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PERFORMANCE AUDIT REPORT

BANGLADESH

**SECOND SMALL SCALE FLOOD CONTROL, DRAINAGE AND IRRIGATION
PROJECT**

(CREDIT 1870-BD)

June 24, 1999

*Sector and Thematic Evaluations Group
Operations Evaluation Department*

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Currency Equivalents (annual averages)

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

1987	Tk.30.9
1988	Tk.31.7
1989	Tk.32.3
1990	Tk.34.6
1991	Tk.36.6
1992	Tk.38.9
1993	Tk.39.6
1994	Tk.40.2
1995	Tk.40.3

Abbreviations and Acronyms

BWDB	Bangladesh Water Development Board
CIDA	Canadian International Development Agency
ERR	Economic rate of return
IDA	International Development Association
O&M	Operation and maintenance
OED	Operations Evaluation Department of World Bank
PAR	Performance Audit Report
PCR	Project Completion Report
PIU	Project Implementation Unit
SAR	Staff Appraisal Report
SRP	System Rehabilitation Project
SSDFC	Small-Scale Drainage and Flood Control
SSFCDI	Small-Scale Flood Control, Drainage, and Irrigation
SDR	Special Drawing Rights
WFP	World Food Program

Fiscal Year July 1–June 30

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June 24, 1999

MEMORANDUM TO THE EXECUTIVE DIRECTORS AND THE PRESIDENT

**SUBJECT: Performance Audit Report on Bangladesh
Second Small-Scale Flood Control, Drainage, and Irrigation Project
(Credit 1870-BD)**

Attached is the Performance Audit Report prepared by the Operations Evaluation Department on the Bangladesh Second Small-Scale Flood Control, Drainage, and Irrigation Project (Credit 1870-BD), for which a credit in the amount of SDR61.70 million (US\$81.5 million equivalent) was approved in January 1988. The project closed in December 1995, six months behind schedule. Cofinancing for the technical assistance and training from September 1988 to June 1994 was provided by the Canadian International Development Agency (CIDA). The World Food Program provided about 64,200 tons of wheat (US\$10.8 million equivalent) under the Food-for-Work Program.

The project objectives were to increase agricultural production and rural incomes through small schemes designed to protect against flood or salt water intrusion, to improve drainage, to provide irrigation water, and to strengthen the capacity of the Bangladesh Water Development Board (BWDB) to implement new projects and operate and maintain completed schemes. The project included the following components: (a) construction of about 250 subprojects covering about 250,000 ha; (b) operation and maintenance (O&M) of completed subprojects for about two years; (c) training of BWDB staff, support agencies, and farmers; (d) technical assistance for planning, design, monitoring, and training; (e) procurement of vehicles and construction equipment; (f) benchmark and evaluation studies of selected subprojects; (g) modernization of BWDB's financial management and accounting system; and (h) establishment of an O&M cost cell.

After a very problematic first few years, the physical objectives of the project were largely met, albeit with substantial delays. Structures were built that commanded about 280,000 ha, more than the 250,000 ha originally planned. The flood rehabilitation works—a component that had been added on at the end to support emergency flood rehabilitation—exceeded its targets. Nevertheless, the relevance of the project is very doubtful given the concerns about O&M and cost recovery at the time. The audit argues that the appropriate decision at the time would have been to temporarily halt lending for new structures while concentrating on getting improved O&M and cost recovery across the sector. The ICR for this project proposes that no new water development projects should be undertaken—other than "emergency" projects and projects to improve O&M capacity—until the government demonstrates that a sustainable O&M and cost recovery system is in place. In the audit's view there were sufficient lessons of experience to have taken that position at the time of appraisal.

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Budgetary allocation to the project was a continual problem as it was for other projects in the portfolio. No mention had been made in the SAR of the government's financial capacity to sustain the project or program. By March 1991, with allocations in the sector at about 65% of requirements, the Bank was recommending curtailing the scope of the project. With this threat hanging over the project, the government was able to find the extra funds. But the critical financial situation that continued for several years supports the position that the lending program in the sector had over-stretched the government's capacity and that, indeed, focusing on O&M rather than creating new structures should have been the priority.

Although the process and capacity-building elements of O&M were supposed to have been handled more comprehensively under the Systems Rehabilitation Project (SRP), that project also made little progress with O&M or cost recovery. Furthermore, under the Second Small-Scale Flood Control, Drainage, and Irrigation Project, the modest O&M component was not implemented nor was the institutionally important final two years of O&M investment.

There is still, in the audit's judgment, no real O&M and cost-recovery strategy in Bangladesh, but promising changes are underway with the new National Water Policy. In aggregate, cost recovery remains close to zero in both irrigation and drainage. As a part of the project, a commendable move toward local participation in O&M of small appurtenant structures was initiated, but the cost recovery element here is still very small. Clarity is still lacking about who will *do* O&M and who will *pay* for O&M and what the incentives are at the local level.

The ICR rated outcome as satisfactory, sustainability as uncertain, institutional development as partial, Bank performance as satisfactory, and borrower performance as deficient. Notwithstanding the achievement of the physical project targets, the audit assesses outcome as only marginally satisfactory because of doubts about the relevance of the project at the time of appraisal. The audit downgrades the assessment of sustainability to unlikely because of questions about O&M as well as concerns about government budgetary support. On institutional development, the audit agrees with the ICR, rating the achievement modest. The audit downgrades the Bank performance to unsatisfactory because of the O&M issue and concerns that supervision could have been more proactive in the early years. The audit agrees with the unsatisfactory rating for borrower performance.

The project offers five principal lessons of broader applicability. First, issues such as O&M, that might affect project relevance, should be thoroughly analyzed and be the subject of an explicit decision early in preparation. It is too late to address them close to negotiations. Second, pre-construction activities should be substantially advanced before negotiations, and implementation schedules should be largely modeled on historical experience unless the appraisal report is able to offer strong reasons to be more optimistic. Third, government's financial capacity to support a project, a sectoral program, and later maintenance should be analyzed explicitly in the appraisal report with the assistance of the country team. Fourth, hand-over of O&M to local groups, while essential, is not the only element of a strategy. An implementable strategy should cover the practical local level questions such as who will do and who will pay, the public responsibilities, and the supporting legislative and institutional reforms. Fifth, a practical but rigorous methodology for estimating flood control, drainage and irrigation benefits and costs is needed at appraisal. Controlling water has complex interaction affects which need to be fully understood. These lessons are being picked up in the on-going sectoral program within the new National Water Policy framework.

