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**PERFORMANCE AUDIT REPORT**

**BANGLADESH**

**THIRD FISHERIES PROJECT  
(CREDIT 2146-BD)**

June 14, 1999

*Sector and Thematic Evaluations Group  
Operations Evaluation Department*

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## Currency Equivalents

*Currency Unit = Taka (Tk.) Exchange Rate to US\$1.00*

1990	Tk.34.6
1991	Tk.36.6
1992	Tk.38.9
1993	Tk.39.6
1994	Tk.40.2
1995	Tk.40.3
1996	Tk.41.8
1997	Tk.43.9

## Abbreviations and Acronyms

BWDB	Bangladesh Water Development Board
DOF	Department of Fisheries
ERR	Economic rate of return
FRI	Fisheries Research Institute
FAO/CP	Food and Agriculture Organisation/Cooperative Program
ICR	Implementation Completion Report
IDA	International Development Association
ODA	Overseas Development Administration
SAR	Staff Appraisal Report
UNDP	United Nations Development Program

**Fiscal Year**            July 1–June 30

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June 14, 1999

**MEMORANDUM TO THE EXECUTIVE DIRECTORS AND THE PRESIDENT**

**SUBJECT: Performance Audit Report on Bangladesh  
Third Fisheries Project (Credit 2146-BD)**

Attached is the Performance Audit Report prepared by the Operations Evaluation Department on the Bangladesh Third Fisheries Project (Credit 2146-BD), for which a credit in the amount of SDR34.60 million (US \$44.6 million equivalent) was approved in May 1990. The project closed July 31, 1997, one year and three months behind schedule. Cofinancing of US\$4.3 million equivalent was provided by ODA for management technical assistance and US\$4.2 million by UNDP for social and technical assistance. SDR22 million was cancelled.

The project objectives were to increase incomes, particularly of the poor; to increase production for domestic consumption and export; to support the fisheries development program with an emphasis on the private sector; to accelerate the expansion of fish production in the floodplains; and to strengthen sectoral institutions. Project components covered only the western part of the country and comprised the development of technology for cost-effective stocking of floodplain fisheries; coastal shrimp culture; an "other fisheries" component including ponds, lakes, rivers, and, in particular, assistance to underprivileged groups including women; institutional support; research; and technical assistance and training.

Most of the project objectives were achieved, but on a reduced area. In particular, the floodplain stocking component stocked 43,500 hectares by 1996, which was only about 45 percent of the SAR target. The reason for the lower achievement was the lack of technically suitable floodplain area, slow recruitment of NGOs, and delays in the government's New Fisheries Management Policy. Achievement also fell short of the original targets in the coastal shrimp culture component. The institutional development objectives were substantially achieved, as was the objective of supporting fisheries development through involving the private sector in fingerling production. By 1995, contractors were delivering 95 percent of their contractual obligations for stocking. Exceptional progress was made with women's groups, which is expected to continue under the next project. Both the participatory floodplain stocking activities and the women's groups were fine achievements.

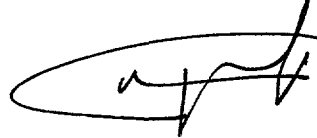
The reduced areas covered, while indicating over-optimism during preparation and appraisal, was also evidence of a commendable flexibility in implementation. The targets were not pursued for their own sake. When problems arose, adjustments were made and approaches and technology adapted. This flexibility was enabled by very good relationships between the Bank, the borrower, and the other donors. It was also greatly assisted by the fact that supervision was done out of the field office.

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The extent to which the project was helping the poor was in doubt during early implementation. But as NGOs became increasingly involved in the floodplain stocking component and the success of the women's component grew, significant benefits started to flow to the poor. Moreover, the project has demonstrated, for other areas in Bangladesh and for the future, institutional arrangements and processes that can expand the benefits to the poor.

The audit agrees with all the ICR ratings, which are satisfactory on outcome and Bank and borrower performance, substantial on institutional development, and uncertain on sustainability. If it were not for weaknesses in project design and the consequent need for the substantial cancellation, highly satisfactory ratings would have been considered. Sustainability now looks more promising with a recent government decision on water body ownership and lease arrangements and with the Fourth Fisheries Project soon to be presented to the Board, nevertheless, some uncertainties about sustainability remain.

The project offers four main lessons. First, proactive supervision from a field office, with technical input and donor coordination, can play a big role in achieving objectives. Second, it is possible to get successful local community management of a large water body provided there is local participation with NGOs, good technical input, and strong government commitment. Third, mechanisms for cost recovery and clarification of operation and maintenance responsibilities for structures should be resolved in advance of the investments. Fourth, although untested approaches—in this case the stocking of large open water bodies—ideally should be tried out first, there are cases (and this appears to be one) where, with high potential benefits and low downside risks, simply “going for it” is justified. In this case, we argue that the forgone net benefits of being more cautious would have been substantial. The audit report outlines a number of lessons for the Fourth Fisheries Project which have been incorporated in the project design.

