulate farmer-to-farmer dissemination of the aquaculture technologies, resulting in a good spread-over rate (secondary adopters). Out of 35 partner-NGOs 27 (71%) adopted the couple approach (also referred to as household approach), 7 (20%) the individual approach and 1 (3%) both approaches, selecting 73.3 % couples/households, 14.7 % male farmers and 12.0 % female farmers (cf. attachment 2).

Attachment 3 presents information about the selected technology groups, which indicates that 81.7 % are pond based culture systems, while 18.3 % are rice-fish based systems. Shares of carp polyculture, nursery and carp-golda (freshwater prawn) systems of total demonstrations are 87.3, 10.0 and 2.7 % respectively. The selection of rice-fish and nursery systems does not meet the targets of this aquaculture season, which were set for 30 and 20 % respectively. The decisions of the last annual evaluation meeting in Tangail to increase these innovative aquaculture systems were apparently only partially achieved. These targets were: (i) take more time for the selection process using participatory approaches, and (ii) technology selection should be undertaken after the foundation training allowing more time to sensitize participating couples/farmers.

In the last aquaculture season 27 partner NGOs provided extension services to 12,999 participating demonstrators (5,345 selected in 2001-02 and 7,654 in 2002-03) organized in 1,341 DFGs. This year 24 partners continue supporting 11,315 demonstration farmers as well as 7,466 new members of 1,210 DFGs (cf. attachment 4, 5 and 6). These new group members can be considered as secondary adopters who became member of the aquaculture group to learn more from their fellow farmers and to receive also extension services by NGO field assistants in the second and third year of the extension program of these NGOs. To capture the spread over we had requested the DFGs to report the number of secondary adopters in their villages (DFG survey). Therefore approximately 3,000 secondary adopters who did not enter the DFGs were reported. This number seems to be an underestimation compared with the first results from our *ex post* impact study of the 2000-01 activities.

The NGO and number-wise geographical distribution of aquaculture demonstrations of the 2003-04 extension program, are illustrated in figures 1 and 2 respectively (cf. attachments 7 and 8). The evolution of demonstrations implemented and supported each aquaculture season since the inception of the project is shown in attachment 9. Full details of the partner NGOs, the newly selected demonstrations, carried over ones, selected technology groups according NGO and region (District, Upazilla, Union) or technology group etc. are given in the DSAP-NGO directory 2003 (cf. working paper 2003/15).

Meanwhile support to partner NGOs through on-the-job training of NGO staff, frequent field visits, attending partner NGOs' extension meetings and national/regional coordination meetings continued as usual during the reporting period. Fish harvesting of the 2002-2003 aquaculture season is completed. The partner NGO extension workers, supported by the Research Assistants (extension), continued to provide valuable advice and support for the proper use of the pond record books as harvests proceeded. Currently all partner NGOs have completed the foundation training of the new demonstration households/farmers. Follow-up trainings for the 2001/02 and 2002/03 demonstration farmers are on-going and are expected to be completed during the next quarter. Following the training sessions as well as the group meetings, the participating households/farmers are presently preparing the ponds and rice plots for stocking. Partner NGOs commenced the distribution of the pond record books (cf. previous progress report) to all members (demonstrators and secondary adopters) of the

supported DFGs and signboards were prepared and distributed to the new demonstration households/farmers through the Center's regional field offices.

The rate of partner NGO resignations continues to be alarming. During the reporting quarter, one Program Coordinator (out of 35) and 15 Field Assistants (out of 238) resigned for a better paid position. There is an urgent need for the partner NGOs to improve the working conditions of their staff including better and regularly paid salaries in order to minimize the staff drop off.

Regular regional coordination meetings (RCM) and national coordination meetings (NCM) were organized as usual. Since April 2003 the RCMs are organized on rotational basis by the partner NGOs with assistance from the project's field based staff. The organization of these meetings also includes the preparation of the draft program, distribution of invitations, presiding over the meeting, preparation and distribution of minutes.

Funds for the 2^d quarter were released to all partner NGOs of the 2003/04 extension program, with exception of SHUSHILAN who had sufficient funds to cover the disbursements of the 2nd quarter. Full details of the funds release status are provided in attachment 10.

RESEARCH

Impact assessment of adopted aquaculture practices

Year 2000-2001 data: The final report on the pond record book data of 2000-2001 is under preparation. The report is being reviewed for validation. Comments on the prepared draft once received, will be taken into consideration quickly and the report will be published as a DSAP Working Paper by the WorldFish Center by September 2003.

Year 2001-2002 data: The pond record book data for the aquaculture year 2001-2002 have been analyzed and draft results were obtained. A draft report is in the process of review. The final report is expected to be completed by October 2003 and the same will be published by December 2003 as a working paper. Mr Kelsey Wittenberger, US Peace Corps Volunteer is participating in the preparation of this report. His valuable support is highly appreciated.

Year 2001-2002 data: Economic Impact Assessment: The data set comprises two technologies namely, carp-golda polyculture and carp polyculture. Analysis of these data sets is ongoing. Further analysis and reporting on the investigations will be completed soon. The report will be published as a Working Paper by the WorldFish Center in November 2003.

Year 2002-2003 data: In order to monitor the performance of the demonstrations a one-day training on monitoring and evaluation for partner NGO staff was conducted (cf. previous progress report). During this training, monitoring forms were prepared in a participatory manner by the partner NGOs and DSAP. The partners were advised to sample at least 5% of their demonstration plots and ponds and utilize the forms to collect data. The performance survey, to be undertaken by the partner NGO staff, is scheduled to be finalized by the end of June. Copies of the completed monitoring forms will be forwarded to the project for our analysis and reporting requirements. A total of 13 field investigators were hired for one month to collect the same data of a random sample (10 %) of the demonstrations supported by the associate-partner NGOs.