Attachment

Contents

Ratings and Responsibilities	ii
Preface.....	iii
1. Introduction.....	1
2. Project Objectives and Design	2
Project Objectives	2
Project Components.....	3
Project Management Design, Financing, and Procurement.....	3
3. Project Implementation and Outcome.....	5
Project Outcomes.....	5
4. Ratings	9
Overall Outcome.....	9
Sustainability	9
Institutional Development	9
Borrower Performance.....	10
Bank Performance.....	10
5. Findings and Lessons.....	11
Findings	11
Lessons	14
Annex	
A. Basic Data Sheet	17
B. Comments from the Government.....	19
C. Comments from the Government.....	21

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 Ratings

	<i>PCR</i>	<i>PAR</i>
Outcome	Satisfactory	Marginally Satisfactory
Sustainability	Uncertain	Unlikely
Institutional Development	Modest	Modest
Borrower Performance	Unsatisfactory	Unsatisfactory
Bank Performance	Satisfactory	Unsatisfactory

Key Staff Responsible

	<i>Department Director</i>	<i>Division Chief</i>	<i>Task Manager</i>
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Preface

This is the Performance Audit Report (PAR) for the Bangladesh Second Small-Scale Flood Control, Drainage, and Irrigation Project (Credit 1870-BD), for which a credit in the amount of SDR 61.70 million (US\$81.5 million equivalent) was approved in January 1988. The credit was reduced in August 1994 to SDR 57.52 million (US\$80.50 million equivalent) when savings of SDR 4.18 million (US\$5.85 million equivalent) were redirected to the Coastal Embankment Rehabilitation Priority Works Program (PWP) to finance works related to the April 1991 cyclone. The project closed in December 1995, six months behind schedule. The civil works were originally to be completed at the end of June 1993, with only operation and maintenance (O&M) activities continuing until the planned June 1995 closing date. Thus, the civil works effectively “closed” two years behind schedule. The final total disbursed, excluding the funds reallocated to the PWP, was SDR 56.52 million (US\$79.10 million equivalent). Due to political disruptions impeding normal functioning, the government was given until June 30, 1996, to submit bills for works and services. Cofinancing for the technical assistance and training from September 1988 to June 1994 was provided by the Canadian International Development Agency (CIDA) amounting to C\$12.94 million (US\$10.60 million equivalent). The World Food Program provided about 64,200 tons of wheat (US\$10.80 million equivalent) under the Food-for-Work Program for construction and reconstruction of embankments. A Project Completion Report (PCR) was submitted on September 25, 1996. Due to security problems, the PCR was largely a desk review.

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

The PCR is rated satisfactory, although OED finds the economic analysis overoptimistic and it lacks a discussion of the counterfactual, in particular, what the relevance, effectiveness, and efficiency of focusing solely on the O&M issue would have been instead of embarking on a project creating further new structures. 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 Annexes B and C.

1. Introduction

1.1 The Bank has been associated since 1979 with projects providing assistance to Bangladesh for constructing and reconstructing flood embankments, appurtenant structures, and irrigation structures¹. These have complemented, and been complemented by, the Food-for-Work Program. The First Small-Scale Drainage and Flood Control Project (SSDFC, Cr. 955-BD) was approved by IDA in 1979 with cofinancing from CIDA for technical assistance and training². Following the positive impact of that project, the Bank and CIDA agreed to finance a second project, the Second Small-Scale Flood Control, Drainage, and Irrigation Project (SSSFCDI, Cr. 1870-BD), which is the subject of this audit. Findings from the Project Completion Report of the first project (Cr. 955-BD) included weak monitoring of sub-project benefits, lack of overall regional plans and understanding of sub-project impacts, inadequate detail in sub-project feasibility studies and O&M weaknesses and lack of O&M budget. The Bank has also assisted with flood rehabilitation through three projects approved in 1985, 1988, and 1989. Following the devastating 1987 floods, the Bank agreed to include flood rehabilitation under the SSSFCDI Project. In addition, effective June 1990, the Bank financed the Bangladesh Water Development Board (BWDB) Systems Rehabilitation Project (SRP), which aimed particularly at improved O&M.

1.2 This audit addressed three main questions: (a) Was the project relevant and likely to be efficient as designed, given the problems with O&M identified in earlier operations? (b) Was the project as designed implemented effectively, and did the Bank adequately address institutional shortcomings within this project or within parallel projects? (c) What is the evidence on the likely level of benefits for the small scattered appurtenant structures?

1.3 Over the past 15 years, the main aim of IDA's lending to agriculture in Bangladesh has been to increase food production, particularly of wheat and rice. Emphasis has been placed on developing and managing water resources, strengthening agricultural services, and developing complementary infrastructure. Flooding, caused by snowmelt in the upper catchments of the Ganges and Brahmaputra rivers and monsoon rainfall in the lower catchments is a normal feature in Bangladesh with widespread impact. For example, serious damage to the aman³ rice crop in 1987 affected 30 million people. When this project was initiated, the following projects were addressing constraints to irrigation and water control: Small-Scale Drainage and Flood Control

1. Appurtenant structures are small concrete structures, generally flushing sluices or regulators, which control water with gates that can be opened and closed.

2. CIDA's comments are attached in Annex B.

3. Aman – paddy planted before or during monsoon June/July and harvested in November/December. Aus – paddy planted February/March harvested June/July. Boro – paddy planted December/January harvested April/May.

(SSDFC, Cr. 955-BD); Hand Tubewells (Cr. 1140-BD); Agriculture Credit (Cr. 1147-BD); Extension and Research II (Cr. 1215-BD); Drainage and Flood Control II (Cr. 1184-BD); Deep Tubewells II (Cr. 1287-BD); Rural Development II (Cr. 1384-BD); BWDB Small Schemes, (Cr. 1467-BD); and Third and Fourth Flood Control and Drainage (Cr. 1591-BD and 1784-BD). Among the relevant studies was the BWDB Operations and Maintenance Study carried out in 1985. In addition, the Bank was the executing agency for the UNDP-financed National Water Plan Project.

1.4 BWDB's implementation record had been fair. When this project was appraised, three of four projects they had managed with completed PPARs were satisfactory and one was not. For many years, BWDB had serious problems with O&M of completed projects due to lack of budget allocation, lack of effective cost recovery, poor operational practices, lack of skills, lack of commitment, and lack of beneficiary participation. BWDB's focus predominantly had been, and continues to be, on completing new schemes, which offer higher-profile achievements. Beneficiary involvement across the sector as a whole is still very low. In the past few years, however, *thinking* about O&M within the Ministry of Water Resources has begun to shift. But this shift has not yet had much affect on funding allocations or on *action* on O&M.

1.5 The (first) Small-Scale Drainage and Flood Control Project was not audited but was rated by OED as satisfactory in the ICR Review. The ERRs calculated for that project averaged 25 percent. However, the review noted that if the sunk costs of previously constructed earthworks had been included, the average ERR would have fallen to 10 percent. Sustainability was rated as uncertain due to lack of O&M and an inadequate BWDB O&M budget. The ICR mission for that project found that BWDB was more concerned with construction than with benefits or O&M. More detailed feasibility studies were recommended for the follow-on project and concern was expressed that BWDB could not, and did not, monitor progress. However, the ICR for that project was carried out after the appraisal of the Second Small Scale Flood Control, Drainage and Irrigation Project so full lessons could not be incorporated. However, the SAR did contain a review of the experience and reported on nine impact evaluation studies done.

2. Project Objectives and Design

Project Objectives

2.1 The project objectives were (a) to increase agricultural production and rural incomes through small schemes designed to protect against flood or salt water intrusion, to improve drainage, to provide irrigation water, or a combination of these; and (b) to strengthen BWDB's capacity to implement new projects and operate and maintain completed schemes. While relevant and, arguably, adequate for the standards at the time,

they did not give O&M the highest priority, which the lessons of the first project should have suggested.

