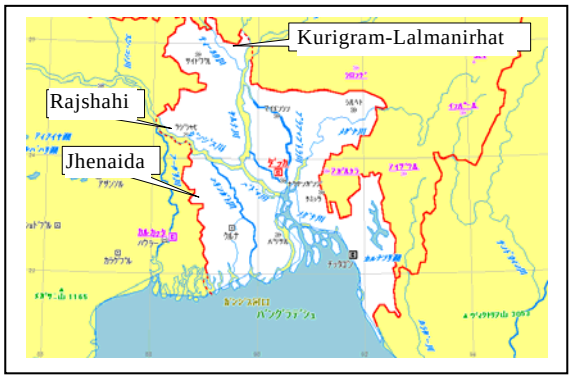
Bangladesh

Area Coverage Rural Electrification Project (Phase IV-C)

External Evaluator: Masahiko Togawa, Shinji Kaneko
(Graduate School of International Development and Cooperation, Hiroshima University)

Field Survey: September 2005, March 2006

1. Project Profile and Japan's ODA Loan



Map of project area

Transformer substation constructed through this project

1.1 Background

Since achieving independence in 1971, Bangladesh has placed high priority on the electrification of rural communities as stipulated in Article 16 of its constitution, and as part of the nation's focus on improving infrastructure in farm villages. The rural electrification program was conducted in accordance with a five-phase program running from October 1976 to June 1997. The program was based on a master plan prepared by the National Rural Electric Cooperative Association (NRECA) and Commonwealth Associates Inc. (CAI), which serves as consultant to the United States Agency for International Development (USAID). The Rural Electrification Board (REB) established in 1977 was designated as primary in charge of the rural electrification projects. In this program, rural electrification association called Palli Bidyut Samities (PBS) were established nationwide, whose role was to construct electricity distribution facilities in rural areas, manage and operate the facilities, and conduct electric power distribution activities, under supervision of REB. Through this, the program and underlying PBS aimed to increase productivity through the electrification of rural communities, create employment opportunity, and boost farmer incomes. This project is part of Phase IV-C, one of three projects (A, B, and C) under Phase IV whose role is to construct eight new PBS. The project targets four districts, namely Rajshahi, Kurigram, Lalmanirhat, and Jhenaida. The total land area targeted by the

project comes to 5,450km^2, or 2.5 times the size of the Tokyo Metropolitan area.

1.2 Objective

This project's objective was to electrify the rural areas by developing electricity distribution network and by establishing PBS which is to be in charge of electricity distribution in four districts in Bangladesh; thereby contribute to raise the standard of living in rural area.

1.3 Borrower/Executing Agency

President of the People's Republic of Bangladesh/
Rural Electrification Board (REB)

1.4 Outline of Loan Agreement

Loan Amount Disbursed Amount	5,442 million yen 4,779 million yen
Date of Exchange of Notes Date of Loan Agreement	October 1995 October 1995
Terms and Conditions - Interest Rate - Repayment Period - Grace Period - Procurement	 1.0% p.a. 30 years 10 years General Untied
Final Disbursement Date	June 2002
Main Contractor	-
Consulting Agreement	None (consultant's contract under USAID funding)
Feasibility Study (F/S) etc.	June 1988 Preliminary feasibility study by NRECA/GC

2. Evaluation Result

2.1 Relevance

2.1.1 Relevance at the time of appraisal

In Bangladesh's Fourth Five-Year Plan, promoting the rural electrification was one of four policy investment objectives in the national power sector. This project was a part of the rural electrification program created in 1977 by REB based on a

master plan created by CAI and NRECA, consultants to USAID. The project is one of the efforts in the long-term program, and as such its priority was high.

This project was part of Phase IV-C of a rural electrification program supported by the Asia Development Bank and others. Given that the project was based on an on-going successful scheme run by the existing executing agency,, the project's relevance was high.

On the other hand, there had been a problem regarding the shortage of electricity supply. According to the electricity supply and demand forecast in Bangladesh at the time of the appraisal[Endnote1], the problem was to be resolved after 1999 thanks to the construction of new power generation station.

2.1.2 Relevance at the time of ex-post evaluation

In the Interim Poverty Reduction Strategy Paper (I-PRSP)[1] announced in 2003, the rural electrification is one of four measures to reduce poverty in rural area. Moreover, "Vision Statement and Policy Statement on Power Sector Reform" worked out by Ministry of Power, and Energy & Mineral Resources in 2000 sets a goal to provide access to affordable and reliable electricity to the whole nation by year 2020. Because this is a policy issue that will have continuing importance, the importance of this project continues to be high.