A handwritten signature in black ink, consisting of a large, stylized 'A' followed by a series of loops and a final vertical stroke.

Attachment

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This report was prepared by Ridley Nelson (Task Manager), who audited the project in December 1998. William B. Hurlbut edited the report. Helen Watkins provided administrative support.



## Principal Rating

	<i>ICR</i>	<i>PAR</i>
Outcome	Satisfactory	Satisfactory
Sustainability	Uncertain	Uncertain
Institutional Development	Substantial	Substantial
Borrower Performance	Satisfactory	Satisfactory
Bank Performance	Satisfactory	Satisfactory

## Key Staff Responsible

	<i>Department Director</i>	<i>Division Chief</i>	<i>Task Manager</i>
Appraisal	Asanuma	Helman	Roider
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## Preface

This is the Performance Audit Report (PAR) for the Bangladesh Third Fisheries Project (Credit 2146-BD), for which a credit in the amount of SDR 34.60 million (US\$44.6 million equivalent) was approved on May 20, 1990. The project closed on March 31, 1997 for the extended civil works category but, as scheduled, on December 31, 1996 for all other categories. The final total disbursed was SDR 12.60 million (US\$15.70 million equivalent), which was 36 percent of the original SDR amount. SDR 22 million was cancelled at the government's request in January 1996 mainly due to a reduced stocked floodplain area, introduction of low-cost structures under the shrimp component, and exchange rate changes. Cofinancing of US\$4.3 million equivalent was provided by the Overseas Development Administration (ODA) for management technical assistance and US\$4.2 million by UNDP (US\$3.77 million disbursed) for social and technical assistance. An Implementation Completion Report (ICR) was submitted on June 12, 1997.

This audit is based on the Implementation Completion Report, the Staff Appraisal Report (SAR), the Development Credit Agreement (DCA), review of Bank files, discussions with Bank staff, and discussions with beneficiaries, donors, and government staff in the field during a December 1998 mission. Information collection methodologies used in the field included semi-structured individual interviews, group meetings, and meetings with donors and NGOs. The cooperation and assistance of all stakeholders and government officials is gratefully acknowledged as is the support of the Bangladesh Dhaka Office (Resident Mission) staff.

The ICR is clear, informative, and well presented and is rated satisfactory. Following standard OED procedures the draft PAR was sent to the borrower for comments before being finalized. Borrower comments have been taken into account and are included as Annex B.



# 1. Introduction

1.1 The Third Fisheries Project was financed in response to the government's request to IDA to finance fisheries development in Western Bangladesh. Aquatic resources are particularly important in Bangladesh, first because the poor rely quite heavily on fishing for income, and second, because about 80 percent of total animal protein intake for the population of Bangladesh comes from aquatic resources. IDA's operations in the sector started in the mid-1970s with the Oxbow Lakes Fishery Project (Cr. 0890) followed by the Shrimp Culture Project (Cr. 1651). The Third Fisheries Project incorporated lessons learned from the previous projects. It also benefited from the findings of fisheries sector reviews carried out by IDA in 1983 and 1990. The project focused on stocking floodplains with fingerlings, developing infrastructure for coastal shrimp culture, advancing other fisheries activities, improving fisheries institutions, promoting fisheries research, and providing technical assistance and training.

1.2 This audit addressed six main questions: (a) Was the project relevant at the time? (b) To what extent did the targeted rural poor, especially women, benefit from the project? (c) What can we learn from the experience with community development activities under this project? (d) Did Bank staff contribute important knowledge to the development of the sector? (e) How sustainable is the project? (f) What were the impacts of the project on other activities and conversely of other activities on the project; for example, what were the interrelationships with agriculture?

1.3 Bangladesh is one of the poorest countries in the world and over 70 percent of its population lives in absolute poverty. As indicated in the Staff Appraisal Report, the fisheries sector is important because it contributes to income generation, nutrition, and foreign exchange earnings. It employs about 1.5 million full-time professional fishermen and about 11 million part-time. The sector generates about 17 percent of agricultural GDP and about 5 percent of total GDP. Inland fisheries contribute the most, followed by artisanal coastal fisheries and marine fisheries. Fish supplies most of the animal protein in the Bengali diet, particularly among low-income groups. But, with population growing faster than fish production, per capita annual consumption has been falling and is currently about 9 kilograms.

1.4 The project covers two main types of fishery: floodplain and coastal shrimp culture. During the dry season the *floodplains* are used for agriculture, mostly paddy. Human settlement is on levees or natural mounds. The strategy has been to develop the larger floodplains over 5,000 hectares (ha) through public sector enterprise, leaving the smaller floodplain areas for private sector exploitation. With the high population growth, it has been considered unrealistic to expect that over-fishing can be controlled and the earlier natural reproduction system be re-established. The strategy was to focus on artificial stocking of young fish of the carp family, which already exist in Bangladesh, and add support for the managerial, financial, and social aspects.