Ex post impact assessment 2000-01: The farmers involved with the program demonstrated fish culture during the 2000-01 aquaculture season initiated by RDSAP and taken over by DSAP in June 2000. As per impact assessment policy of the DSAP, these farmers are supposed to be monitored two years after the one-year extension effort, allowing them to work independently with fish culture. Necessary preparation was undertaken for this impact

study including a revisit to some farmers of the 2000-01 pond book survey as well as to non-demonstration farmers and a control group of farmers living in villages without any history of aquaculture extension project activities. Questionnaires were prepared and collection of data is scheduled to be completed next quarter. Ms Gaelle Dariet, an intern from ISTOM, France will participate in this study from mid June to mid December 2003.

Long-term Impact Monitoring (RESTORE): A long-term participatory impact monitoring study has been commissioned in 2002 in four of the DSAP working regions namely, Bogra, Mymensingh, Comilla and Magura. In fact a total of 320 farmers for this study were selected initially. Of these 320 farmers, 278 farmers are continuing with the RESTORE program. The target is to continue monitoring with 240 farmers for the next three aquaculture years. Collection of baseline information from the selected farmers for the period May 2002-April 2003 (dry and wet season) has been completed. The collected data have been verified and are in the process of entry into the computer. This is expected to be completed by the end of October 2003.

In order to measure impact of integrated aquaculture-agriculture on the target (intervening) farmers, selection of 128 control (non-intervening) farmers has also been completed. These farmers will not be receiving any advice on aquaculture from the DSAP staff. The control farmers will be monitored to collect data on the farming and other related aspects.

Supplementary studies: Long-term impact monitoring study (to be analyzed using the RESTORE procedure) does not accommodate some of the important indicators of full impact. For this reason, a supplementary consumption study has been commissioned. A note book, pencil, eraser and ruler has been given to each of the target and control farmers in order to enable them to record the different food and non-food items along with its quantities and expenditures incurred. The Research Assistants (Monitoring) have been provided with a questionnaire for the consumption study. The RAs are to collect information from the RESTORE farmers on a fortnightly basis from the notebooks of the farmers and enter the same in the questionnaires provided to them for the purpose. For the ease of measurement of quantities of different items, a spring balance has been given to each of them for proper recording. Consumption recording was initiated in May 2003. Continuous monitoring of the consumption recording is being done. Farmers are keeping the records but monitoring of the same showed that first two months recording was not properly done. Hence the consumption recording will be required to extend for two or three more months. A second complementary study of the RESTORE farmers, a livelihood survey, was also designed. The questionnaires are completed and the data collection of this study is scheduled for the second semester 2003.

Collaborative Research with BFRI

Following approval of the TAPP (Technical Assistance Project Pro-Forma) for collaborative research between BFRI and WorldFish Center, the proposed research studies are proceeding smoothly at the BFRI with their scientists.

Research grants to Universities

A total of 15 research grants were awarded to University teachers as of 31 March 2003. During the reporting period we approved one proposal entitled "The sustainable livelihood approach of prawn distribution in Mymensingh" by Dr. Nesar Ahmed, Bangladesh Agricultural University. This research, as a continuation of a previous award, was not required to be presented to the Research Grants Technical Committee (RGTC). The status of research grants awarded so far is presented in attachment 11. Altogether 16 small research grants were awarded, 8 were completed and 8 are ongoing.

A research findings presentation workshop was held on 22 May 2003 at the BRAC Center, Mohakali, to disseminate the results of the DSAP funded research conducted by the university teachers. Studies completed by five researchers, namely, Dr. Mahmudul Karim (from the Agrobased Technology Development Project), Dr. Md. Mukhlesur Rahman, Assistant Professor, Department of Fisheries Biology and Genetics, Bangladesh Agricultural University; Dr. Saleha Khan, Assistant Professor, Department of Fisheries Management and Genetics, Bangladesh Agricultural University; Dr. Md. Kamal and Dr. Md. Nazrul Islam, Professors, Department of Fisheries Technology, Bangladesh Agricultural University; and Dr. A.K.M. Nowsad Alam, Professor, Department of Fisheries Technology and Genetics, Bangladesh Agricultural University (currently working for FAO in the coastal fisheries project in Cox's Bazar) were presented and discussed in presence of scientists, teachers, consultants and policy planners of Bangladesh.

TRAINING

During the period from 1 April to 30 June 2003 the following training courses were organized according the annual training plans:

- A 1-day training course on financial management for senior and/or financial managers and accountants of new partner NGOs was organized on 21 April at the WorldFish Bangladesh Office in Dhaka. A total of 18 staff members from 10 NGOs participated actively in the course dealing with general accounting principles as well as quarterly financial reporting to WorldFish/DSAP. The course was facilitated by project staff assisted by a local senior consultant;
- A 3-day training course on developing and financing a carp hatchery for senior managers of partner NGOs was organized from 25 to 27 April at the Bangladesh Fisheries Research Institute (BFRI) in Mymensingh. A total of 19 senior staff members of 11 partner NGOs and 1 associate-partner NGO attended the course. The course was designed to provide basic skills to develop a business plan, including in and out-door facilities, operation techniques and a feasibility study for the construction of a medium size carp hatchery. The course was facilitated by BFRI staff for the technical sessions and by staff of the USAID supported Agro-based Industries and Technology Development Project (ATDP-II) for the financial, business sessions;
- Four batches of the foundation training course followed by the first refresher-training course for associate partner NGO field staff recruited in 2003 were organized from 3 to 23 May 2003 in Bogra, Barisal, Jessore and Mymensingh. A total of 68 extension workers, representing 43 associate partner NGOs, attended the training courses. The 3-day foundation course, facilitated by project staff, emphasized on principles of aquaculture, carp polyculture techniques, integrated agriculture-aquaculture practices and extension methodologies. The refresher-training, conducted immediately after the foundation training, was a 3-day theoretical course on aquaculture-oriented participatory approaches, facilitated by local consultants;
- Dr. Benoy Barman (PostDoc Stirling) facilitated a one-day seminar with Program Officers of 11 partner NGOs and project staff on 1 June to review progress on a GIFT (Genetically Improved Farmed Tilapia) seed production trial in rice based ecosystems (66 demonstrations). Preliminary results are encouraging, and participating farmers are satisfied. The experiment will be continued for a second aquaculture season;
- Five batches of a 4-day refresher training course on nursery practices and group dynamics for partner NGOs were organized from 16 June to 2 July in Jessore (two times 2 batches

simultaneously) and Barisal (1 batch). This represented the second, third and fifth refresher training course for staff recruited in 2003, 2002 and 2001 respectively. A total of 103 Field Assistants and 14 program Officers from 18 partner NGOs attended these refresher courses facilitated by local consultants.