Project Components

2.2 The project components⁴ were:

Small-Scale Flood Control, Drainage, and Irrigation Works

- Construction of about 250 subprojects covering about 250,000 ha (US\$36.4 million)
- O&M of completed subprojects for about two years (US\$1.5 million)
- Training of BWDB staff, support agencies, and farmers (US\$1.0 million)
- Modernization of BWDB's financial management and accounting system (US\$1.1 million)
- Technical assistance for planning, design, monitoring, and training (US\$5.6 million)
- Procurement of vehicles and construction equipment (US\$0.8 million)
- Benchmark and evaluation studies of selected subprojects (US\$0.3 million)
- Establishment of an O&M Cost Cell (US\$0.2 million)

Flood Rehabilitation Works

- Rehabilitation of flood protection, drainage, irrigation, and town protection infrastructure (US\$36.1 million)
- Technical assistance for design and construction monitoring and for modeling (US\$3.5 million)
- Procurement of vehicles and equipment (US\$0.2 million)

Project Management Design, Financing, and Procurement

2.3 *Management Structure.* BWDB managed the project through a Project Implementation Unit (PIU) that had been set up for the previous project. It was headed by a Project Director under the administrative and technical direction of the Chief Engineer, Food-for-Work Program and was responsible for implementation, including O&M, of completed works. At the field level, BWDB's Executive Engineers were responsible for identifying subprojects, conducting investigations, calling tenders, and issuing work orders. They were also responsible for O&M, but did not come under the BWDB Member O&M (whose responsibility was both construction and O&M). The Canadian Technical Unit, as a separate unit under the Project Director, was responsible for monitoring on-site construction supervision to ensure that specifications were met. Each

4. IDA provided US\$81.5 million equivalent and CIDA US\$9.6 million equivalent, the latter for the TA and Training, studies, accounts modernization, and O&M Cost Cell.

subproject had a Subproject Committee to involve local government agencies, elected *parishad* (local body) representatives, and about seven local rural family representatives. The committee was headed by the local Upazila (subdistrict) Chairman. A main purpose of that committee was to develop beneficiary participation. Concerned agencies (MOI, BWDB, CIDA, IDA, and WFP) met in September and May. The first of these was to review a screening report on proposed subprojects⁵.

2.4 *Subproject Selection.* Subprojects were identified by BWDB field divisions with the assistance of local authorities and potential beneficiaries⁶. The main criteria were:

- *All subprojects:* to be subject of an up-to-date appraisal by BWDB; to be discussed during preparation with local people, authorities, and local technical specialists including agriculture and fisheries.
- *Appurtenant structures only:* to have been designed by BWDB and except for repair and rehabilitation, to be constructed under the Food-for-Work Program; to not cost above US\$375 per ha.
- *Fully planned subprojects only:* to cost no more than US\$500 per ha for flood control and drainage and no more than US\$2,000 per ha for irrigation; to have a gross protected area not more than 7,500 ha.
- *Flood rehabilitation works:* to have resulted from the 1987 flood or be damage that, if not repaired, could affect other project investments; to have prior approval from IDA if over US\$500,000; to have no other sources of finance.

2.5 *Implementation Schedule.* Appurtenant structures were to be constructed within two seasons, fully planned subprojects within three seasons. The total project implementation period was to be eight years starting in July 1987 (pre-construction activities) and ending in June 1995. However, the construction elements were to be completed by the end of June 1993, leaving two years for O&M. As discussed later, there were substantial delays.

2.6 *Financing.* An IDA credit of US\$81.5 million equivalent covered 76 percent of the costs. There was US\$200,000 of retroactive financing for pre-construction activities. A CIDA grant covered technical assistance, training, and studies. About US\$4 million of the government share of US\$19.9 million came from the World Food Program (WFP) in the form of food grains.

⁵ The borrower comments to the effect that coordination between different donor components was weak. The audit did not find much evidence for that. Meetings were held and recorded and decisions appear to have been taken. We agree with the borrowers suggestion that independent evaluation should ideally precede a follow-on project.

⁶ A borrower comment suggests that the selection process was "largely hypothetical" and that there was no commitment to a real needs assessment. The audit did not see that exercise in quite such a negative light but agrees that more rigorous needs assessment with greater beneficiary involvement would have helped. Better assessment techniques for doing that are now available.

2.7 *Procurement.* Procurement procedures followed the Bank's guidelines. About US\$67.5 million of works was not considered suitable for international competitive bidding (ICB) because it consisted of small, scattered, labor-intensive works. Local competitive bidding (LCB) contracts were used instead. Earthworks in appurtenant structures were executed under the Food-for-Work Program following the rules of that program. Construction quality issues were persistent in the early years ⁷.

2.8 *Environmental Aspects.* The project was expected to have a net positive environmental impact. The anticipated negative impacts were reduction in ease of water transport due to sluice structures and reduced fish and shrimp catches. The anticipated positive impacts were reduced flood damage, better access to property, better drainage, and, for the irrigation sub-projects, improved groundwater replenishment. Subprojects were not to be initiated unless people concerned considered the positive impacts outweighed the negative. The negative or positive environmental impacts did not feature in the SAR economic analysis.

3. Project Implementation and Outcome

3.1 *The SSFCDI components* achieved 98 percent of the physical works targets (which represented 65 percent of total project costs) but were about two and a half years behind schedule. Construction delays squeezed out the institutionally very important final two year O&M phase. While 120 subprojects were approved, only 107 were completed (11 fully planned, 96 appurtenant structures). The reduction in number of subprojects compared with the SAR estimate of 215 was due to larger subproject areas. The quality of earthworks was unsatisfactory during the first four years but improved later. The total area benefited increased by 13 percent—from 250,000 ha to 282,654 ha—due to larger unit size. The *flood rehabilitation works component* (35 percent of total project costs) substantially surpassed appraisal targets: about 485 km of embankments, 28 km of canal linings, 102 km of new protective works, and 360 hydraulic structures completed.

Project Outcomes

3.2 *Agricultural Production and Incomes.* In the absence of pre-project benchmarks and adequate monitoring it is difficult to make any reliable estimates. Crop data from some limited sample surveys and field observations by the audit mission tend to support a finding that, after a slow and problematic first four years, the project probably largely achieved its objectives of increasing agricultural production. As indicated above, it

7. The borrower notes regarding quality control that for the future contractors are to be re-enlisted according to their performance evaluation, and that strict conditions will be imposed to ensure accomplishment of works as per specification and within the time-frame.

surpassed its appraisal targets for rehabilitating structures destroyed by the 1987 and 1988 floods. Along the way there were significant implementation delays, persistent local funding problems, and construction quality problems (which have been evident in other projects in Bangladesh), and the O&M components were not implemented. Income data based on M&E surveys, suggesting about a 50% increase in incomes, is available only for the six fully-planned projects used for the economic analysis. Notwithstanding farmer enthusiasm for project impact observed in the field, the audit thinks that these are somewhat exaggerated but does not have any other data to go on.