1.5 With respect to *coastal shrimp* production, Bangladesh has a substantial comparative advantage: favorable climate, extensive land areas within tidal reach, nutrient-rich land and water, and cheap labor. It was estimated at the project outset that production was running at about 35 percent of its potential. Shrimp is produced in both poldered (polders are areas surrounded by embankments to keep water out or let it in a controlled manner) and non-poldered areas. In

poldered areas problems have emerged because polders have interrupted what was previously a network of natural tidal water supply and drainage channels. Consequently, farmers often have achieved their water exchange only by damaging polder embankments. The aim of the project has been to provide additional water control structures to give adequate water exchange while guaranteeing the safety of the polders and respecting the requirements of agriculture. Shrimp yields at the time of project appraisal were about 100 kg/ha and the total area under shrimp cultivation about 80,000 ha. It was considered that within 10 years yield could be raised to 250 kg/ha and area could be increased to 150,000 ha.

## 2. Project Objectives and Design

### Project Objectives

2.1 The project objectives were (a) to increase incomes, particularly of the poor, and to increase production for domestic consumption and export; (b) to support the fisheries development program in the west of the country with an emphasis on the private sector; (c) to accelerate the expansion of fish production in the floodplains; and (d) to strengthen sectoral institutions.

### Project Components

2.2 The project components covered only the western part of the country and consisted of:

- Floodplain fisheries to support the development of technologies for cost-effective stocking (US\$19.6 million)
- Coastal shrimp culture (US\$17.9 million)
- Other fisheries, including ponds, lakes, and rivers, and assistance to underprivileged groups, including women (US\$2.9 million)
- Institutional support (US\$12.9 million)
- Research (US\$1.0 million)
- Technical assistance and training (US\$8.4 million)

### Project Management Design, Financing, and Procurement

2.3 *Management Structure.* The Department of Fisheries (DOF) was the main implementing agency under the Ministry of Fisheries and Livestock, which was the lead ministry. The Bangladesh Water Development Board (BWDB) and the Fisheries Research Institute (FRI) were also implementing agencies. Coordination was through one central and three divisional coordinating committees—for the Dhaka, Khulna, and Rajshahi divisions. Implementation was through the existing chain of command from the Director of Fisheries via the Divisional and District Fisheries Officers down to the Upazila Fisheries Officer. At the Director level there was a Coordination Cell with a staff of 11 professionals. The appointment of a head of the cell was a condition of effectiveness. The Director provided regular support to the Divisional Deputy Directors without infringing upon their decentralized management prerogatives. The Director coordinated with the headquarters of other agencies, particularly BWDB and FRI. The Deputy

Directors of the three Divisions were delegated financial and administrative powers equal to those of the Project Director. This delegation was a condition of effectiveness. The Upazila Fisheries Officers were responsible for implementation in their areas and were the main link between the fisheries administration and the fisher groups. It was expected that they would change their focus from public sector production to technology transfer and organizational types of work. This transformation was largely successful.

2.4 The BWDB was responsible for implementing, maintaining, and operating the civil works under the coastal shrimp culture component. Executive Engineers in the relevant Divisions were appointed as the responsible project officers. The FRI was responsible for the research component. ODA selected, in consultation with the government, a consulting firm to manage the technical assistance component. IDA was the executing agency for the UNDP-financed support technical assistance.

2.5 *Monitoring and Evaluation.* There was an M&E Unit within the Project Coordination Cell. Each Divisional Deputy Director was responsible for data collection and analysis and selective transmittal to headquarters. Technical assistance for this component was provided.

2.6 *Financing.* An IDA credit of US\$44.6 million equivalent covered 71 percent of total costs. ODA provided US\$4.3 million equivalent of cofinancing and UNDP provided US\$4.2 million. The government's share was US\$9.6 million. Following the midterm review, at the borrowers request, SDR 22 million was cancelled, effective January 1996. This was due to (i) a substantial overestimate of the area available for stocking in the floodplains; (ii) innovative redesign of the shrimp component to use existing canal areas, thus lowering costs; (iii) a 20 percent shortfall in the shrimp area; and (iv) exchange rate changes.

2.7 *Procurement.* Procurement procedures followed the normal guidelines. The Project Coordination Cell had two procurement officers. The supply and stocking of fingerlings was a large component (US\$19.6 million equivalent). With respect to that component, while not expected to attract international contractors, international competitive bidding (ICB) rules were followed during the pre-qualification stage in case of outside interest.

2.8 *Environmental Aspects.* The project was expected to be environmentally positive and to redress some of the environmental problems that had arisen in recent years. Three of the six species to be used were indigenous to Bangladesh; the other three had been introduced over two decades earlier with no deleterious effect. Stocked fish were not expected to challenge the fish present in the floodplain because there was more plankton than needed. Disease control was expected to improve with the project's inspection provisions. Escape of stocked fish into rivers was expected to improve the population of river fish rather than be damaging.