As a result of the promotion of rural electrification program, establishing PBSs , the provision and expansion of an electricity distribution grid, the collection of electricity fees, and expansion of a client base have been steadily progressing nationwide. Nevertheless, at the time of the ex-post evaluation for this project, conducted in March 2006, serious shortages in the power supply had been noted. These shortages are attributable to the fact that although the Bangladesh National Party, which has been in power for five years starting in 2001, initially made a public commitment to constructing new power stations, considerable discrepancies have since arisen in terms of fulfilling this commitment. This resulted in a widening gap between electricity supply and demand. It could be viewed that there was an inconsistency between power generation section and distribution section in the rural electrification program is a problem. Such issues were beyond the scope of responsibility of the PBS which is supposed to perform only electricity distribution activities, and can alternatively be viewed as power development issues that lie outside of the distribution section.

From the standpoint of the REB, whose power generation capacity is extremely limited, a stable power supply from the Bangladesh Power Development Board

[1] Poverty Reduction Strategy Paper is formally released in 2006.

(BPDB) is an indispensable prerequisite for it to manage the operation. Consequently, the PBS which is under supervision of REB had few means to deal with the electricity supply shortage problem. Because a prolonged shortage of electric power is predicted, there may be a possibility to question the relevance of promoting rural electrification under the current scheme. On the other hand, it is clear that when a sufficient electric power supply is provided, the relevance of this project and the performance of rural electrification improve. Because the source and nature of the problem are perfectly clear, at present, assistance from a large number of donors to the power generation plan has been continuing. Based on the above, problems pertaining to the relevance of this project have been judged to be temporary and limited, and it has been concluded that this project has high relevance.

2.2 Efficiency

2.2.1 Outputs

Through this project, three PBS have been established in four districts, and high- and low-voltage electricity distribution lines have been built and repaired almost as planned. Output through this project is showed in Table 1. While receiving funds through REB, each PBS nevertheless operated under its own accounting system in carrying out its management. Once this project was completed, project work was expanded through funds procured from REB. For that reason, in Table 1, the output at project completion is written side by side with that for 2005, the time of ex-post evaluation. For the most part, output achieved initial targets, and project efficiency can be judged to be high.

Table 1. Comparison of Planned and Actual Outputs

Planned (at time of appraisal)	Actual (at time of project completion in 2002)	Actual (at time of ex-post evaluation in 2005)
Rajshahi PBS		
(1) Construction and repair of high- and low-voltage electricity distribution lines: 1,575km	(1) 1,796km	(1) 2,683km
(2) Construction of transformer substation (33/11 KV 10 MVA): 3 locations	(2) 3 locations	(2) 3 locations
(3) Establishment of PBS: 1 location	(3) 1 location	(3) 1 location

Kurigram/Lalmanirhat PBS (1) Construction and repair of high- and low-voltage electricity distribution lines: 2,030km	(1) 1,979km	(1) 2,532km
(2) Construction of transformer substations (33/11 KV 10 MVA): 3 locations	(2) 3 locations	(2) 3 locations
(3) Establishment of PBS: 1 location	(3) 1 locations	(3) 1 locations
Jhenaida PBS (1) Construction and repair of high- and low-voltage electricity distribution lines: 2,030km	(1) 2,125km	(1) 2,979km
(2) Construction of transformer substations (33/11 KV 10 MVA): 3 locations	(2) 2 locations	(2) 4 locations
(3) Establishment of PBS: 1 location	(3) 1 locations	(3) 1 locations

(1) Construction and repair of high- and low-voltage electricity distribution lines

At the time of completion, there were some cases where actual performance did not achieve the plan; however, construction and repair of electricity distribution lines were continued after this project's completion using the materials procured through this project. At the time of the ex-post evaluation, all 3 PBS had achieved the planned value. Thus, output can be said to have been highly sufficient.

(2) Construction of new transformer substations

In Jhenaida, the growth in initial demand was a base point below target figures, and because of geographic issues in terms of distributing to customers, the number of transformer substations to be constructed by 2002 was reduced to two. Later, however, in response to an increase in customers, two more substations were constructed by 2005, bringing the total of substations to four.

(3) Establishment of PBSs

As initially planned, three PBS were established in four districts.

2.2.2 Project period

The initial plan for the project to run for 84 months from November 13, 1995 to November 13, 2002, seven years after the loan agreement. In fact, the project ran from October 1995 to June 2002, for a total of 81 months. As shown above, the project is judged to have been completed within the plan.

2.2.3 Project cost

Total project costs for this project include funds procured from the Bangladeshi government in addition to JBIC financed portion. Total project costs forecast at the time of the appraisal was 6,403 million yen, of which 5,442 was to come from the ODA yen loan. Actual figures were 5,914 million yen and 4,779 million yen respectively, both of which were within the plan.