3.3 *Covenant Compliance.* Overall, covenant compliance was unsatisfactory. The ICR, for example, made the comment that the O&M Cost Cell had not been established and that this was a serious contravention of the requirements in the Development Credit Agreement. There is no evidence in the files that IDA ever formally approved this change. On a cost recovery covenant that was not complied with, the ICR notes that the issue of improving cost recovery is now being pursued under SRP.

3.4 *Economic Rate of Return at Appraisal.* The appraisal estimates of ERR on the six appraised, fully planned SSFCDI subprojects ranged from 19 percent to 40 percent, averaging 31 percent for the six together. At appraisal it was argued, on the basis of a sample evaluation of the appurtenant structure subprojects under the first SSDFC, that the net benefit streams in relation to the net cost streams for these appurtenant structure investments were at least as high as the fully planned schemes, giving a notional estimate of 31 percent for the SSFCDI component as a whole. The argument was made that these small appurtenant works investments typically yield high ERRs because they are small and carried by earlier sunk costs, yet have similar benefit streams to the fully planned schemes. The ICR estimate at completion of six fully planned SSFCDI subprojects ranges from 2 percent to 37 percent. The ICR average is 23 percent, about a 25 percent reduction from appraisal but still well above the opportunity cost of capital. The ICR re-estimated ERR for the whole SSFCDI component covering 120 subprojects is 38 percent (compared to 31 percent at appraisal). The higher ERR is attributed mainly to a 13 percent increase in benefited area. Given the concern expressed about O&M, the ICR sensitivity analysis looked at the impact of a reduced cropped area due to poor maintenance. A 30 percent reduction in cropped area still gave a 32 percent ERR for the SSFCDI component.

3.5 *Environmental Impacts in the ERR Analysis.* The SAR analysis of the ERR did not make adjustments for environmental impacts. Environmental impacts on crop production, fisheries, navigation, and drainage were assessed by consultants in FY95. They found that impacts were all positive on crop production (77 percent production increase), negative in 39 percent due to fisheries losses (but positive in 10 percent), negative in 8 percent due to navigation impacts (but positive in 2 percent) and, in drainage, negative, requiring some mitigation, in 33 percent, neutral in 23 percent, and

positive in 56 percent⁸. The audit found there was insufficient data to net out all these impacts and that some were already reflected in the benefit stream.

3.6 *ERR at Audit.* In its ICR review, OED raised doubts about the ICR's high ERR estimate, instead estimating an ERR in the range 5 percent to 8 percent, on the following grounds:

- The ERR was based on a sample of only 6 subprojects out of 120 and was entirely from the fully planned subprojects benefiting most of their area, whereas 106 subprojects, the majority, were minor structures benefiting only 10 percent to 20 percent of the subproject area.
- In the ICR sample, 73 percent of the incremental benefits in the models which were based on fully planned schemes were derived from dry season irrigation, much of which would probably have occurred without the project, whereas in the total 120 subprojects 43 percent did not have dry season irrigation.
- Based on studies, the ICR estimated fisheries losses accruing to 40 percent of subprojects and drainage losses to 30 percent.

3.7 Without extensive new field surveys, and in the absence of baseline data, it was not possible for the audit to estimate a more realistic ERR. However, following careful field review of this issue, while agreeing with the earlier OED finding that the ERR in the ICR was over-estimated, this audit finds the ERR of the SSFCDI component to be more likely in the range 10 percent to 20 percent if sunk costs are ignored for the following reasons:

- Field observations during the audit mission indicated that benefiting areas in subprojects with appurtenant structures were significantly above the 20 ha per structure estimated earlier (and projected in the SAR).
- While the ICR models checked against field sites did appear to exaggerate the incremental benefits per hectare of dry season irrigation (note that the ICR team was not able to go to the field for security reasons), other aspects suggested under-estimated agriculture benefits, particularly gains to pond fisheries from better water control.
- In the field there was certainly enthusiasm among beneficiaries about both the yield and area extent of the project benefits. Some of this could have been due to the employment creation through FFW programs but descriptions by farmers of the before and after situation suggests it was often more than this.

8. The borrower notes that other than limited adverse impacts on capture fisheries and navigation, all the subprojects have positive impacts on agriculture production, income generating activities and other socio-economic issues. The problem on capture fisheries is somewhat mitigated by culture fisheries and adopting fish pass and fish friendly structures in projects. Whereas navigation has been surpassed by tremendous development of roadway communication. Moreover multisectoral development of water resources projects through integrated water management is adopted to mitigate the losses.

- No benefits for transport improvements on embankments were claimed in the ICR, and the audit mission observed several cases where the project had clearly contributed to transport either directly through embankment works or indirectly through improved water control and, thus, reduced embankment breaching. In at least one case, there appeared to be associated health benefits through easier transport to clinics.

Sensitivity analysis carried out by the audit, reducing the benefit stream by 50% to allow for both reduced agricultural benefits and fisheries losses on about 40% of sites gives a 17% ERR compared to the 31% base case, still an adequate ERR.

3.8 *Operation and Maintenance of Project Structures and Cost Recovery.* As observed by the mission in a limited field sample, *operation* by local committees of what were predominantly simple small sluice structures with associated earthworks appeared to be generally satisfactory, although some problems had been reported earlier by supervision missions. Without extensive surveys it was not possible to establish whether timing of opening and closing of sluices was socially equitable but the mission did not hear complaints in this area. *Maintenance* of project works was generally fair, better lower down on the structures than on the superstructure, where damaged concrete often needed repair. However, one would not expect to see substantial maintenance needs at this stage given the relatively new structures and some quite recent correction of quality deficiencies. In all cases, maintenance of the sluices themselves had been handed over to local committees. Here the main activity was greasing gate mechanisms. There appeared to be very few cases where maintenance of embankments had been handed over. Even there it was essentially oversight and the work itself was being handled by WFP assistance using teams of landless women. Eroded or low embankments are the weak link in the system and thus the main maintenance concern.

3.9 *Cost recovery* remains negligible. As indicated above, however, the main O&M and cost recovery concern of this audit lies beyond the immediate project. It lies with the subsector as a whole and, particularly in the case of flood control and drainage, the maintenance of embankments rather than small structures.

3.10 *Budgetary Allocation and Local Funding.* This was a continual problem. It became so serious that in March 1991 the Bank recommended curtailing the scope of the project and, in fact, the full range of BWDB projects. With the threat of cancellations hanging over the project, the government was able to find extra funds. But the critical financial situation supports the thesis that the lending program had over-stretched the government's capacity. To indicate the scale of the budget allocation problem, in FY91 the budget allocation for all Bank-funded BWDB projects was about 65 percent of estimated requirements. The absolute amount of the shortfall that year was about twice the annual BWDB allocation for all O&M, and, since the BWDB O&M budget includes building maintenance and many other items, the true shortfall would have been many times the provision for the maintenance of flood control structures. This suggests that the

project portfolio in the sector had stretched local funding capacity far beyond its limits to the point where new works were almost certainly competing out maintenance.