ADMINISTRATION

The list of Project personnel as of 30 June 2003 is attached (cf. Attachment 12). Ms Israt Zahura was recruited to fill the vacant position of Research Associate (training). Two Research Assistants (Extension) and two Research Assistants (M&E) resigned in order to take up government positions (3) and to continue his education (1). Following the usual selection procedure they were replaced by Mr. Zamal Uddin, Research Assistant (Extension), duty station Barisal, Mr Bibhu Bhushan Mazumder, Research Assistant (Extension), duty station Comilla, Mr Ferdous Ali, Research Assistant (M&E), duty station Bogra and Mr. Shamin Parviz, Research Assistant (M&E), duty station Bogra.

Two US Peace Corps Volunteers, Ms. Miranda Beckman and Mr. Kelsey Wittenberger were assigned to assist the project for two months during which they were relocated to Dhaka. Ms. Beckman supported the project by sorting out and restructuring the library, Mr Wittenberger assisted the research team. Ms Gaëlle Dariet, a national of France and studying at the "Ecole supérieure d'Agro-Economie Internationale" (ISTOM), France, arrived on 16 June for a six-month internship. Ms Dariet will assist the research team with the *ex post* impact assessment 2000-01.

The usual assortment of meetings, visitors and field visits were attended during the period January to March 2003. The most important were:

1. Mr. Johannes Janssen, Project Leader and Dr. Md. Ferdous Alam, Research Coordinator attended the National Fisheries Research Planning Workshop jointly organized by the Ministry of Fisheries and Livestock and the WorldFish Center at BRAC Center, Mohakali from 2 to 4 April 2003;
2. Mr. Johannes Janssen, Project Leader participated in a seminar on "Presentation of Fisheries Training and Extension Project-II Training and Extension Resources and their use" at Department of Fisheries on 16 April 2003;
3. Mr. Johannes Janssen, Project Leader and Dr. Md. Ferdous Alam, Research Coordinator attended the 2nd meeting of the National Research Forum at BRAC Center, Mohakhali on 27 April;
4. Dr. Md. Ferdous Alam, Research Coordinator Leader attended the review workshop on annual research plan of Bangladesh Fisheries Research Institute (BFRI) held at BFRI on 8 May 2003;
5. Mr. Naseem Aleem, Field Coordinator, participated in a 5-day training course for Cognizant Technical Officers organized by USAID in Dhaka from 11 to 15 May 2003;
6. Dr. Md. Ferdous Alam, Research Coordinator participated in a three-day workshop on National Aquaculture Extension Strategy organized by Department of Fisheries and Fourth Fisheries Project in Chittagong from 18 to 20 May 2003;
7. Dr. Md. Ferdous Alam, Research Coordinator participated in a workshop on Strategies and Options for Increasing and Sustaining Fisheries and Aquaculture Production to Benefit the Poor Households in Bangladesh organized by the Department of Fisheries held on 5 June 2003 and presented a paper on the Estimation of Demand for Freshwater Fish in Bangladesh;

8. Mr. Johannes Janssen, Project Leader visited the WorldFish Center's headquarters in Penang, Malaysia from 18 to 20 June. He participated in a one-day workshop on risk communication and discussed project related financial management issues and reviewed the project progress with Dr. Mark Prein, Program Leader, Freshwater Resources Research Program.

ATTACHMENTS

- Attachment 1** **New demonstrations of 2003/04 season implemented by partner NGOs**
- Attachment 2** **Status of farmer/household selection of new demonstrations 2003/04**
- Attachment 3** **Number and area of new demonstrations 2003/04 according selected technology groups**
- Attachment 4** **Status of 2001/02 demonstrations implemented in 2003/04 season**
- Attachment 5** **Status of 2002/03 demonstrations implemented in 2003/04 season**
- Attachment 6** **Status of demonstrations implemented in 2003/04 (Carried over + new DFG members + new demos)**
- Attachment 7** **Geographical distribution of aquaculture demonstrations supported by the WorldFish-NGO aquaculture extension effort 2002/03 (NGO-wise)**
- Attachment 8** **Geographical distribution of aquaculture demonstrations supported by WorldFish-NGO aquaculture extension effort 2002/03 (number-wise)**
- Attachment 9** **Evolution of demonstrations implemented and supported each year since project inception**
- Attachment 10** **Status of 2003 budgets and funds released to partner NGOs as of 30 June 2003**
- Attachment 11** **Status of research projects with the Universities as of 30 June 2003**
- Attachment 12** **USAID-funded staff list as of 30 June 2003**

