End review of Area Coverage Rural Electrification (ACRE) in Bangladesh

Phase VA, Bhola PBS Component
Phase VB, Gaibandha PBS Component

NORAD COLLECTED REVIEWS 15/2007

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END PROJECT REVIEW
BANGLADESH

for

AREA COVERAGE RURAL ELECTRIFICATION (ACRE)

Phase VA, Bhola PBS Component
Phase VB, Gaibandha PBS Component

FINAL REVIEW REPORT

March 2007

NORPLAN

in association with

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INTRODUCTION

In 1997 the Norwegian Government through NORAD, agreed to support the Rural Electrification Board (REB) with NOK 70 million (Grant BGD-0065). The grant should cover supply of material to Bhola PBS, a rural electrification cooperative to be established. Of various reasons an additional allocation of NOK 60 million was made for the same cooperative in 2001. In year 2000 the funding was extended also to cover material for establishment of the Gaibandha PBS (Grant BGD-300). Both projects are part of the ongoing nation wide Area Coverage Rural Electrification (ACRE) Project and are belonging to phases VA and VB respectively. The support was given in the form of a grant to the Government of Bangladesh which in turn should on-lend the money to Rural Electrification Board (REB) on soft terms.

The selection of cooperatives was based of the aspiration to support some of the most remote entities with small financial means. The support followed the "Commodity Assistance Program" which had been running from 1993 also with REB as beneficiary. This financing was reviewed in 1997 [1] with primarily positive findings.

NORAD has now executed their right to perform an end of project review and has given NORPLAN AS, Norway, in association with S. F. Ahmed & Co, Bangladesh, the assignment to prepare the end of project review report.

Terms of Reference (TOR) are included in Appendix 1 but broadly spoken they comprise:

- Assessment of achievements against the planned output
- Assessment of performance and sustainability of the two cooperatives (PBSs) and the Rural Electrification Board (REB)
- Assessment of procurement procedures and results
- Verification of the correct use of funds as well as adherence to other obligation in the agreements and identification of unused amount
- Comment on justification for further financing to REB

Study of the prevailing generation crisis in Bangladesh was not part of the TOR but is addressed as far as it influences the performance of the PBSs. The study of REB in general is limited to review of existing studies and addresses mainly the interactions between REB and the two cooperatives.

The funds disbursed in NOK have been converted back and forth to BDT and/or USD at various times. When for comparison conversion has been necessary the Consultant has used the rate of 2005-05-18 as per last bank statement.

The main work was carried out during a two weeks period (from 4 – 19 September 2006) when the team was assembled in Bangladesh. Both cooperatives as well as REB head quarter were visited. The team is highly grateful for the openness and assistance provided by the staff at these institutions and the willingness they showed in furnishing us with requested data. The main findings were presented to stakeholders and a preliminary report was handed over before the team demobilized. A full draft report was thereafter submitted to REB and NORAD. The final report in your hand takes into account comments from NORAD and REB on this draft report. The full comments are enclosed in Annex 9.

The study team consisted of Md Mosleh Uddin, Senior Consultant Accounting and Auditing, S. F. Ahmed & Co, Bangladesh and Mr. H. Aarresdad, Senior Consultant Electrical Engineering, NORPLAN AS, Norway.

We would also like to thank the staff at the Norwegian Embassy in Dhaka, and in particular Mr Whilhem Wiik, for help and support.

EXECUTIVE SUMMARY

Achievements

The main achievements by end of fiscal year (FY) 2004/05 are summarised in the table below:

	Bhola		Gaibandha	
	Target	Actual	Target	Actual
No of connections	30 000	31 622	17 000	34 815
km of line	1 998	1 871	1 140	1 099
Investment	1 070 million BDT	1 020 million BDT	1 465 million BDT	879 million BDT

Both cooperatives have passed their main goal of connecting a planned number of consumers and they have both used slightly less than planned hardware to achieve the goal. Both cooperatives have a commendable collection rate well above 98 %. They also have relatively low system losses indicating high technical standard and few illegal connections.

Bhola

For Bhola PBS the project completion was delayed with two years compared to the five year period planned and an additional 60 million NOK had to be allocated to replace non-appearing funds from GOB and other donors as well as replenish funds lost by currency depreciation. This raised the Norwegian contribution to NOK 130 million but the overall costs were largely as planned. Bhola is impeded by the long supply line connecting it to the national grid. This line gives substandard supply with high losses and many interruptions both directly reducing the cooperative's profit. The line is so long that the voltage at Bhola is extremely sub-standard and the risk exists that it will soon totally collapse.

Gaibandha

It is very encouraging that the number of customers is more than double the planned meaning a great desire for the people to get electricity. The transfer of 6 464 connected customers from Rangpur PBS to Gaibandha contributed to its achievement. However, the current consumer base is nearly exhausted and new investments are needed for further expansion.