4. Ratings

Overall Outcome

4.1 The audit rates outcome only **marginally satisfactory** because although the project met many of its major physical objectives there were some major shortcomings. Some substantial physical developments were achieved giving an adequate ERR and the Flood Rehabilitation Works were successfully implemented . However, there are three important concerns, first, a firm position at appraisal of no new structures would have been indicated by the lessons of experience with O&M and this has implications for efficiency broadly defined, second, even the modest O&M elements within the project were not implemented nor were they adequately substituted for in other projects, and, third, as evident from the persistent funding problem, there were serious questions about priority and sustainability.

Sustainability

4.2 The audit downgrades the ICR estimate of sustainability from uncertain to **unlikely** based on the lack of real progress by the project and associated projects on the broader O&M institutional issues and the inadequate budgetary support. It seems probable that the eventual rectification of the budget support problem during the project under pressure from the Bank simply pulled funds from other important parts of the sector. In addition, the heavy reliance on WFP for O&M works, although very welcome in itself, raises questions about longer-term sustainability. While Bank operational staff are now guardedly optimistic on sustainability, pointing to recent changes in attitude and priorities, the audit believes that past performance has not yet been over-ridden by current promise and action.

Institutional Development

4.3 The audit agrees with the ICR that institutional development under the project was **modest**. (The ICR rating is “partial.”) Again, O&M achievements by the project were limited, and setting up the O&M processes and capacity was an important, if financially modest, element of the project. Supervision reports indicate continual backsliding on O&M plans.

Borrower Performance

4.4 Borrower performance is rated **unsatisfactory**, although marginally so, because of the slow initial implementation, the slow progress more broadly within BWDB on O&M and cost recovery, the failure of the limited O&M components within the project, the persistent financing problems, which contributed to the slow implementation and the lack of time for the final two-year O&M phase, persistent delays with audit reports and the poor construction quality in the early years. Substantial weighting is given to the institutional and O&M objectives given the longstanding sectoral concern on this issue, and we argue that the importance of this issue somewhat outweighs the immediate physical achievements of the project.

Bank Performance

4.5 Overall the performance of the Bank was **unsatisfactory**, although again marginally so. Appraisal was unsatisfactory because the O&M issue should have been faced more squarely and financial sustainability was not addressed. Supervision should have been more proactive early on with respect to construction quality, counterpart funding, and, again, O&M. At points in the project period firm action appeared to be imminent, as noted in the ICR, but the government was somehow able each time to achieve just enough progress to hold off more decisive action. Covenant compliance was unsatisfactory. At the sector level, while there were a number of Bank initiatives to try to resolve O&M, limited progress was achieved. The audit's assessment is that the current position of no new water development projects other than emergency projects and projects to improve O&M capacity should have been taken much earlier.

Project Completion Report

4.6 The audit found weaknesses in the PCR economic analysis, particularly the lack of incorporation of environmental impacts. Nevertheless, the PCR is still rated **satisfactory** on two grounds, first, while data on the number of sub-projects with environmental impacts was available, data on level of impact was not, and, second, due to civil disturbances, the PCR mission could not do field work.

5. Findings and Lessons

Findings

The Relevance of the Project is Doubtful

5.1 Apart from the Flood Rehabilitation Works, added on at a late stage, the relevance of the core project is doubtful given the concerns about O&M and cost recovery and the poor progress on those issues at that time. Four particular signals raised valid questions:

- The Loan Committee approval memorandum of March 31, 1987 approved the credit with the qualification that there be “appropriate arrangements to ensure full recovery of O&M costs of irrigation works in accordance with a reasonably expeditious timetable.”
- Prior to Board presentation an Executive Director asked whether the Bank had considered delaying its lending operations for BWDB until satisfactory progress had been made in resolving the O&M issue. The Bank’s response was that officials in the Ministry of Finance and the Ministry of Irrigation, Water Development, and Flood Control, and in BWDB, fully shared the objective of achieving maximum O&M cost recovery, that senior officials were acting responsibly and were genuinely trying to improve the situation, taking account of the Bank’s advice, and that, in those circumstances the Bank doubted the wisdom of taking a confrontational stance given also the floods and a difficult political situation.
- Before appraisal, reviewers and others raised concerns about O&M and the failures to date, which included the comment that it would be a grave mistake to treat O&M as predominantly a funding problem.
- The Small-Scale Drainage and Flood Control Project (Cr. 955-BD) Project Completion Report noted: “BWDB has no adequate maintenance budget....There is no regular program for carrying out minor repairs which...could save...much larger future costs. It is difficult to be confident that the flood control works will be in adequate condition to withstand future floods.”

5.2 The audit finds that these were precisely the relevant questions and that they were not addressed decisively. This opportunity was missed and the project, as designed, was largely “more of the same.” The argument that O&M was being addressed by the Systems Rehabilitation Project, and that therefore it was appropriate to proceed with a parallel, more traditional, project is difficult to accept given that that project did not

become effective until about two years later and, in any case, did not perform well on O&M and cost recovery. Even if it were accepted that the main thrust on O&M was adequately handled within the SRP, the modest, but still important, O&M elements of this Second Small-Scale Flood Control, Drainage, and Irrigation Project were barely implemented at all. Thus, the achievements of this project are consistent with a view that BWDB was not, at that time, very serious about O&M and was still largely focused on new structures.

Narrowly Defined, the Project Was Effective and Efficient

5.3 As indicated in the “Project Outcomes” section, after a very problematic first few years, the physical objectives of the project were largely met—structures were built that commanded more than the targeted hectares. The ERR, narrowly defined (that is, without consideration of what might have happened if an alternative strategy had been followed) is satisfactory.

More Broadly Defined, the Project Was Not Efficient

5.4 The above finding on the ERR refers only to the narrow economic question of whether the project investments gave benefits that would yield an ERR above the Opportunity Cost of Capital. However, this audit argues that the best economic decision at the time would have been to temporarily halt lending for new structures while concentrating on getting O&M and cost recovery improved across the sector (this implies questions about the validity of the ERR in relation to opportunity cost). Another broader efficiency question is whether the project sufficiently addressed the production and environment interaction external to the sub-projects. Although the Bank was a key supporter in the Flood Action Program within which broader water control issues were being addressed, there was no attempt within this SSSFCDI project to model production and income impacts external to the project. In particular, externality impacts in fisheries and drainage were not analytically incorporated into site selection and economic analysis.

Quality at Entry

5.5 Setting aside the relevance question, the project’s quality at entry was marginally satisfactory. Progress in pre-construction activities was inadequate before effectiveness, particularly for land acquisition, which was a persistent bottleneck. (It was also a problem in the Third Fisheries Project.) There was excessive optimism about the likely progress on O&M. O&M did not get institutionalized but was seen as a special activity rather than a part of a whole BWDB program. With respect to the local funding problem, the SAR had no analysis at all indicating whether the estimated Tk. 650 million government contribution and the Tk. 3,700 million budgeted allocation amount over the project period was a manageable expectation, nor did it analyze the longer-term budgetary impact of an additional Tk. 1,000 million worth of structures. It is difficult for sector project staff to

address this financing issue in isolation and better that they should be supported in this by the country team and, where necessary, economic and sector work analysis.