Attachment 1 New demonstrations of 2003/04 season implemented by partner NGOs

SL. No.	NGO	No. of District	No. of Thana	No. of demo	Demo area (dec)	No. of DFG	Technology group code
1	ADI	4	6	450	14456	47	D,E,A,B
2	BAIC	2	4	450	18008	61	E,A,B
3	BS	5	8	450	11455	45	D,E,F,A,B,C
4	BUK	2	5	350	12118	49	E,A,B
5	CARP	1	3	350	10626	42	E,A,B
6	CDS	1	4	250	11894	34	E,A,B
7	CIRUP	2	9	300	7651	37	D,E,A,B
8	COAST	1	7	350	16387	39	E,A,B
9	CRED	3	7	450	11897	54	D,E,A,B
10	DJKS	1	3	350	14565	43	E,A,B
11	DMG	1	3	352	6888	45	E,A,B
12	FHD	2	3	300	9675	36	D,E,A,B
13	GRAMAUS	2	3	250	6639	35	E,A,B
14	GRASUK	3	5	250	5929	37	D,E,A,B
15	ISWA	3	4	250	4813	31	D,E,F,A,B
16	JC	1	4	450	20308	45	F,B
17	LDRO	2	5	300	8374	35	D,E,A,B
18	LIPP	1	1	252	9654	29	E,A,B
19	LUSTER	1	1	250	8427	30	E,A,B
20	ORD	2	3	300	8800	40	D,E,A,B
21	OREDAR	1	4	350	8946	41	E,A,B
22	PAGE	1	6	354	17244	47	D,E,A,B
23	POSD	1	3	250	5378	33	E,A,B
24	PP	1	3	263	10227	26	E,A,B
25	PRANTEC	2	3	350	7563	47	E,A,B
26	PROSHIKA	5	12	601	23239	91	D,E,F,A,B,C
27	RRC	6	11	450	15988	45	E,A,B
28	SARA	1	5	350	12668	39	D,E,A,B
29	SATU	1	4	300	11258	36	E,A,B
30	SHRISTY	1	3	253	12058	25	E,A,B
31	SHUSHILAN	1	2	250	6699	27	E,B
32	SPP	1	6	400	12739	48	E,A,B
33	TMSS	4	15	450	11298	64	E,A,B
34	VPKA	1	4	350	6236	35	E,A,B
35	WE	1	2	250	5990	29	E,A,B
Total	35	37*	132*	11925	386095	1447	D,E,F,A,B,C

*Total may not add due to overlapping operations

Attachment 2 Status of farmer/household selection of new demonstrations 2003/04

Sl. No.	PNGO	Individual approach				Household approach		Total
		Male		Female		No.	%	
		No.	%	No.	%			
1	ADI					450	100.0	450
2	BAIC	343	76.2	107	23.8			450
3	BS	15	3.3	435	96.7			450
4	BUK					350	100.0	350
5	CARP	188	53.7	42	12.	120	34.9	350
6	CDS					250	100.0	250
7	CIRUP	231	77.0	69	23.0			300
8	COAST					350	100.0	350
9	CRED					450	100.0	450
10	DJKS					350	100.0	350
11	DMG					352	100.0	352
12	FHD					300	100.0	300
13	GRAMAUS					250	100.0	250
14	GRASUK					250	100.0	250
15	ISWA					250	100.0	250
16	JC					450	100.0	450
17	LDRO	209	69.7	91	30.3			300
18	LIPP					252	100.0	252
19	LUSTRE					250	100.0	250
20	ORD					300	100.0	300
21	OREDAR					350	100.0	350
22	PAGE					354	100.0	354
23	POSD					250	100.0	250
24	PP					263	100.0	263
25	PRANTEC					350	100.0	350
26	PROSHIKA	379	63.1	222	36.9			601
27	RRC					450	100.0	450
28	SARA					350	100.0	350
29	SATU					300	100.0	300
30	SHRISTY					253	100.0	253
31	SHUSHILAN					250	100.0	250
32	SPP	385	96.3	15	3.8			400
33	TMSS			450	100.0			450
34	VPKA					350	100.0	350
35	WE					250	100.0	250
Total		1,750	14.68	1,431	12.00	8,744	73.32	11,925

Attachment 3 Number and area of new demonstrations 2003/04 according selected technology groups

Technology group	Pond based systems				Rice field based systems				Total			
	N _e	%	Area (dec)	%	N _e	%	Area (dec)	%	N _e	%	Area (dec)	%
Nursery practices	1,121	9.4	32,014	8.3	72	0.6	4,334	1.1	1,193	10.0	36,348	9.4
Carp polyculture	8,565	71.8	234,254	60.7	1,847	15.5	93,377	24.2	10,412	87.3	327,631	84.9
Carp-golda polyculture	63	0.5	2,054	0.5	257	2.2	20,062	5.2	320	2.7	22,116	5.7
Total	9,749	81.7	268,322	69.5	2,176	18.3	117,773	30.5	11,925	100.0	386,095	100.0

Attachment 4 Status of 2001/02 demonstrations in 2003/04 season*

Sl. No	NGO	2001		2002		2003			
		DFG	Demos	DFG	Demos	DFG	Demos	New member	Total
1	ADI	32	500	32	496	32	496	7	503
2	ARSHI	21	292	Discontinued					
3	BAIC	35	500	35	431	35	431	424	855
4	BRAC	23	311	Discontinued					
5	BS	34	503	34	498	34	498		498
6	CARITAS	43	600	43	600	Discontinued			
7	CARP	20	300	19	260	19	260	152	412
8	CIRUP	21	300	21	300	21	300		300
9	CRED	32	500	32	435	32	435	197	632
10	DSS	14	201	Discontinued					
11	FHD	15	203	15	203	15	203	47	250
12	JC	30	500	30	496	30	496		496
13	ORD	23	294	23	282	23	282	85	367
14	PRANTEC	20	304	20	304	20	304		304
15	RASDO	20	300	Discontinued					
16	RRC	21	300	21	300	21	300	100	400
17	SPP	22	200	22	196	22	196	22	218
18	TMSS	38	500	38	500	38	500		500
Total		464	6608	385	5301	342	4701	1034	5735