2.3 Effectiveness

2.3.1 State of progress of electrification

Indicators for the progress of electrification are shown in Table 2 below. From each of the figures, one can see that electrification had been expanded since 2002, when the project was completed, up until 2005, the time of the ex-post evaluation. In terms of the project's effectiveness, if judging by the achievement of planned figures (2000), the table shows that whereas all three PBS reached their targets for the number of connections to customers, none of the PBS had by 2005 achieved planned figures (2000) for maximum power volume or sales volume. Though clear planned figures for household electrification rates had not been set at the time of appraisal, compared to the average nationwide household electrification rate of 20% in the year 2000[Endnote2], the three PBS established through this project have far exceeded this average. Although the household electrification rate rose as shown above, on account of the problems of power outages shown in 2.3.3, the maximum power volume and sales volume did not increase. Thus, judging from the expansion of project scale, it may be judged that effectiveness was not very high.

Table 2. State of Progress of Electrification

	Planned figures (2000)	After project completion (2002)	At item of ex-post evaluation (2005)
No. of households connected			
Rajshahi PBS	28,250	40,098	65,765
Kurigram Lalmanirhat PBS	36,000	33,501	39,166
Jhenaida PBS	37,500	40,675	76,101
Household electrification rate (%)			

Rajshahi PBS	-	21.1	41.2
Kurigram Lalmanirhat PBS	-	10.4	30.1
Jhenaida PBS	-	15.1	25.9
Maximum power output volume (MW)			
Rajshahi PBS	21.2	16.1[Endnote3]	21.4
Kurigram Lalmanirhat PBS	27.0	8.3 [Endnote3]	12.2
Jhenaida PBS	21.1	4.7[Endnote3]	13.8
Power sales (MWh)			
Rajshahi PBS	90,683	40676[Endnote3)]	60,124
Kurigram Lalmanirhat PBS	115,560	23,566	39,771
Jhenaida PBS	120,375	16,033	35,767

Note 3: 2001 figures.

2.3.2 Efficiency of the project operation

System loss and fee collection rates are shown in Table 3 as indicators for efficiency of the project operation. For comparison purposes, figures from BPDB, the Dhaka Electricity Supply Authority (DESA), Dhaka Electric Supply Company (DESCO), and REB are written side by side. System losses are almost entirely technical losses, and the project's operation can be judged as being highly efficient. Furthermore, because of delayed payment by major customers such as hospitals for whom supply cannot be suspended, the Rajshahi PBS collection rate for 2005 was low, however until previous year, collection rate were almost 100 % and nearly every payment had been promised, so overall operating efficiency is judged to have been highly satisfactory.

Table 3. System Losses and Fee Collection Rates

	System losses (%)		Fee collection rate (%)	
	2002	2005	2002	2005
Rajshahi PBS	13.65	13.65	99.40	84.42

Kurigram-Lalmanirhat PBS	14.41	14.41	97.66	98.81
Jhenaida PBS	15.00	15.00	97.79	97.29
BPDB	23.20	20.00	89.20	91.90
DESA	35.60	30.00	97.00	99.90
DESCO	26.70	16.60	89.00	97.10
All of REB	16.70	13.80	101.30	99.50

2.3.3 Recalculation of Internal Rates of Return

The internal rate of return at the time of the appraisal and actual figures are shown in Table 4. Because electricity sales fell far short of target, revenue from electricity sales was insufficient, and the FIRR was below appraisal levels. On the other hand, a recalculation of EIRR took place at the time of the ex-post evaluation, with profit figures based on the results of a study which estimates that incomes would rise through expanded electrification[2]. The recalculated EIRR greatly exceeded appraisal figures, and profit thus exceeded planned levels.

Table 4. Financial Internal Rate of Return (FIRR) and Economic Internal Rate of Return (EIRR)

	Target		Actual
	(Prelim. target)	(Recalc. figure)	(Ex-post eval.)
FIRR	18.35%	17.55%	9.73%
EIRR	19.21%	18.86%	23.29%

2.3.3 Power outages

Table 5 shows the daily average power outage time for each customer household. Power outages had been a frequent occurrence nationwide ever since the start of the project, but since 2001 the problem has been getting worse. In 2005, in particular, the power supply became highly insufficient. The power outage rates reported by each PBS are relatively low; in a study of beneficiaries among residents, up till 2004 power supplies were reported to be around 10-12 hours per day, with power generally supplied during time slots where it was needed. From

[2] Here, based on the results of a study of beneficiaries, what is sought is the gap in average incomes between electrified and non-electrified households in electrified villages in each PBS. To this, the number of electrified households in each year was multiplied to arrive at the increase in income for electrified households. However, the future number of electrified households was fixed at 2003 levels.