Quality of Supervision

5.6 Supervision quality was variable over time, but on balance unsatisfactory. Decisive action was lacking at several points. As noted in the ICR, pressure was applied with threats of actions including suspension, but the situation did not improve and sanctions were never invoked. The time lag to seriously address the local funding constraint was excessive. The funding problem was first raised in the October 1988 supervision, but it was not until mid-1991, nearly three years later and following a threat to reschedule, that the government took significant action. Consultants for the Benchmark and Evaluation Studies were not appointed until two years after project effectiveness. Covenant compliance was poor. The O&M Cell was never established. The lack of BWDB commitment to O&M hampered the work of the Canadian Technical Unit consultants. The project files around the 1990–91 period are predominantly composed of material related to the Meghna and Bramaputra River studies financed under the project. The files give the impression that much valuable supervision time was taken up monitoring the procurement and quality aspects of those studies, drawing away resources from the more fundamental project and BWDB issues.

The Current O&M Situation Remains an Unfulfilled Promise, Although There Are Signs of Some Progress

5.7 The opportunity is now there if it can be seized. At the time of the audit mission the strategy on O&M still appeared somewhat fragmentary, although promising changes are expected within the framework of the new 1998 National Water Policy, and there is evidence that the proposed Water Sector Improvement Project is now building on this. Certainly the new policy represents a springboard for action, but the challenge now for the borrower, with the Bank in support, is to make it happen on the ground, to tackle the more problematic and fundamental questions, and to frame a coherent phased strategy with political support. There is concern by other donors about O&M. Currently, cost recovery in aggregate is still extremely low. BWDB expenditures on O&M for flood control drainage and irrigation structures are not known (which itself indicates a problem) because O&M expenditures are mixed up with many other things. Estimates by engineers in the field of actual versus needed O&M funds for the sector range from about 10 percent to about 80 percent. The O&M budget allocated for 1997/98 was about 25 percent of the estimated need, although “need” here has to be interpreted with caution

since staff can be expected to bid high ⁹. Besides the easy decision on hand-over to beneficiaries, the more difficult questions now to be addressed are:

- What should be the public and what should be the private responsibilities in each polder/area? (This needs detailed fieldwork.)
- Who should *do* what and who should *pay* for what? (The participation guidelines seen by the audit are not yet sufficiently clear on this.)
- Should funds be raised indirectly entirely through hand-over to local groups or through some form of local taxation or some combination? If so, what legislation is needed and who will initiate it?
- What would be the incentives for local people to take on greater O&M responsibility? It needs to be clear what would happen if they do not do it.
- What are the policy, legislative, and institutional reform steps to achieve the objective? Who is responsible for these? What is the phased plan?
- Is the aim cost recovery for irrigation structures only or does it include flood control and drainage also and, if flood control, would it be just the appurtenant structures only or the accompanying embankments? ¹⁰

Lessons

5.8 The project design was largely “more of the same” when the lessons at the time should have suggested a moratorium on new structures while O&M was resolved - a position, belatedly, taken by the Bank. Nevertheless, the project did achieve substantial production impact, flood control rehabilitation and an adequate ERR. A stated project objective of strengthening BWDB’s capacity to improve O&M was not matched by the somewhat modest project interventions in this area, mainly staff training and a cost estimating cell. While this could be justified because these issues were supposed to be handled under the Systems Rehabilitation Project (Cr. 2099), O&M at the sectoral level was not adequately handled by that project either. Thus, both projects repeated a pattern of failing to address the broader sectoral O&M and cost recovery issues.

The main *lessons learned* are:

- Fundamental issues that might affect project relevance (such as O&M concerns) should be the subject of explicit decisions based on thorough analysis early in the project preparation process.

9. The borrower notes that it is now essential to set-up indicators for monitoring of targets..... On the basis of that, projects would be prioritized and the amount of water tax fixed in accordance with the category. Existing legal provision for the imposition of a water rate by BWDB has to be further detailed to accommodate diverse project conditions and institutional capacity to collect water rates more effectively has to be developed. Moreover political commitment will be necessary for tax realization.

10. One common view is that it is too much to expect cost recovery for embankment and appurtenant structures maintenance from poor farmers. However, estimates made by the mission suggest that the costs per hectare of a reasonable level of annual maintenance are quite modest relative to the projected incremental benefits of improved flood control and drainage.

- Pre-construction activities should be substantially advanced before negotiations. In a repeater project, the implementation schedule on construction should be largely modeled on historical experience unless there are very strong reasons to be more optimistic. Detailed scheduling projections for each main activity would help.
- Country teams should assist with sector-level financial capacity projections to ensure greater realism on financial capacity of the borrower in relation to project scale and longer term maintenance demands imposed by projects adding new structures.
- A participatory approach and hand-over of O&M to local beneficiary groups, while essential, is not the only element of a strategy. An implementable strategy should cover the practical issues including who will do what and who will pay for what, what the public responsibilities are, and what is the necessary sequence of supporting legislative and institutional reforms.
- A practical but rigorous methodology for estimating flood control, drainage, and irrigation benefits and costs is needed at appraisal. Controlling water has complex interaction affects both on production and environment and these need to be fully understood before interventions are initiated at a sub-project level.

Basic Data Sheet

BANGLADESH SECOND SMALL-SCALE FLOOD CONTROL, DRAINAGE, AND IRRIGATION PROJECT (LOAN 1870-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	111.00	104.35	94 percent
Loan amount	81.50	79.10	97 percent
Cofinancing	9.60	10.60	110 percent
Cancellation			
Date physical components completed	06/30/95	12/31/95	
Economic rate of return	31 percent	15 percent	50 percent

Cumulative Estimated and Actual Disbursements

	<i>FY88</i>	<i>FY89</i>	<i>FY90</i>	<i>FY91</i>	<i>FY92</i>	<i>FY93</i>	<i>FY94</i>	<i>FY95</i>	<i>FY96</i>
Appraisal estimate (US\$M)	10.00	25.80	47.80	61.90	71.40	77.90	80.10	81.20	81.50
Actual (US\$M)		21.28	40.78	46.18	52.97	62.98	67.10	76.00	79.10
Actual as percent of appraisal		85	85	75	74	81	84	95	98

Project Dates

	<i>Original</i>	<i>Actual</i>
Identification		Late 1985
Preparation		1986/1987
Appraisal		May 1987
Negotiations		December 1987
Board Presentation		January 26, 1988
Signing		February 19, 1988
Effectiveness	May 19, 1988	November 4, 1988
Project Completion	June 30, 1995	December 31, 1995
Project Closing	December 31, 1995	December 31, 1995

Staff Inputs (staff weeks)

	<i>Planned</i>		<i>Actual</i>	
	<i>Weeks</i>	<i>US\$</i>	<i>Weeks</i>	<i>US\$</i>
Up to Appraisal			66.8	173.7
Appraisal to Board			13.1	35.0
Board to Effectiveness			5.6	12.4
Supervision			196.2	228.3
Completion	9.5	36.8	12.0	46.5
Total			293.7	495.9