* No drop out in 2003

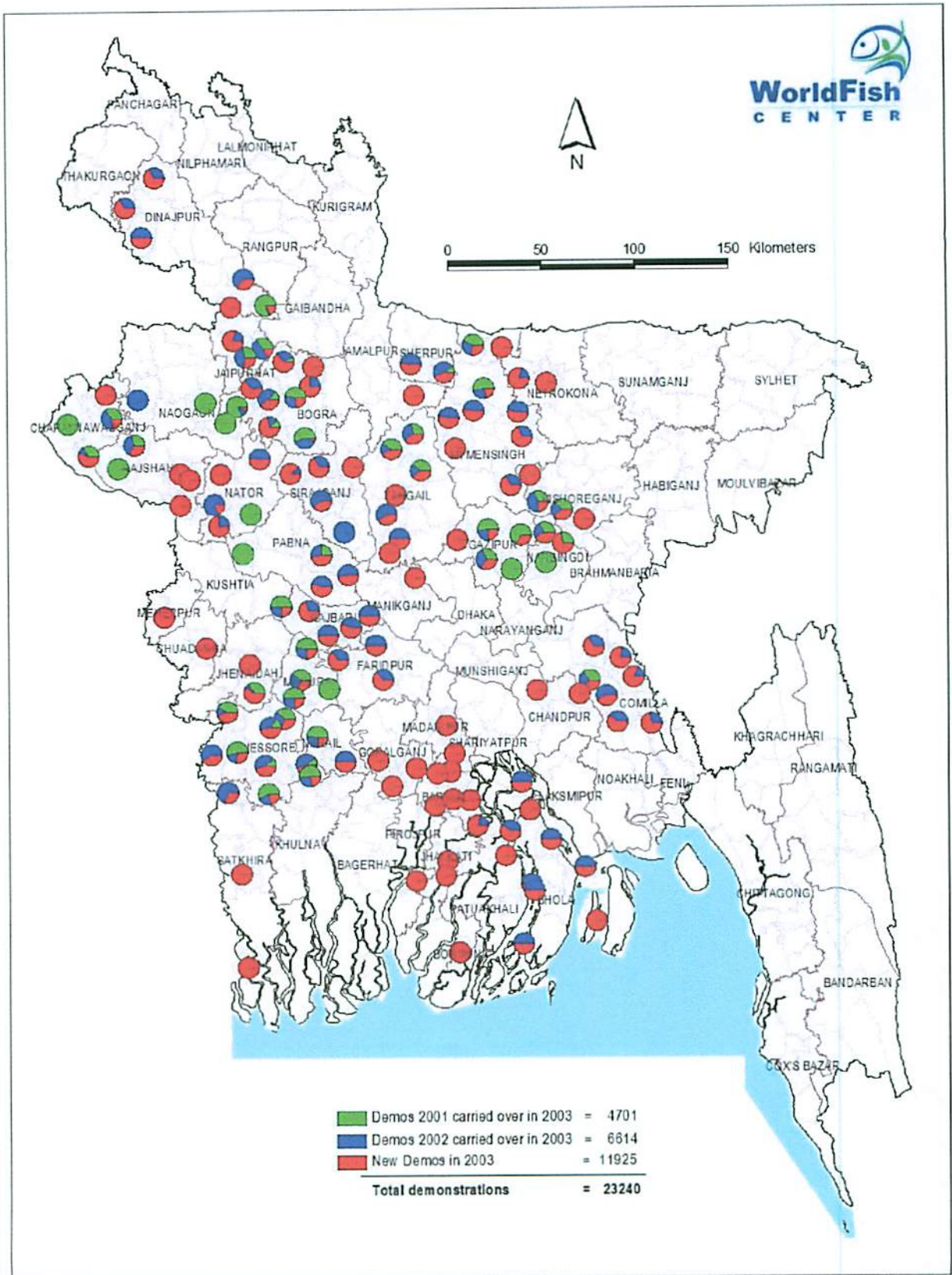
Attachment 5 Status of 2002/03 demonstrations in 2003/04 season

Sl. No.	NGO	2002		2003				Total
		DFG	Demos	DFG	Dropout demo	Remaining Demos	New members	
1	ACD	35	250	Discontinued				
2	ADI	50	350	50		350	84	434
3	BAIC	41	350	41		350	350	700
4	BS	40	350	40		350	353	703
5	BUK	29	250	29		250	508	758
6	CARITAS	17	401	Discontinued				
7	CARP	35	250	35		250	253	503
8	CIRUP	35	250	35		250	240	490
9	COAST	29	250	29	5	245	497	742
10	CRED	49	350	49		350	318	668
11	DJKS	35	253	35	9	244	125	369
12	DMG	32	250	32	20	230	57	287
13	FHD	35	250	35	7	243	317	560
14	JC	35	350	35		350	341	691
15	LDRO	29	250	29		250	307	557
16	ORD	35	250	35		250	401	651
17	OREDAR	29	250	29		250	254	504
18	PADAKHAP	35	250	Discontinued				
19	PAGE	35	250	35	59	191	237	428
20	PP	34	250	34	16	234	115	349
21	PRANTEC	33	250	33		250	604	854
22	RRC	46	350	46		350	521	871
23	SARA	35	250	35	23	227	253	480
24	SATU	32	250	32		250	48	298
25	SPP	39	300	39		300	80	380
26	TMSS	51	350	51		350	169	519
27	VPKA	25	250	25		250	0	250
Total		955	7654	868	139	6614	6432	13046

Attachment 6 Status of demonstrations implemented in 2003/04 (Carried over + new DFG members + new demos)