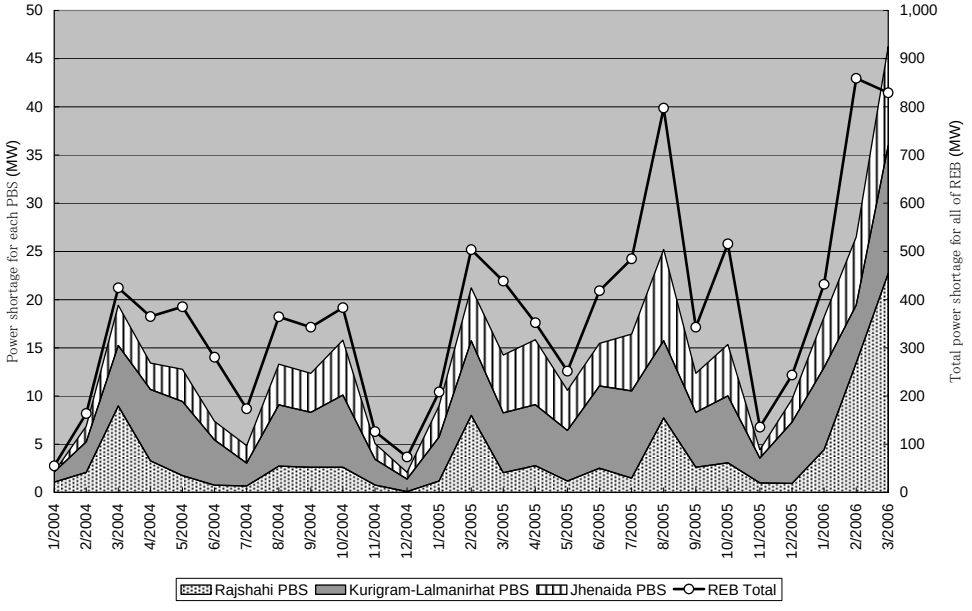
2005 to 2006, however, some people said that the daily supply was as low as 3-5 hours. The reason for the discrepancy between the power outage rates reported by PBSs and that expressed in beneficiary surveys could be a difference in definition what constitutes a power outage. In PBS report, the time of power outages which are attributable to PDB not supplying power is subtracted from the actual power outage time; thus, only power outages that are directly attributable to PBS are reported.

Table 5. Daily Power Outage Time Per Customer

(Duration)	2002	2005
Rajshahi PBS	3.4	6.5
Kurigram-Lalmanirhat PBS	4.1	4.4
Jhenaida PBS	1.5	3.3

Fig. 1 shows electricity shortage trends for the past 27 months for three PBSs and REB as a whole. Seasonal changes in power demand are substantial, but overall the electricity shortage has been growing worse year by year. A particularly severe shortage occurred from January to March 2006 at a time when demand for power increases on account of the need to perform irrigation. It is undeniable that such problems had a negative impact on the effectiveness indicators after project completion.

Fig. 1 Power Shortage Trends (Max. Dem. –Avg. Supply)