2.9 The potential environmental hazards in the shrimp culture component could have been related to agriculture, coastal mangrove, or natural shrimp stock. However, the general areas to be developed were mostly already supporting shrimp culture. The audit found no evidence of significant environmental damage and noted that the more risky, high intensity, systems wisely had been avoided. The participatory approach was expected to ensure that potential negative agriculture effects were balanced with those of shrimp culture. Field visits suggested that this had, indeed, been done. Improved water management was expected to reduce saltwater intrusion. The mangrove area was clearly demarcated as Sunderban Forest Reserve. The project would not encroach on this land. No significant impact on natural shrimp stock was expected.

### 3. Project Implementation and Outcome

3.1 Most of the *project objectives* were achieved but on a reduced scale because of reduced hectares taken up. M&E surveys carried out by the Bangladesh Institute of Advanced Studies supported by NGO records indicate very substantial production and income increases which were verified during the audit by discussions with fishing families in the field. With respect to incremental production, over a six year period stocked floodplain yields, starting from a baseline of 19,721 tons, showed an average increment of 31,861 tons. Interestingly, catch of non-stocked species also went up, although much less than the stocked species. This is believed to be due to the improved management practices, e.g. delaying fishing season start, more attention to regulations, etc. With respect to incomes, surveys of a sample of floodplains on a 1991/92 baseline followed up by a 1993/94 post-stocking survey showed fishing incomes rising substantially from an average of Tk2,237 per family to an average of Tk6,659 (both figures in 1994 Taka). Over the same period per capita daily fish consumption of those families rose from 11.5 grams per day to 30.5 grams per day, suggesting substantial nutritional gains. The value of a range of household fixed and movable assets in the sampled villages rose also over the same period. With respect to equity, field observations suggested that the benefits were quite widely distributed, although limited data is available. Changes towards community management with NGO support appear to have improved the share of benefits going to the poorest. As found by a post-project follow-up mission by South Asia Region Bank staff, and as confirmed by the audit mission, the benefits of the stocking program have enabled poor fisher families to repay loans, buy land, renovate houses, enroll children in school, bear marriage expenses, and contribute to education facilities. Furthermore, it has empowered fisher groups who are finding their villages are now better able to get things like access to clean water." Supervision missions reported that initially the poor did not always get an adequate share of the benefits due to the water body lease arrangements. This was corrected after the midterm review by introducing NGOs and preventing leases to wealthy and powerful members of the community. The NGOs helped to organize the local fishermen, build a sense of community for managing the floodplains, including voluntary curtailing of fishing during the three month maturing phase following stocking. They encouraged and assisted local communities to prepare lists of fishermen for licenses which were then endorsed by the Department of Fisheries. In addition, a tax was introduced on *kuas*. These are holes dug annually in private farm land to trap fish as the waters recede. In addition, the establishment of Women in Fisheries cells at the center and at the divisional level was observed by the audit mission to have had an important impact on improving the lives of participating women.

3.2 The objective of *accelerating production in the floodplains* was substantially achieved. About an 800 percent increase in stocked species production was achieved compared to the SAR projection of 1000 percent. The success of this component demonstrated, for the first time, the feasibility of stocking floodplains on this scale. Interestingly, the production of non-stocked species also increased. This is attributed to improved overall management of the floodplain and has implications for future strategy. The 43,500 ha stocked by 1996 was 44 percent of the excessively ambitious SAR target of 100,000 ha due to the lack of suitable minimum floodplain area, slow recruitment of NGOs, and delays in the introduction of the New Fisheries Management Policy adapted to project needs. Given the difficulty of forecasting even the physical area of suitable floodplain water due to changing annual flooding, let alone the complex

accompanying social overlay, errors at appraisal in projecting manageable floodplain targets are understandable. The economic rate of return (ERR) of this component fell from the SAR target of 100 percent to a still very satisfactory 40 percent. Reasons included the reduced area, higher cost fingerlings, poor performance of one species, poor performance of one *beel* (lake), drought, and higher NGO costs. The reduced area, although substantial, had limited impact on the economics because most costs vary fairly directly with the size of the area to be stocked, nevertheless it did reduce the number of intended beneficiaries.

3.3 The *production targets for shrimp* have yet to be fully realized because construction was not completed by the time of project closure and is only now reaching completion, but production increases are expected and were closer to being achieved by the time of audit. ICR projections, validated by this audit, suggest that the ERR should remain close to the SAR figure of about 20 percent. Prices of shrimp have been somewhat higher than projected at appraisal. The objective of providing assistance to under-privileged groups and helping small landowners to go into shrimp production rather than lease their land to the rich was partially met. M&E data shows that the percentage of leasing to outsiders is down from 66 percent at the start of the project to 47 percent now, and active involvement of owners is up from 34 percent to 53 percent. NGO involvement in this component helped to form Block and Sluice Gate Management Committees. Early in 1996, a virulent white spot disease had a serious impact on production. This disease problem was widespread in South Asia, but the situation is now improved. The Fisheries Department has been wise in supporting the lower levels of intensity, which substantially reduce the risk of disease.