SL. No.	NGO	New demos. 2003/04	Carried over demos		New DFG members			Total demos 2003/04
			2001	2002	2001	2002	Total	
1	ADI	450	496	350	7	84	91	1387
2	BAIC	450	431	350	424	350	774	2005
3	BS	450	498	350		353	353	1651
4	BUK	350		250		508	508	1108
5	CARP	350	260	250	152	253	405	1265
6	CDS	250						250
7	CIRUP	300	300	250		240	240	1090
8	COAST	350		245		497	497	1092
9	CRED	450	435	350	197	318	515	1750
10	DJKS	350		244		125	125	719
11	DMG	352		230		57	57	639
12	FHD	300	203	243	47	317	364	1110
13	GRAMAUS	250						250
14	GRASUK	250						250
15	ISWA	250						250
16	JC	450	496	350		341	341	1637
17	LDRO	300		250		307	307	857
18	LIPP	252						252
19	LUSTER	250						250
20	ORD	300	282	250	85	401	486	1318
21	OREDAR	350		250		254	254	854
22	PAGE	354		191		237	237	782
23	POSD	250						250
24	PP	263		234		115	115	612
25	PRANTEC	350	304	250		604	604	1508
26	PROSHIKA	601						601
27	RRC	450	300	350	100	521	621	1721
28	SARA	350		227		253	253	830
29	SATU	300		250		48	48	598
30	SHRISTY	253						253
31	SHUSHILAN	250						250
32	SPP	400	196	300	22	80	102	998
33	TMSS	450	500	350		169	169	1469
34	VPKA	350		250				600
35	WE	250						250
Total	35	11925	4701	6614	1034	6432	7466	30706

Attachment 8 Geographical distribution of aquaculture demonstrations supported by WorldFish -NGO aquaculture extension effort 2003/04 (number-wise)



Attachment 9 Evolution of demonstrations implemented and supported each year since project inception

Particulars	NGO	Demonstrations			District	Upazilla
		New	Carried over	Total		
<i>Demonstrations supported in 2000/01</i>						
New demonstrations 2000/01	21	6,248	-	6,248	27	71
Total in 2000/01	21		-	6,248	27	71
<i>Demonstrations supported in 2001/02</i>						
New demonstrations 2001/02	19	6,608	-	6,608	27	68
Total in 2001/02	19		-	6,608	27	68
<i>Demonstration supported in 2002/03:</i>						
2001/02 demonstrations carried over	14		5,301	5,301	25	48
New demonstration	13	7,654		7,654	6	57
Total in 2002/03	27			12,955	31	105
<i>Demonstration supported in 2003/04:</i>						
2001/02 demonstrations carried over	13		4,701	4,701	22	46
2002/03 demonstrations carried over	11		6,614	6,614	6	51
New demonstrations	11	11,925		11,925	9	35
Total in 2003/04	35			23,240	37	132
Total new demonstrations	49*	32,435	-	-	-	-

*Total may not add due to overlapping operations

Attachment 10 Status of 2003 budgets and funds release to partner NGOs as of 30 June 2003

Sl. No.	NGO	No of planned pond/plot	budget		balance 2,002	installment				remaining budget
			total	WorldFish		Q-1	Q-2	Q-3	Q-4	
1	ADI	450	2,133,008	1,684,641	-8,392	654,552	549,730	274,624	214,127	488,751
2	BAIC	450	2,316,206	1,801,222	53,742	621,564	622,606	315,428	187,882	503,310
3	BS	450	2,167,232	1,706,420	53,752	597,853	584,779	282,247	187,789	470,036
4	BUK	350	1,056,000	672,000	1,174	267,626	119,063	178,319	105,818	284,137
5	CARP	350	1,793,730	1,396,010	-32,988	906,991	155,773	243,604	122,631	366,234
6	CDS (Chandradip)	250	654,527	505,771		202,309	42,412	163,156	97,894	261,050
7	CIRUP	300	1,611,692	1,243,804	12,174	448,777	429,542	225,331	127,980	353,311
8	COAST trust	350	1,307,763	832,213	24,651	308,234	112,262	257,323	129,743	387,066
9	CRED	450	2,230,065	1,746,405	31,797	629,804	612,173	296,242	176,389	472,631
10	DJKS	350	1,120,196	712,852	54,712	230,429	148,670	208,596	70,445	279,041
11	DMG	350	1,161,188	738,938	79,854	188,799	196,103	221,273	52,910	274,183
12	FHD	300	1,611,670	1,243,790	105,891	355,057	425,769	289,353	67,721	357,073
13	Gramaus	250	1,209,610	1,048,335		387,084	281,975	191,917	187,359	379,276
14	GRASUK	250	761,503	588,434		235,374	0	220,663	132,398	353,060
15	ISWA	250	600,215	463,803		185,521	33,044	153,274	91,964	245,238
16	JC	450	2,093,328	1,659,390	28,142	611,706	577,779	265,787	175,977	441,763
17	LDRO	300	1,487,676	1,164,885	-118,474	559,695	421,573	197,710	104,381	302,091
18	LIPP	250	635,859	491,346		196,538	32,784	163,765	98,259	262,024
19	LUSTRE	250	637,258	492,426		196,971	54,871	150,365	90,219	240,584
20	ORD	300	1,618,820	1,248,340	-2,777	464,862	425,984	226,919	133,352	360,271
21	OREDAR	350	1,156,771	736,127	12,639	281,811	147,099	192,011	102,567	294,578
22	PAGE	350	1,026,630	653,310	119,284	142,040	152,371	224,312	15,303	239,615
23	POSD	250	637,588	492,681		197,073	54,761	150,529	90,318	240,847
24	PP	250	828,300	527,100	66,185	144,655	116,280	166,353	33,627	199,980
25	PRANTEC	350	1,865,644	1,441,773	-10,639	546,082	538,937	259,621	107,772	367,393
26	Proshika	600	2,337,362	1,942,507		635,627	376,837	469,877	460,166	930,043
27	RRC	450	2,107,239	1,668,243	-36,027	678,087	599,113	268,885	158,185	427,070
28	SARA	350	1,085,920	691,040	96,678	179,738	130,809	237,808	46,007	283,815
29	SATU	300	1,579,110	1,223,070	101,069	354,699	413,781	218,075	135,447	353,521
30	Shristy	250	569,737	440,252		176,101	22,795	150,848	90,509	241,356
31	SHUSHILAN	250	613,250	473,875		189,550	0	177,703	106,622	284,325
32	SPP	400	2,054,443	1,598,276	37,213	562,356	573,598	279,397	145,712	425,109
33	TMSS	450	2,464,310	1,895,470	-25,763	724,630	635,405	348,415	212,784	561,198
34	VPKA	350	1,037,828	660,436	86,504	177,670	151,061	207,316	37,885	245,201
35	Welfare	250	692,918	535,436		214,175	74,395	154,291	92,575	246,866
	Total (No/Tk)	11,900	48,264,596	36,420,621	730,401	13,454,040	9,814,134	8,031,333	4,390,713	12,422,046
	Total (US\$)		832,435	628,158	12,597	232,046	169,268	138,519	75,728	214,247

approved expenditure

projected expenditure

US Dollar= 57.98 Taka (June 2003)