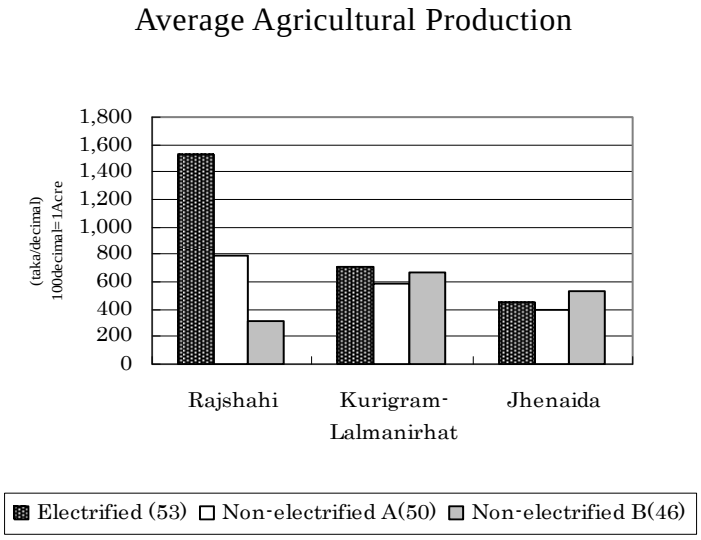


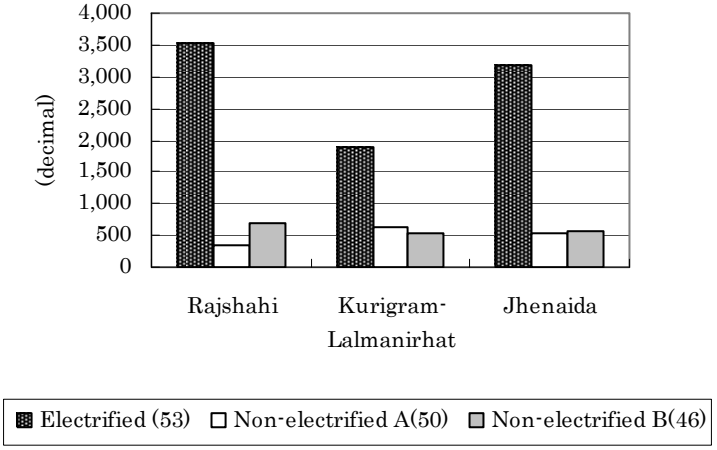
2.4 Impact

2.4.1 Electrification of irrigation facilities and agricultural production.

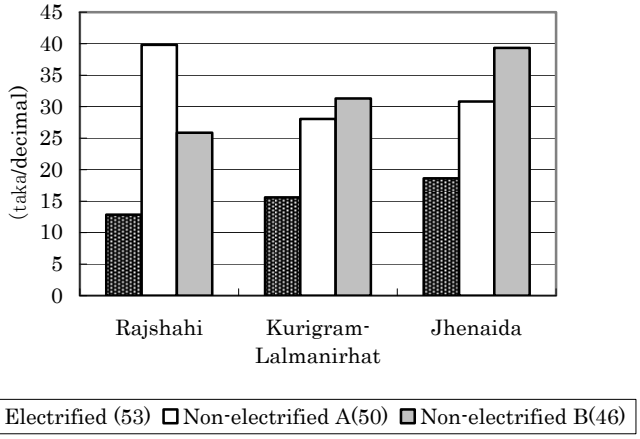
This project made it possible to use electric pumps, which (1) compared to the diesel pumps used before this project, provide a savings both in operating costs and operation and maintenance costs; and (2) can irrigate a wider area over a shorter period of time, expanding the scale of possible irrigation and improving efficiency. It is considered that this project has contributed to the greater agricultural production (Fig. 2).

Fig. 2 Electrification of Irrigation Facilities and Agricultural Production (Tables 2005 data; figures in parentheses indicate number of samples)





Average Irrigation Cost



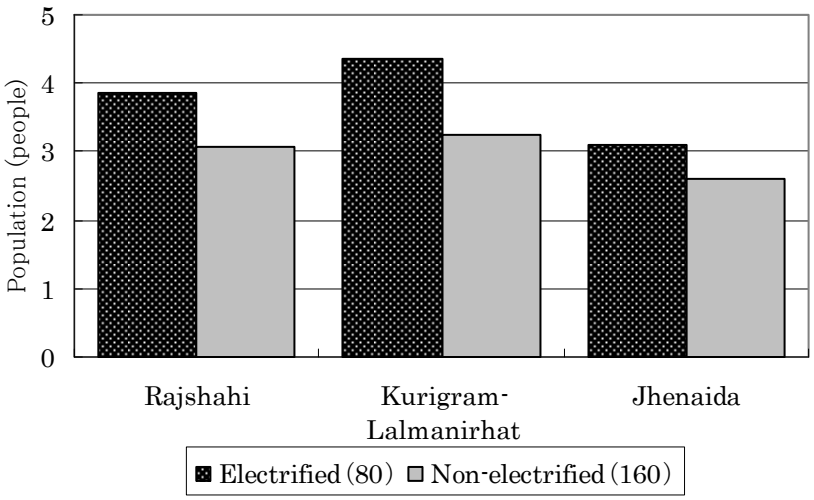
Electrified: Electrified villages, electrified irrigation regions
Non-electrified A: Electrified villages, non-electrified irrigation regions
Non-electrified B: Non-electrified villages, non-electrified irrigation regions