3.4 The objective of *supporting fisheries development* through involving the private sector in fingerling production was achieved. By 1995 contractors were delivering 95 percent of their contractual obligations.

3.5 The achievement of the objective of *institutional development* was substantially achieved in a number of important areas. The ODA management technical assistance component had an important impact on procurement, contract management, and monitoring. There were increasing numbers of women extension officers in the field. There was some innovative enhancement of administration at the local level. The UNDP-funded social and technical assistance was important in the areas of production monitoring, research, shrimp farm planning, and social support by NGOs. However, overall, while substantial progress is evident, capacity for coordination and management still needs strengthening. With respect to the training and research elements, an evaluation of the *training component* by a government committee found it to be satisfactory. The *research component* started slowly but largely achieved its objectives, which related to research on the availability of food and on the impact of gear selectivity on stocked species and disease in floodplains. Dissemination was achieved through extension and simple local language booklets. The FRI also produced a preliminary categorization of floodplains, which was beyond the original objectives.

3.6 Related to the overall *floodplain objectives*, the introduction of NGOs during implementation to assist with organizing communities, which, very surprisingly, had not been suggested in the SAR, became an important project achievement. Groups have not only been able to organize themselves but have opened bank accounts, which has provided a mechanism for future savings and a base for other business opportunities. Thus the experience, as often elsewhere, has been that such subsector-focused project activities can grow outwards in other beneficial directions.

## Environmental Impacts

3.7 Some potentially negative impacts from shrimp culture have been identified. Increased awareness of how to reduce these impacts was enhanced by the involvement of an NGO - CARITAS - with previous experience in this area. Also, the Bank's experience elsewhere in Asia with the intensity level, disease relationship and environmental impact seems to have come into play here. With respect to the impact of other activities on the project, there has clearly been significant negative impact on open water fisheries from increased water control within Bangladesh. The erection of flood-control and dams and embankments and other structures has seriously degraded natural breeding and foraging areas. This degradation has occurred over a long period of time and impacts of specific structures are not always easy to isolate. Further study is needed. An analysis done for the Second Small Scale Flood Control Drainage and Irrigation Project (Cr. 1870-BD) showed that in 40 percent of the subprojects financed under that project (which involved mostly sluices and embankments) there were negative impacts on fisheries. But the audit observation was that the water control associated with those structures also, in a number of cases, raised the incentives for pond fisheries (because a farmer will not stock a pond if the fish are going to be washed out by flood). Research by the Fisheries Research Institute did not indicate any loss of biodiversity from the floodplain stocking, nevertheless, a more detailed understanding of the biodiversity and genetic issues is needed, and is planned under the Fourth Fisheries Project. A component in that project also involves testing breeding sanctuaries within open water fisheries.

## 4. Ratings

### Overall Outcome

4.1 The project outcome is rated **satisfactory**. In some respects, it could qualify for a highly satisfactory rating because of the strong and creative supervision, but some weaknesses in appraisal make it difficult to justify the higher rating. The project was successful in a number of important areas. While appraisal was weak on some technical and social aspects, and, in one respect, within the economic analysis, supervision was innovative and adaptable, and a model for flexible project implementation. Indeed, the participatory aspects of the project justifiably have been written up in a brief as a model by the Region.<sup>1</sup>

### Sustainability

4.2 Sustainability is rated as **uncertain**, as it was also by the ICR. But we would now assess it as only marginally uncertain following a recent decision on water body ownership. Until the end of January 1999 there were still serious doubts about the sustainability of the floodplain stocking component because the *beel* areas were in the hands of the Land Revenue Department and could not be leased out to the local groups. The audit mission met with local groups to further explore this issue. . A decision has now been made that hands over many of the larger water bodies to the DOF for an extended period. The DOF will now be able to arrange secure long-term

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1. "Flood Plain Fisheries: Community Participation That Works." Rural Development - South Asia Brief. (undated).



leases with local groups. This removes a main impediment to sustainability. Nevertheless, sustainability will still be dependent on continued support by government and by NGOs until the floodplain stocking can be operated effectively by local people without government support. The social transition expected here is substantial. The audit mission felt that there was somewhat undue haste at such an early stage to move away from public stocking and substitute local group stocking and management, although the direction is commendable. Undue haste resulting in failures could put sustainability at risk for the longer term. A follow-on project, which has been appraised and is scheduled to go to the Board in July this year, and which incorporates the lessons learned from this project, gives some further assurance of sustainability.

### **Institutional Development**

4.3 Institutional development under the project is rated **substantial**. The ODA-supported management technical assistance component significantly improved management, especially in procurement, contract management, and monitoring. There was an important impact on management at the local level. In addition, the UNDP-funded social and technical assistance had a significant impact on production monitoring, research, shrimp farm planning, and social activities by NGOs. One of the donors noted that, while significant progress had, indeed, been achieved in procurement, contract management, and monitoring, they were rather less convinced on the broader impact in the Department of Fisheries as a whole and felt there was more progress to be made in this area. But the donor noted that this lesson had been picked up under the Fourth Fisheries Project.