Attachment 11 Status of research projects with the Universities as of 30 June 2003

Grant No	Name of the Project	Principal Investigator Name and Address	Project tenure	Existing status	Funds status
01	Feasibility of early shrimp farming with over wintered Golda (<i>Macrobrachium rosenbergii</i>) juveniles	Dr. Mahmudul Karim, Shrimp Culture Specialist, House No.16, Road No. 20, Sector No. 4, Uttara Model Town, Dhaka Bangladesh E.mail: dmkarim@bdcom.com	One year (October 2000 - May 2001)	Completed and final report available	Approved: Tk. 235,000 Disbursed: Tk. 235,000
02	Improved handling and preservation of golda <i>Macrobrachium rosenbergii</i> for producing safe and wholesome product	Drs. Md. Kamal and Md. Nazrul Islam, Professors, Department of Fisheries Technology, Bangladesh Agricultural University, Mymensingh., Bangladesh Tel: (091) 55695-97/2359 E-mail: kamal@royalten.net	One year (April 2001 - March 2002)	Completed and final report available	Approved: Tk. 250,000 Disbursed: Tk. 250,000
03	Cost-profit analysis and market testing of value-added product from silver carp and involvement of rural low income people in the production and marketing of value added product	Dr. Nowsad Alam, Professor, Department of Fisheries Technology, Bangladesh Agricultural University, Mymensingh, Bangladesh Email: nowsad@royalten.net	One year (November 2001 - October 2002)	Completed and final report available	Approved: Tk. 250,000 Disbursed: Tk. 200,000
04	Development of an appropriate technology on <i>Azolla</i> based rice-fish farming	Dr. M.H. Mian. Professor, Department of Soil Science, Bangladesh Agricultural University, Mymensingh, Bangladesh Email: soilbau@mymensingh.net	One year (April 2001 - March 2002)	Completed and final report under preparation	Approved: Tk. 254,800 Disbursed: Tk. 229,324
05	Ecology of euglenophytes in aquaculture ponds and their role in fish production	Dr. Saleha Khan, Assistant Professor, Department of Fisheries Management, Bangladesh Agricultural University, Mymensingh, Bangladesh Email: salehamk@bdcom.com	One year, (June 2001 - May 2002)	Completed and final report available	Approved: Tk. 237,315 Disbursed: Tk. 237,315
06	Economic analysis of the sustainability of supplementary feed-based aquaculture	Md. Rais Uddin Mia. Assistant Professor, Department of Agricultural Finance, Bangladesh Agricultural University, Mymensingh, Bangladesh Tel: (091) 55695-97/2260 Email:	One year, (August 2001 - July 2002)	Completed and final report under preparation	Approved: Tk. 225,000 Disbursed: Tk. 170,759

Attachment 11 Completed and ongoing Research Projects as of 30 June 2003 (continued)

Grant No	Name of the Project	Principal Investigator Name and Address	Project tenure	Existing status	Funds status
07	Study of inbreeding problems of Thai Pangas (<i>Pangasius sutchi</i>) in Bangladesh using allozyme electrophoresis (Mymensingh region)	Dr. Md. Mukhlesur Rahman Khan Assistant Professor Department of Fish Biology and Genetics Bangladesh Agricultural University, Mymensingh 2202 E-mail: mukhles@royalten.net	One year (December 2001 - November 2002)	Completed and final report under preparation	Approved: Tk. 250,000 Disbursed: Tk. 250,000
08	Socio-economic aspects of freshwater prawn (<i>Macrobrachium rosenbergii</i>) culture development in Mymensingh	Dr. Nesar Ahmed, Assistant Professor, Department of Fisheries Management, Bangladesh Agricultural University, Mymensingh, Bangladesh Tel: (091) 55695-97/2281 Email: nesar@royalten.net	One year (January 2002 - December 2002)	Completed and final report under preparation	Approved: Tk. 126,000 Disbursed: Tk. 126,000
09	Management of Euglenophytes in Aquaculture Ponds for Improving Fish production in Bangladesh	Dr. Saleha Khan, Assistant Professor, Department of Fisheries Management, Bangladesh Agricultural University, Mymensingh, Bangladesh Email: salehamk@bdcom.com	One year (January 2003 - December 2003)	On-going (continuing component)	Approved: Tk. 290,000 Disbursed: Tk. 116,000
10	Study of inbreeding problems of Thai Pangas (<i>Pangasius sutchi</i>) in Bangladesh using allozyme electrophoresis (Bogra region)	Dr. Md. Mukhlesur Rahman Khan Assistant professor Department of Fish Biology and Genetics Bangladesh Agricultural University, Mymensingh 2202 E-mail: mukhles@royalten.net	One year (January 2003 - December 2003)	On-going (continuing component for Bogra)	Approved: Tk. 290,000 Disbursed: Tk. 203,000
11	Development of HACCP Based Quality Management Systems for freshwater Prawn (<i>Macrobrachium rosenbergi</i>) at Field Level for Improved Production, Handling, Preservation and Transportation.	Dr. Md. Kamal and Dr. Md. Nazrul Islam Professors, Department of Fisheries Technology, Faculty of Fisheries, Bangladesh Agricultural University, Mymensingh, Bangladesh.	One year (1 April 2003- 31 March 2004)	On-going	Approved Tk. 250,000 Disbursed: Tk. 100,000
12	Development of a Low Cost Feed Using Local Feed Ingredients for Culture of Freshwater Prawn (<i>Macrobrachium rosenbergi</i>) in Ponds by Rural Farmers.	Dr. Md. Arshad Hossain Professor, Department of Aquaculture, Faculty of Fisheries, Bangladesh Agricultural University, Mymensingh, Bangladesh	One year (1 April 2003- 31 March 2004)	On-going	Approved Tk. 250,000 Disbursed: Tk. 100,000