2.4.2 Creation of employment opportunities

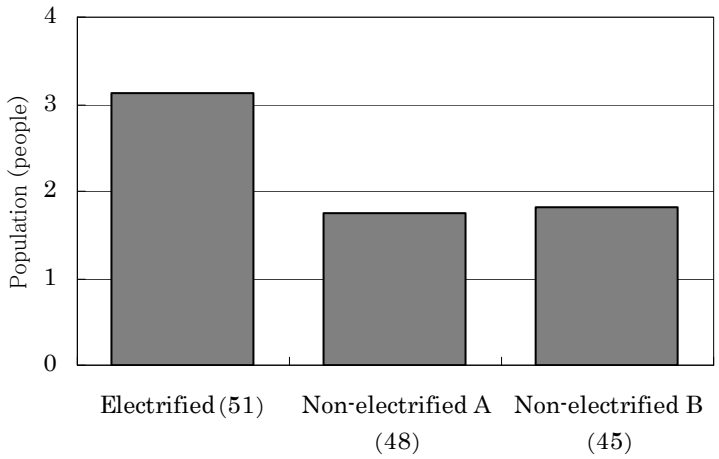
The creation of employment opportunities through this project goes beyond the agricultural sector, and could be confirmed as extending to such areas as small-scale factories and small-scale retail businesses as seen in bazaars (Fig. 3). In addition, PBS themselves jobs, contributing in particular to the creation of new employment for women in the electricity bill handling section.

Fig. 3 Numbers of Employees by Industry
(2005: Table figures in parentheses are samples)

Average Number of Employees in the Commercial Sector



Average Number of Employees in the Industrial Sector



(Employees include regular and non-regular employees, and are an average for three PBSs)

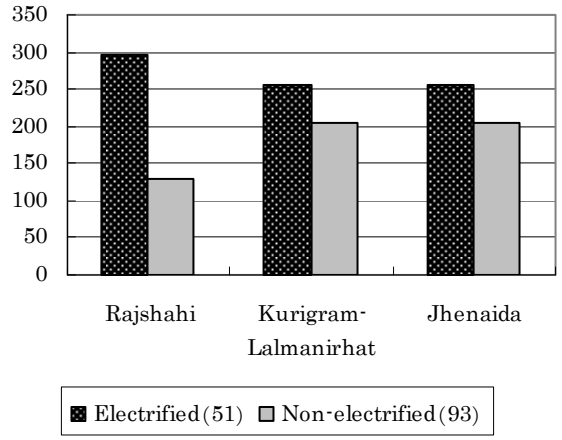
2.4.3 Stimulation of industry and increasing incomes

Regarding the economic impact on various industries through the implementation of this project, Fig. 4 shows the average production figures per small-scale industrial plant and small retail stores, as well as incomes per

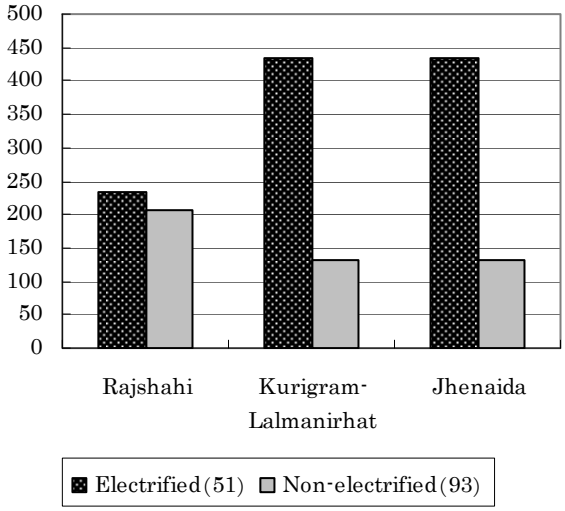
household, comparing regions that had and had not been electrified. Figures for the non-electrified households in electrified villages are also compared for the effect on income. An increase in productivity due to electrification and a definite economic effect were confirmed with each PBS. Moreover, because electricity made it possible for people to do work at home during the night, it is considered that there is a direct connection between income increases and electrification. However, these positive effects have been greatly reduced by the frequency of power outages in the past year. Moreover, some sectors saw cases where people suffer in repaying debts they had incurred through the initial investment for electrification.

Fig 4. Production by industry and income by industry
(2005; figures in parentheses indicate number of samples)

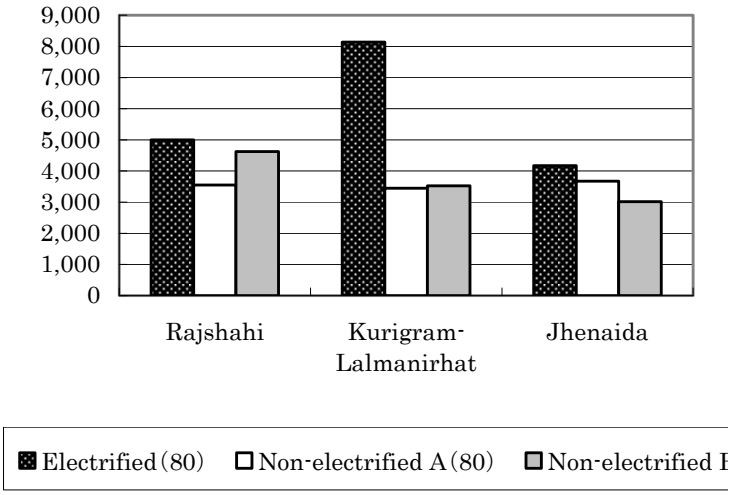
Average Production Figures for Small-Scale Factories (thousands of taka)