Mission Data

	Date (month/year)	No. of persons	Staff days in field	Specializations represented ^a	Implemen- tation Status	Develop- ment Objectives	Types of problems ^b
Identification/ Preparation	1986/87						
Pre-Appraisal	3/87	3	45	A,B,C			
Appraisal	5/87	5	75	A,2B,2C			
Post-Appraisal ^c	10/87	2	14	E,B			
Supervision I	10/88	2	52	2B	2	2	F,M
Supervision II	3/89	3	57	2B,D	2	2	F,M
Supervision III	10/89	3	51	2B,D	2	2	F,M
Supervision IV	3/90	3	33	2B,D	2	2	F,M
Supervision V	11/90	5	50	4B,D	3	2	F,M
Supervision VI	11/91	4	180	3B,D	2	2	F,M
Supervision VII	5-7/92	3	180	33B,DB	2	2	M
Supervision VIII	4-5/93	4	104	B,D,E	2	2	M
Supervision IX	12/93	3	90	B,D	2	2	M
Supervision X	7/94	2	34	2B,D	1	1	M
Supervision XI	6/95	3	81		1	1	M
Completion	2-3/96	3	30	A,B,C	1	1	M

a. A=Agronomy, B= Engineer, C = Economics, D=Disbursement, E=Programme

b. F=Financial: M=Management

c. To review BWDB's proposals for rehabilitation of infrastructures damaged by the 1987 floods.

Other Project Data

Borrower/Executing Agency:

FOLLOW-ON OPERATIONS			
Operation	Credit no.	Amount (US\$ million)	Board date
BWDB System Rehabilitation Project	Cr. 2099	53.9	1990
Coastal Embankment Rehabilitation Project	Cr. 2783	53	1995
River Bank Protection Project	Cr. 2791	121.9	1995

Comments from the Borrower

Canadian High Commission



Canada

Haut Commissariat du Canada

Canadian High Commission
 House 16/A, Road 48
 Gulshan, Dhaka

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File No: 38-07-13827

May 30, 1999

Mr. Gregory Ingram
 Manager
 Sector and Thematic Evaluation group
 Operations Evaluation Department
 World Bank
 1818H Street N.W.
 Washington D.C., U.S.A

**Subject: Bangladesh Second Small Scale Flood Control and
 Irrigation Project - Performance Audit Report**

Dear Mr. Ingram:

Thank you for your letter dated May 4, 1999 requesting comments on the Performance Audit Report on the Bangladesh Second Small Scale Flood Control, Drainage and Irrigation Project (Credit 1870-BD). As a co-financing partner in this project, CIDA takes great interest in gleaning lessons learned for future programming in the water sector. We find your Report to be useful in this regard, clear and very much to the point.

CIDA was involved in the Project implementation from September 1988 through June 1994. This was 6 months longer than originally planned with the extension providing additional support to the construction program which at that time, had fallen seriously behind schedule. CIDA provided a contribution towards technical assistance for planning, design, construction monitoring, improved post-project operation and maintenance and under a separate consulting contract for two components: modernization of BWDB's accounting procedures and formation of an Operation and Maintenance Cost Cell. In addition, CIDA financed Benchmark and Evaluation studies. CIDA was

Annex B

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not involved in project design and in fact, relied heavily on the Bank's Staff Appraisal Report for its own project approval process.

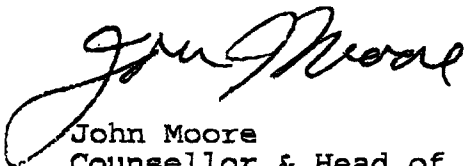
CIDA agrees with the overall outcome assessment (marginally satisfactory). It was evident to us that sustainability was unlikely given the lack of leadership within BWDB and the MWR on the issue of O&M. At certain points during our involvement, there seemed to be a preoccupation with disbursement of the Credit and it is doubtful that BWDB and the Bank could have accepted the longer timelines necessary for community participation. All these problems were compounded with shortfalls in BWDB budgetary support which were possibly related as well to other large infrastructure projects (eg) Teesta barrage which effectively crowded out other BWDB projects.

On the issue of O&M, CIDA made a concerted effort from 1992 to 1994 to implement, on a pilot basis, a Community-Based Operation and Maintenance Program. It turned out to be too little too late. Our experience with modernizing the BWDB accounting system is currently being assessed but we have noted a lack of resolve and commitment within senior management of the Water Board. We concur with your rating of borrower performance as unsatisfactory.

We find the overall Principal Ratings (page ii) to be an accurate reflection of performance based on our experience. I would add that in several ways the project as defined in the Staff Appraisal Report was, by the early 1990's, outdated. The absence of any serious attention to environmental impacts is one example.

In closing I wish to thank you for seeking our views on the PAR and I look forward to continued work with the Bank on projects of joint concern.

Yours sincerely,



John Moore
Counsellor & Head of Aid

Copy to:

1. Dr. A. Gani, Irrigation Engineer,
World Bank, Dhaka Mission Office

Comments from the Borrower

Annex C



Ministry of Water Resources
Govt. of the People's Republic of Bangladesh

No. MoWR/Dev.1/WB/2P-6/96/320

Dated : 21/06/1999

From : Shahed Iqbal Md. Mahbub-ur-Rahman
Senior Assistant Secretary.

To : Mr. Gregory Ingram
Manager
Sector and Thematic Evaluation Group
Operation Evaluation Department
World Bank
1818 H Street N.W.
Washington, D.C. 20433
U.S.A.

Sub : Bangladesh Second Small Scale Flood Control, Drainage and Irrigation Project
(Credit 1870-BD) Draft Performance Audit Report.

Dear Sir,

With reference to your letter dated May 4, 1999 on the subject mentioned above I am directed to send herewith the observations and comments of the Ministry of Water Resources on the Performance Audit Report (PAR) on Second Small Scale Flood Control Drainage and Irrigation (SSFCDI) Project of Bangladesh Water Development Board for your kind disposal.

Enclosures

Sincerely yours,

(Shahed Iqbal Md. Mahbub-ur-Rahman)
Senior Assistant Secretary

Annex C

**OBSERVATIONS AND COMMENTS OF BWDB ON PERFORMANCE
AUDIT REPORT (PAR) ON SECOND SMALL SCALE FLOOD CONTROL,
DRAINAGE AND IRRIGATION (SSFCDD) PROJECT (CREDIT 1870-BD)**

The Report has mainly focused on insufficient O&M budget for BWDB's completed project. This is fact and its shortcomings has let the BWDB to put less emphasis on the O&M of completed project. Consequently it appears to the donor/other agencies that BWDB is giving less priority and importance to O&M aspects than implementation of new project. Virtually more emphasis on implementation appear due to less funding for O&M of the completed project.

Had the O&M budget be in its due proportion notion of donor/other agencies would be different from the present idea.

General Comments and Observations

Outcome of the Project :

PCR rating.
Satisfactory

PAR rating.
Marginally Satisfactory

Findings and Comments

SSFCDD Project was approved in January, 1988 but the physical works were started in 1989 fiscal year. The project was supposed to close in June 1993 but actually closed on June, 1996.

The delay was mainly due to the problem in fund release, attitude and workmanship of contractors and Socio-political unrest of the country.

Lending program of the Bank over-stretched the Governments Capacity.