### **Borrower Performance**

4.4 Borrower performance is rated **satisfactory**. While there were a number of areas, especially in the first two years, that moved slowly, overall the borrower reacted flexibly to the emerging problems. The work with NGOs was a new area for DOF, and they generally handled it well. They were genuinely committed to expanding the number of women extension staff, and these workers are skilled and committed.

### **Bank Performance**

4.5 Overall the performance of the Bank was **satisfactory**. Appraisal was deficient in some areas but in assessing the overall rating the judgment is that the very good supervision more than made up for the weaker appraisal. In this case supervision included reduction of project size, increased roles for NGOs, changes in floodplain stocking patterns, development of a community-based management program, and substantial technical adjustments in the shrimp culture design to save costs by using existing canals and less elaborate water control structures. The audit notes that two of the Form 590 supervision reports were filed many months after the mission, although the evidence suggests that the continuous field-based supervision input did not stop at this time.

## 5. Findings and Lessons

### Findings

#### *The Project Was Relevant*

5.1 The investments were appropriate and timely. Obviously, advance testing of the new large-scale floodplain stocking strategy, particularly the associated social engineering needed and the technologies, would have been better. However, given the relatively advanced state of scientific knowledge and the difficulty of testing at small scales, going ahead in the western area on a fairly large scale but with the option for flexibility was clearly the right choice at the time, although delays and unforeseen problems would ultimately mean that the full targets were not reached. The audit's assessment is that this was a case where it was more efficient to jump right in than to tentatively test the water and let several years slip by.

#### *The Project Was Effective*

5.2 The project achieved impressive results on income and production levels but on a reduced scale. There were weaknesses in the preparation analysis. In particular, there could have been more realism on rate of implementation, which might have been more evident had detailed activity flow charts been developed during appraisal. These would have indicated the specific steps required and the responsibility in each main project activity and could have helped pinpoint the critical paths. The water body ownership issue was not fully explored and there was limited social analysis during preparation, made up for by progress later.

#### *The Project Did, in the End, Reach the Poor*

5.3 Toward the end of the project the proportion of benefits going to the poor and to women significantly increased. The achievements of the women's groups is exemplary. It is one of the most impressive stories that the audit mission has come across anywhere. It is a model for Bank project work and warrants further aggressive expansion under the next project. This component, which, equally impressively, was developed flexibly by the DOF during implementation, involves groups of about 20 to 40 destitute women who are given a lease over a pond, support for stocking, technical advice, and marketing advice. They open Bank accounts and agree on how to distribute earnings. Remarkably, the support is not coming from NGOs but from government employees—Women Development Fisheries Officers. The experience is showing that participatory methods do not have to be the preserve only of NGOs. The success may be partly due to the sound technical advice, which comes with the involvement of technical professionals and which is often weaker under NGO social support.

5.4 One poverty-related issue that, in the audit missions view, remains largely unresolved, is the issue of *kuas* (the dug ponds that can collect fish as the flooding recedes). This is of relevance only in certain floodplains. The audit does not think that the proposal to tax these as though they were pieces of fishing equipment will have much impact, first, because at low tax levels farmers will not significantly reduce the number or size of *kuas* dug, second, because at the much higher tax levels that might start to significantly influence *kua* digging decisions there will be resistance from powerful landowners. There may even be a question about whether such taxation is desirable because *kuas* can actually be stocked ponds under changed flood levels and it is

possible that through employment, leasing, or simply poaching, the poor may actually be getting a significant share of the benefits. This needs further study. The community approach being carried out in some floodplains, e.g. Boorabeela, shows more promise.

*Supervision Exhibited Excellent Teamwork Managed by the Field Office*

5.5 It is clear that both government staff and Bank and other donor staff as a team brought to bear state-of-the-art, but practical, knowledge, combined with support and funding, to have a substantial impact on a very important sector affecting the poor. It is important that Bank management continues the trend towards real recognition of quality supervision. Bank technical staff had experience both globally and within South Asia from which the project benefited. Joint supervision and a joint mid-term review was carried out with the other donors. For evaluative purposes the mission went to some lengths to try to tease out the relative technical contribution of the Bank but, to the credit of all parties, such separation of causality was not possible. This was simply a very strong team effort and the contributions of any one party cannot be isolated. As the borrower noted in writing to the mission, flexibility, close contact, and effective coordination between the donors, resident mission in particular, and the implementing agency can result in satisfactory progress and performance, overcoming design defects and implementation complications.