Average Commercial Production Figures (thousands of taka)



Monthly Average Incomes (taka/household)



2.4.4 Impacts on Environment

According to survey results on whether there was smoke pollution damage from small-scale factories, almost all the cases responded that there was no smoke pollution from factories that had been electrified through this project; by contrast, a majority responded that non-electrified factories did let off smoke pollution (Figure 6). According to a questionnaire to each PBS, electric pumps emitted fewer contaminants than diesel pumps, and had the further benefit that they made less noise (Kurigram and Lalmanirhat). On the other hand, frequent power outages in recent times have in many cases given people little choice other than to use diesel pumps, a fact that greatly undermines the benefits of electric pumps. Moreover, the fact is pointed out that trees had been cut down during construction of electricity distribution lines (Rajshaji).

Table. 6 Questionnaire results regarding smoke pollution damage from small factories
(2005; figures in parentheses indicate number of samples)

	Electrified villages		Non-electrified villages
	Electrified	Non-electrified	Non-electrified
	(51)	(48)	(45)
Has	6	41	40
Does not	45	7	5

2.5 Sustainability

2.5.1 Executing agency

2.5.1.1 Technical capacity

(1) Training of the technical staff

REB conducts an average of two months of basic technical training targeting newly employed technical staff at all PBSs. Following that, workers involved in aerial wiring at each PBS are categorized into one of three grades, and a promotion system depending on the increases in their technical skill, knowledge, and on their experience has been established. Through this system, the number of people at the highest grade has increased yearly. Employees that handle complaints, claims, or accidents receive a minimum of 45 days of training, the aim being to improve technical capacities and expertise in these non-technical areas as well.

(2) Provision of manuals

The REB and PBS provide communal technical manuals. Training, education, daily activities, and the establishment of electricity distribution schedules are all performed in accordance with these manuals. Recently, computers have been introduced on a continuing basis for managing customers and fee collection, and proactive efforts are being made to obtain technology to make work activities more efficient.

2.5.1.2 Structure

Although they cooperate with the REB, each PBS essentially conducts business under an independent accounting system. Each year, every PBS submits target performance indicators that each has individually decided on, and by reporting these performance indicators on a monthly basis, the REB manages and guides the progress of work activities for each PBS. In addition, the REB evaluates each PBS's annual performance of overall evaluation indicators which is weighted by importance of each performance indicators. The REB then authorizes the payment of a bonus to the staff of every PBS that achieved its performance target.

Further, each PBS conducts meetings of the Board of Directors, consisting of board members elected from among customers. The board is responsible for all important decision-making. A general manager is appointed by the board to conduct daily activities and to perform operation and management. This structure was developed in the 1970s by USAID, and practiced over 30 years. Therefore it can be judged to have worked well.

2.5.1.3 Financial status

Table 7 shows financial data for the three PBSs established through this project and the REB as a whole. The balance sheets for each of the PBSs show equity capital to be in the red. Looking at the liquidity ratio for each PBS, although Kurigram and Lalmanirhat had ratios exceeding 100%, they were not in good shape financially. Meanwhile, REB, the executing agency for this project, was in exceptionally good shape financially, showing good financial performance results. In particular, its liquidity ratio of 1,599.8% well exceeded the ideal figure of 200%. Consequently, provided that REB can continue to maintain its robust financial condition, each PBS will be able to obtain financial rescue measures, and financial sustainability will have no impending problems.

Table. 7 Balance Sheet and Financial Data (2004, million takas)

Balance Sheet	REB	Rajshahi PBS	Kurigram-Lalmanirhat PBS	Jhenaida PBS
Current assets	27,657	122	261	144
Fixed assets	58,922	771	1,002	956
Total assets	88,057	907	1,273	1,273
Current liabilities	1,729	243	190	239
Total liabilities	34,990	986	1,348	1,406
Equity capital	53,067	-79	-75	-130
Financial data	REB	Rajshahi PBS	Kurigram/ Lalmanirhat PBS	Jhenaida PBS
Sales proceeds	1,324	207	158	24
Net income	704	-24	-25	-11
Depreciation cost	21	31	34	6
Current ratio (%)	1599.8%	50.4%	137.0%	60.3%
Ratio of net income to proceeds (%)	53.21%	-11.75%	-16.13%	-45.44%
Ratio of net income to total assets (%)	0.80%	-2.69%	-2.00%	-0.85%
Ratio of net income to equity capital (%)	1.33%	--	--	--