Attachment 11 Completed and ongoing Research Projects as of 30 June 2003 (continued)

Grant No	Name of the Project	Principal Investigator Name and Address	Project tenure	Existing status	Funds status
13	Culture and Artificial propagation of freshwater eels (<i>Monopterusuchia</i> and <i>Mastacembalus armatus</i>)	Dr. S.M. Rahamatullah Professor, Department of Aquaculture, Faculty of Fisheries, Bangladesh Agricultural University, Mymensingh, Bangladesh	One year (1 April 2003-31 March 2004)	On-going	Approved Tk. 250,000 Disbursed: Tk. 100,000
14	Investigation of Diseases and Development of Strategies for Improved Health Management of Thai pangus (<i>Pangasius sutchi</i>) Cultured in Rural Ponds in Mymensingh District.	Dr. Md. Ali Reza Faruk Associate Professor, Department of Aquaculture, Faculty of Fisheries, Bangladesh Agricultural University, Mymensingh, Bangladesh	One year (1 April 2003-31 March 2004)	On-going	Approved Tk. 250,000 Disbursed: Tk. 100,000
15	Marketing of Small Indigenous Fish Species (SIS) and Socio-economic Aspects of SIS Producers, Intermediaries and Retailers with Sustainable Livelihood Approach in Three Fish Markets of Mymensingh.	Dr. Mostofa A.R. Hossain Associate Professor, Deptt. of Fisheries Biology and Genetics, Faculty of Fisheries, Bangladesh Agricultural University, Mymensingh Bangladesh	One year (1 April 2003-31 March 2004)	On-going	Approved Tk. 250,000 Disbursed: Tk. 100,000
16	The Sustainable Livelihood Approach of Prawn Distribution and Marketing System in Mymensingh	Dr. Nesar Ahmed Assistant Professor Department of Fisheries Management Bangladesh Agricultural University Mymensingh	One Year (1 May 2003-30 April 2004)	On-going	Approved: 218,000 Disbursed: Tk. 87,200

Attachment 11 USAID-funded staff list as of 30 June 2003

No	Name of Staff	Position	Date Employed
1	Drs. Johannes Janssen	Senior Aq. Scientist/Project Leader	01 September 01
2	Prof. Md. Ferdous Alam	Research Coordinator	01 July 01
3	Naseem Aleem	Field Coordinator IAA	01 June 02
4	Dr. Khondker Murshed-e-Jahan ¹	Research Associate/Fellow	24 January 01
5	Reazul Karim	Research Associate	01 November 02
6	Ms Israt Zahura	Research Associate	15 June 03
7	Kh. M Shameem Kamal	Research Assistant	01 July 99
8	Ms Manuara Azim	Research Assistant	01 July 99
9	Md. Jahirul Hoque	Research Assistant (M&E)	11 March 01
10	Mohammed Mokhlesur Rahman	Research Assistant (M&E)	11 March 01
11	Md. Abul Kashem	Research Assistant (Extension)	20 May 01
12	Md Nazim Uddin	Research Assistant (Extension)	29 May 02
13	Md Abdur Razzaque	Research Assistant (Extension)	29 May 02
14	Syed Arifuzzaman	Research Assistant (Extension)	29 May 02
15	Mir Mostaque Ahamed	Research Assistant (Extension)	29 May 02
16	Md. Asadul Hoque	Research Assistant (Extension)	23 June 02
17	Md. Khabirul Hasan	Research Assistant (M&E)	9 June 02
18	Ms Chamon Ara Begum	Research Assistant (M&E)	9 June 02
19	Saiful Islam	Research Assistant (M&E)	1 July 02
20	Ferdous Ali	Research Assistant (M&E)	11 May 03
21	Shamin Parvez	Research Assistant (M&E)	11 May 03
22	Zamal Uddin	Research Assistant (Extension)	14 May 03
23	Bibhu Bhushan Nazumder	Research Assistant (Extension)	15 June 03
24	Md. Shakil Ahmed Khan	Research Assistant (M&E)	1 July 02
25	Reza Md Ali Kareem ²	Office manager	10 Feb. 02
26	Bijoy Bhushan Debnath	Administrative Officer	01 May 90
27	Khan Golam Rasul	Accounts Officer	01 June 96
28	Md. Billal Hossain	Administrative Assistant	01 August 99
29	Ms Maksuda Khanam	Administrative Assistant	01 May 02
30	Ms Fahmida Ahmed ³	Receptionist	03 June 03
31	Md. Abdur Razzak	Driver	01 May 89
32	Md. Dulal	Driver	01 May 99
33	Md. Nazrul Islam	Driver	01 October 01
34	Tapan Chandra Sarker	Messenger	01 July 93
35	Md. Idris Ali ³	Messenger	01 June 98
36	Md. Abdul Wahab ³	Messenger	01 September 98
37	Md. Mahade Hasan Babul ³	Messenger	01 July 01

¹ Costs shared DSAP (80%), FRIAP (20%)

² Costs shared by WorldFish HQ (50%); CBFM-2 (25%) and DSAP (25%)

³ Costs shared by CBFM-2 (50%) and DSAP (50%)