Regarding quality control and workmanship, contractors are to be re-enlisted according to their performance evaluation. Strict conditions may be imposed on the contractors to ensure accomplishment of works as per specification and within the time frame.

The authority should be aware of the socio-political condition and measures should accordingly be taken to augment the progress of work to compensate the loss incurred due to such condition.

In spite of the Construction delay, the physical work completion is about 98%, ERR averaged out as 23%. Operation of gate and maintenance of structure were handed over to local committee. Maintenance of Embankments was done by landless women with the assistance of WFP. In this context, PCR rating is seemed to be appropriate.

Sustainability**PCR rating.**
Uncertain**PAR rating.**
Unlikely.**Findings and Comments**

Sustainability is the ability of a project to continue with a view to meeting the present needs ensuring preservation, conservation and enhancement of environmental quality. It requires two things -

- * enhancement of income i.e. Cost recovery by collecting revenues
- * reduction of expenditure i.e. reducing establishment cost and operation & maintenance cost.

Other than limited adverse impacts on capture fisheries and navigation, all the sub-projects (107 nos) have positive impacts on agriculture production, income generating activities and other socio-economic issues. The problem of capture fisheries is somewhat mitigated by culture fisheries and adopting fish pass and fish friendly structures in project where as navigation has been surpassed by tremendous development of road-way communication. Moreover multisectoral development of water resources project through integrated water management is adopted to mitigate the losses.

BWDB reduced its establishment expenditure through the new set-up after re-organization, thereby, to allow more fund for O&M.

Field observation says that peoples are getting benefits. Now the task is to motivate them to take part in integrated water management and to pay for the cost recovery for O&M as well as for project implementation. This needs an effective institutional system which will perform motivation and tax-collection including management activities.

Every project have their own specific problems regarding their natural resources system, socio-economic system and administrative and institutional system in spite of their same objectives. BWDB has inadequate monitoring system. It is now essential to set-up indications for monitoring of all the major features targeted for achievement. So, we need to develop GIS based project profiles featuring area, location, objectives, land type, land use, ownership, stake holder and beneficiaries, achievements and failure, problems and findings etc. On the basis of that, project is to be prioritized and amount of water tax to be fixed in accordance with the category. Existing legal provision for imposition of water rate by BWDB has to be further detailed to accomodate diverse project conditions and institutional capacity to collect water rates more effectively has to be developed. Moreover political commitment will be necessary for tax realisation.

Annex C

Specific Comments

Sl. No.	Text Reference	Comments
1.	Preface , Page-iii	<p>The Audit Report under discussion is stated to have been based on the documents and information originating from the BANK source alone (PCR, SAR , DCA, Mission-views etc.) . This, on the one hand, demonstrates the exclusive independence and power of OED of World Bank to critically evaluate its own investment programmes . But on the other, it gives a monotony of reference for the readers who are not in a position to cross-check the information from any other source .</p> <p>What is suggested here , the OED may get independent evaluation studies done by accredited agencies like BIDS, Universities etc. before they stamp this Report as final .</p>
2.	Section-1, Introduction	<p>This section ought to quote the recommendations of the OED for the 1st. SSFCD, under Cr. 955 BD. This report endorses that the said 1st. project had the positive impact on which the 2nd. one was agreed . Therefore, the questions regarding (a) relevance (b) effectiveness and (c) O &M adequacy etc. of the 2nd project under discussion as raised in this PAR should have been resolved earlier . It appears that the OED had not given its valued recommendations in time before embarking on this second lot . Not to speak of the Cr.955 BD alone , there had been a good number of completed IDA-assisted DFC/FCD projects implemented between the late 70's and late 80's where those issues could well be examined . OED could use its lessons learnt from those earlier projects , if Cr.955 BD was too early for them to evaluate .</p>
3.	Section-2 , Para-2.1 and 2.2 and Section -3, Para-3.1	<p>The very project objective and composition of the project investment demonstrate that :</p> <ol style="list-style-type: none"> a. it was mainly a project for infrastructural development (about 89% devoted for construction, planning, design etc. for SSFCDI and for FDR about 92%) b. project O&M was left with the low-key (for SSFCDI, 1.6% annually), without resorting to GOB's track record about allocation in O&M for water sector projects . <p>The Concerned approved PP of GOB should also be consulted as a reference.</p>

Annex C

4.	Section-2, Para- 2.3	Project management design for the 2nd SSFCDI followed from the 1st , but the matters of co-ordination among its different components (FFW, CIDA, GOB, IDA) remained, as can be guessed, in the oblivion . lessons of the 1st. project were fresh enough to give insights for the design of the second project . It is to be mentioned in the PAR that independent evaluation and OED's evaluation should precede any subsequent investment programme .
5.	Section-2, Para-2.4	<p>The criteria for sub-project selection , as set , were not established on needs assessment . A pertinent question emerges in this respect : how a set of criteria was given in absence of an evaluation of the 1st. project or, in absence of a rigorous needs assesment survey ? Finally, it proves that none of the parties had sincere commitments to address the real needs of the sub-projects . Entire exercise was largely hypothetical for which :</p> <ol style="list-style-type: none"> a. the number of sub-projects had to be reduced from 15 to 11 (for fully planned ones) while, the number for appurtenant structures was reduced from 200 to 112 only. b. although the number was reduced, the project cost had to be increased by 13% during the implementation period c. number and designs of infrastructures had to be changed a number of times to suit the needs of specific sub-projects d. mitigation of environmental hazards due to project intervention had to be considered at a later stage. e. for beneficiary participation, there was no specific assignment with a detailed programme, rather, the training input under CIDA assistance was virtually reduced.
6.	Section-5	<p>Findings and Lessons outlined in this Section are rather typical of what the World Bank has been harping on during last 5 years or more . Referring to the ERR -game, the divergent ERRS (in SAR, PCR, PAR) for this programme as stated, give a notion that :</p> <ol style="list-style-type: none"> a. specific directions for estimating project costs and benefits were lacking. b. sensitivity analyses were a gamble at the hands of evaluators c. a sound logic to establish a relationship between inputs and outputs of the project is still lacking

Annex C

Institutional Development :**PCR rating**
Modest**PAR rating**
Modest**Findings and Comments**

Effective management needs the proper and appropriate institution. BWDB within itself re-structured its organization. New mandate has been framed based on water policy declared recently. BWDB Act has been passed also recently. More emphasis has been given to O&M. As stated earlier, local committee has been formed as per guideline to the peoples participation and operation and maintenance were handed over to them to a great extent. Achievement is still not according to the target. Because, the local people developed their culture during the long past without participation in the process of water resources development works. Their outlook need to be changed by motivation. It is urgently felt the need of at least one social scientist or sociologist for each Sub-Division. We still need to develop effective institutional framework with a participation of local people and institution, LGED, BRDB and other GOB agencies. The role of BWDB should be re-ensured. Project management committee need to be trained extensively on water management. Public awareness is very much essential regarding scarcity of natural water resources and their optimum utilization through the publicity of GOB information media, news papers and posters. Availability of Water Policy, BWDB Act, Institutional Reforms Plan are expected to improve the strength of the institution.