*The Project Gave a Good Economic Rate of Return*

5.6 At appraisal the ERR was 31 percent for the overall project, 137 percent for the floodplain component, and 20 percent for the shrimp component. The ICR analysis does not give an overall project ERR, but estimates 40 percent for the floodplain component, and 20 percent for the shrimp component. The audit agrees with that analysis. Furthermore, it seems likely that a number of positive externalities, e.g., escaped stocked fish, spill-over impacts of successful components elsewhere in the sector, for example, to areas in the east not covered by the project, could, if anything, raise the ERR.. The women's group experience could have very substantial longer-term impacts on poverty.

## **Lessons**

5.7 The main lessons learned are:

- (a) Proactive and flexible supervision from the field office, combined with good technical input and donor coordination, can play a big role in achieving development objectives even when initial project design is weak.
- (b) It is possible to quite consistently get successful local community management of a large water body provided: local participation with NGO help is supported with good technical input; there are substantial benefits to the majority of individuals from a community approach; and, there is strong government commitment to community participation.
- (c) Mechanisms for cost recovery or cost sharing and clarification of operation and maintenance responsibilities for structures should be developed with beneficiaries and resolved in advance of the investments. (The same issue has emerged in the Second Small-Scale Flood Control, Drainage, and Irrigation Project.)

- (d) Although untested approaches (in this case the stocking of large open water bodies) preferably should be tried out first, there are cases, and this appears to be one, where, with high potential production benefits and low downside risks, simply “going for it” is justified. In this case, we argue, somewhat contrary to the ICR, that the foregone net benefits of being more cautious would have been substantial. In this case, the social experimentation was the main constraint but could only really be tested at full scale.
- (e) Recommendations for the Fisheries IV Project, discussed with staff, aimed at further enhancing results included: the urgent need to resolve the issue of water body ownership (this was recently resolved into what appears to be a very satisfactory arrangement); continued and even increased focus on the very successful women’s aquaculture groups; the need to make haste slowly in moving away from public stocking towards local management due to the substantial social transition expected (accommodated in Fisheries IV by gradual phase out of public contribution over time at each site); support for the proposed component in Fisheries IV to develop sanctuary areas for natural breeding as a potentially lower cost route to stocking with environmental benefits, but also for the need to monitor the results of that experiment (planned under the project); the need to look further at the impact on farmer response of the tax on dug ponds (kuas) which are potential stocked fish traps; and, the need to continue the increase in Women Fisheries Officers.

## BASIC DATA SHEET

### BANGLADESH THIRD FISHERIES PROJECT (CREDIT 2146-BD)

#### Key Project Data (amounts in US\$ million)

	<i>Appraisal estimate</i>	<i>Actual or current estimate</i>	<i>Actual as percent of appraisal estimate</i>
Total project costs	62.7	30.0	48
Loan amount	44.6	15.7	35
Cofinancing	8.5	8.6	101
Cancellation (SDR)		22	
Date physical components completed	12/31/1996	03/31/1997	
Economic rate of return	31	Approx. 20	65

#### Cumulative Estimated and Actual Disbursements

	<i>FY91</i>	<i>FY92</i>	<i>FY93</i>	<i>FY94</i>	<i>FY95</i>	<i>FY96</i>	<i>FY97</i>	<i>FY98</i>
Appraisal estimate (US\$M)	1.86	3.96	9.57	16.16	23.66	31.08	34.56	44.60
Actual (US\$M)	0.57	1.83	2.98	4.78	6.91	8.96	15.32	15.7
Actual as percent of appraisal	31	46	31	30	29	29	44	35

#### Project Dates

	<i>Original</i>	<i>Actual</i>
Identification	04/88	04/15/88
Preparation	10/88	11/21/88
Appraisal	04/89	10/89
Negotiations	10/89	04/09/90
Board Presentation	12/89	05/20/90
Signing		06/08/90
Effectiveness	07/90	01/08/91
Project Completion	04/30/96 12/31/96	09/30/96 03/31/97
Project Closing	12/31/96 04/30/96	03/31/97 07/31/97

#### Staff Inputs (staff weeks)

	<i>Total</i>
Up to Appraisal	69.5
Appraisal to Board	47.1
Board to Effectiveness	3.0
Supervision	156.2
Completion	16.1
Total	291.9

## Mission Data

	Date (month/ year)	No. of persons	Staff days in field	Specializations represented <sup>a</sup>	Performance rating	Rating trend	Types of problems <sup>b</sup>
Identification/ Preparation	By FAO						
Through appraisal <sup>c</sup>							
Appraisal through Board approval	10/89	6	26	ECN, FNA, IMS, FPF, ENW, AQC			
Supervision 1	12/90	6	10	ECN, FNA, DBO, WID, FRS, FRM	2	1	LC
Supervision 2	8/91	4	21	FNA, DBO, WID, FRS	2	1	LC, PM
Supervision 3	2/92	2	21	FNA, FRS	2	1	LC
Supervision 4	11/92	3	18	FNA, FRS, DBO	2	2	ID, LC
Supervision 5	5/93	6	20	FNA, FRS, DBO, WID, AQC, ENC	3	3	ID, LC, PP
Supervision 6	10/93	5	9	FNA, FRS, WID, AQC, ENC	3	3	PP, LC
Supervision 7	1/94	4	24	FNA, FRS, AQC, ECN	3	3	DB, LC, ID
Supervision 8	1/95	5	15	FNA, FRS, AQC, DBO, ATP	U	S	LC
Supervision 9	12/95	6	5 <sup>d</sup>	FNA, FRS, AQC, ATP, ENC, DBO	S	S	DO, LC, SSP
Supervision 10	10/96	3	30	FNA, ENC, DBO	S	S	LC, SSP
Completion	11/96	5	25	FNA, FRS, AQC, ECN, ATP			