Turnover of fixed assets (%)	2.25%	--	--	--
Turnover of current assets (%)	4.79%	--	--	--
Ratio of fixed assets to equity capital (%)	111.0%	--	--	--
Fixed long-term relevance rate (%)	68.25%	--	--	--

However, REB's financial structure is such that interest income from loans to PBSs accounts for nearly all of revenue, and the principle is paid almost entirely using loans from abroad. Consequently, should the power supply shortage continue to be severe, PBS may experience lower base charges[Endnote4] compounded with lower fee collection rates, which could cause their financial status to deteriorate considerably. As a result, it presents an obstacle to repayments and interest payments from PBS to REB, leading to concerns that REB's own financial status may also deteriorate. In addition, this situation is making it increasingly difficult for these parties to rid themselves of their constant dependence on foreign donors. Recent newspaper articles have reported that out of over 70 PBS currently in operation nationwide, only 15 or 16 are actually turning a profit. These are all a cause for concern in terms of sustainability. In addition, these problems relating to power supply shortages are expected to continue, and as sustainability is seen to be a huge problem in the short term, caution is necessary.

2.5.2 Operation and maintenance

The transformer substations in three PBS that were newly constructed through this project works well. In all three PBS, spare parts were sufficiently stocked and inventory is handled efficiently using computers so that parts can be replaced or repairs made immediately. If it were necessary to raise issues, it could be pointed out that the old wooden transformer substation in Kurigram Lalmanirhat PBS, control of which was transferred from the PDB, is deteriorating, and its wooden structure needs to be replaced. However, because the capacity of that old substation is small, it does not constitute a serious problem in the immediate term.

3. Feedback

3.1 Lessons Learned

Organizational Design of PBS

As independent business entities, each PBS sets its own target values and

evaluates its progress through monthly reports on performance and financial indicators. In addition, sound incentives are given for work efficiency and business expansion through a system of bonuses offered based on performance results. As a result of this system, each PBS seeks to proactively and continually improve its management through its own individual evaluations, and can be said to be functioning well. This type of system can be a role model for development assistance projects in various sectors..

3.2 Recommendations

(1) Resolving PBS deficits

Although the action each PBS can take is quite limited, to improve deficit structure of PBS, a large number of target figures (such as increasing the number of households connected) must be balanced with financial factors which are not much considered in the current management and setting of target figures of PBS.. First, the extent to which each PBS is running a deficit must be clarified, and recovering the deficit can be added as an target figure. Improving the PBS financial status will help the efficient operation of the project going forward.

(2) Increasing power generation capacity

Specifying external factors and managing associated risks is important in the development assistance operation. In case of this project, a stable power supply is indispensable for PBS to perform their tasks. . Consequently, to ensure the sustainable effectiveness for this project, strengthening of power generation capacity in Bangladesh as a whole and stable power supply to PBS are needed.

Endnotes

1. Bangladesh Power Development Board (1994), “A Brief Status Report on Power Supply System and Commercial Performance,” BPDB Dem, (14).
2. Bangladesh Bureau of Statistics (2003), “Population census 2001 National report (provisional).”
3. The corresponding portion of Table 2 is the 2001 figures.
4. In cases where power outages exceeded 45 hours in a month, customers were exempt from payments; it was clear, therefore, that power outages had a huge effect on PBS fee collection rates.

(End)

Comparison of Original and Actual Scope

Item	Plan	Actual
(1) Outputs	1) Construction of high and low voltage power distribution lines. Rajshahi, PBS: 1575km Kurigram-Lalmanirhat PBS: 2030km Jhenaida PBS: 2030km 2) Construction of transformer substations Rajshahi PBS: 1 location Kurigram-Lalmanirhat PBS: 1 location Jhenaida PBS: 1 location 3) Construction of PBSs Rajshahi PBS: 3 locations Kurigram-Lalmanirhat PBS: 3 locations Jhenaida PBS: 3 locations	1) and 3) ; almost as planned. As for 2), at the time of project completion (2002), there were two locations in Jhenaida, and by 2005 there were four.
(2) Project Period (Disbursement period)	October 1995-March 2002 November 1995-November 2003	October 1995-June 2002
(3) Project Cost Foreign currency Local currency Total Yen Loan Portion Exchange rate	 4,382 million yen 2,022 million yen (822 million taka) 6,403 million yen 4,382 million yen 1 taka = 2.46 yen (as of January 1995)	 4,688 million yen 903 million yen (408 million taka) 5,913 million yen 4,779 million yen 1 taka = 2.21 yen (average over January 1995-December 2005)