a. AGR=Agriculturalist, ATP=Anthropologist, AQC=Aquaculturalist, DBO=Disbursement Officer, ECN=Economist, ENW=Water Engineer, ENC=Civil Engineer, FNA=Financial Analyst, FPF=Floodplain Fisheries Specialist, FRM=Fisheries Monitoring Specialist, FRS=Fisheries Specialist, IMS=Institutional Management Specialist, OPN=Operations Assistant, WID=Women in Development Specialist.

b. DB=Distribution of Benefits, DO=Disease Outbreak, ID=Implementation Delays (Shrimp Component), LC=Compliance with Legal Covenants, FP=Financial Performance, PP=Production Performance, PR=Procurement Progress, PM=Project Management Performance, SSP=Sustainability of Floodplain Stocking Program

c. Carried out by FAO/CP.

d. Mission cut-short due to political unrest in the country.

## Other Project Data

Borrower/Executing Agency:

### ***FOLLOW-ON OPERATIONS***

Operation	Credit no.	Amount (US\$ million)	Board date
Fourth Fisheries Project (negotiated)		Total US\$60.8m (IDA US\$28.0)	Scheduled July 20, 1999

**Comments from the Borrower**

**Annex B**

Government of the People's Republic of Bangladesh  
Ministry of Fisheries and Livestock  
Fisheries Section-3

No. F-3/Third Fisheries-4/95/245

Dated 09/6/99

Sub: Bangladesh Third Fisheries Project (Credit 2146-BD) Draft Performance Audit Report

Ref: World Bank May 18, 1999

In reference to your above cited letter I am directed to inform you that the Draft Performance Audit Report on Third Fisheries Project is acceptable to our Ministry. There are some minor observations from DOF which may please be included in the report. The observations are attached herewith.

(Md. Nurul Amin)  
Deputy Secretary (fish-1)

Mr. Imuazuddin Ahmed  
Senior Project Officer  
World Bank,  
3A Paribag, Dhaka

Copy  
Director General  
Department of Fisheries  
Matshaya Bhaban, Ramna, Dhaka

**Annex B**

**PERFORMANCE AUDIT REPORT ON  
BANGLADESH THIRD FISHERIES PROJECT  
(IDA Credit 2146-BD)**

The submitted Performance Audit Report on completed Third Fisheries Project under the Department of Fisheries seems to be acceptable in general. There are some minor observations from DoF. Page/Para wise observation of Dept. of Fisheries of Bangladesh on Performance Audit Report on Completed Third Fisheries Project (IDA – CR. No. 2146-BD) prepared by Operations Evaluation Department, World Bank, Washington is given below:

<b>Page &amp; Para</b>	<b>PAR Contents</b>	<b>DoF Observation</b>
1. 1.13	7% of agr. GDP 3% of total GDP Current Annual fish consumption at about 7 kgs/head.	17% of agr. GDP during 1996-97 (B.B.S.-1997) 5.--% of total GDP during 1996-97 (B.B.S. – 1997) About 9 kgs/head (DoF)
2. 2.8	The Silver & Bighead carps representing 70% of the stocked fish were not expected to challenge the fish present in the floodplain because there was more plankton than needed.	70% of stocked fish should have been Silver & Bighead Carps as per SAR. But during implementation % of Silver Carp was dropped down to 0 – 5% and no Bighead Carps were stocked due to heavy mortality & migration of Silver Carp and non adaptability of Bighead Carp in open waters.
6. 3.7	The mission did not find good evidence on either the overall impact on fisheries or has that compares to the impact on other agriculture benefits.	It is an established fact that the construction and creation of Flood control & Irrigation dam/embankment and other structures have drastically degraded natural breeding and grazing ground of fish. Degradation occurred over a long term. If comparative picture for long period could be collected and checked the mission could easily find this degradation on aquatic habitat, biodiversity and overall fisheries resources & fish production
9. 5.7	As in PAR	Adequate flexibility and close contact & effective coordination between the donor(s), resident mission in particular, and the implementing agency(ies) can result in satisfactory progress and performance overcoming design defects/flaws and implementation completion.

In view of above observations the PAR submitted by the World Bank may be modified and accepted.

(Md. Abdul Martin)  
Director General (c.c.)  
Department of Fisheries  
Matshaya Bhaban, Ramna, Dhaka