Economic results

Both cooperatives struggle with profitability and can for the time being hardly cover the operation and maintenance cost and not at all the interest and repayment of loans. They should be given means to increase the income so that they can become profitable. The distressing lack of generation capacity in Bangladesh poses an alarming threat on the viability of the cooperatives. They loose a disquieting amount of income year after year in load shedding. It also increases the level of consumer dissatisfaction which leads to decreasing will to pay the bills and can in the long run destroy the unique loyalty which is built into the cooperative movement.

REB

Rural Electrification Board has an outstanding reputation for success and is still a solid organisation yielding high efficiency and good re-

sults. However, there are signs of strain in the organisation The recommendation in the report Rural Electrification at a Crossroad [3] should be considered closely. The relations between REB and the PBSs should be analysed in order to give the PBSs more freedom and responsibility.

Procurement — As far as the Consultant can see procurements are based on well prepared specifications. The Norwegian funded material is bought under International Competitive Bidding schemes with good response indicating that competitive prices are attained. Selection of successful bidders follows well organised procedures. Judged form inspection in the field the material seems to be of acceptable quality. Funds were used to procure local supplies (though after successful ICB). This is against the original agreement with NORAD but was allowed in the later addendums. It is however, in conflict with local procurement rules as also the payment in USD to the same suppliers.

Programme approach — REB is programme oriented whereas NORAD funds were project oriented. This conflict was solved by REB in a rather superficial way by charging material sent from store to the two cooperatives to the NORAD account regardless of it being bought under the NORAD funding or not. This makes it impossible to trace the material all the way to the projects. However, it looks that the booked amount is used to buy material for rural electrification albeit sometimes used in other cooperatives than specified.

Funding — A large amount of the total project funding remained unused by the end of the ACRE project. The NORAD part was used to 93 % in Bhola and 83 % in Gaibandha meaning that BDT 112 millions remains unused in Bhola account and BDT 76 million remain unused in Gaibandha account. In addition comes material not used in the ACRE project which will be transferred to project for “More Intensification and Expansion of 67 PBSs”

Financial management — Contrary to the loan agreement the independent auditing did only cover the PBSs not “the total flow of funds from the receipt by the relevant central authority to final use on the various activities” as specified in the loan agreement. In addition observations from the Foreign Projects Audit Directorate remains unsettled years after they are raised.

Reconciliation — Reconciliation of the interpretation of the loan agreement towards local procurement rules and the understanding of the auditing schemes should have been carried out at the beginning of the project.

Remaining funds — REB should be commended not frenetic spending the remaining funds but keeping to the intentions of the allocation and showing some savings. There are of course a wide number of tasks within the rural electrification to where the funds could be used but the question remains if it is worthwhile under the present production capacity deficit. However, the Consultant is recommending the parties to consider use of the remaining funds for reinforcement of the power supply to Bhola.

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LIST OF ABBREVIATIONS/ACRONYMS - GLOSSARY

ACRE	Area Coverage Rural Electrification
BDT (or Tk)	Bangladesh Taka (exchange rate used: 1 BDT = 0.019 USD or 0,1 NOK-as per 2005.05.24)
BECR	Bangladesh Energy Regulatory Commission
BPDB (or PDB)	Bangladesh Power Development Board
DESA	Dhaka Electric Supply Authority
FAPAD	Foreign Aided Projects Audit Directorate
FY	Fiscal year (running 1st July to 30th June)
GOB	Government of Bangladesh
HV	High Voltage (33 and 11/6.6 kV)
ICB	International Competitive Bidding
IDB	Islamic Development Bank
IPP	Independent power producer
JBIC	Japan Bank for International Cooperation
KFAED	Kuwait Fund for Arab Economic Development
LRMC	Long Run Marginal Cost
n.a	Not applicable
LV	Low voltage (415/240 V)
NGO	Non Governmental Organisation
NOK	Norwegian Kroner (exchange rate used: 1 NOK = 0,16 USD or 9,90 BDT-as per 2005.05.24)
NORAD	Norwegian Development Agency
NVP	Net Present Value
OPEC	The Organisation for Oil Exporting Countries
PBS	Pally Bidyut Samity (distribution cooperatives)
PGCB	Power Grid Company of Bangladesh
REB	Rural Electrification Board
SFD	The Saudi Fund for Development
TOR	Terms of Reference
TK (see BTK)	Taka (see BTK)
USD / USsc	American Dollars / cents / (exchange rate used: 1 USD = 6,4 NOK or 62,34 BDT-as per 2005.05.24)
WB	The World Bank
WZPDCL	West Zone Power Distribution Company Limited

GLOSSARY

Electrical	
Hz (Hertz)	Unit of frequency
V (volt)	Unit of voltage
W (Watt)	Unit of active power
Wh (Watt-hour)	Unit of energy
VA (Volt-ampere)	Unit of apparent power
VAr (Volt-ampere reactive)	Unit of reactive power
Loss Load Factor (LLF)	Ration of peak loss to average loss
Load factor (LF)	Ratio of average load to peak load
Power factor (PF)	Ratio of active power on apparent power (Cos φ)
Technical losses	Losses (heat generated) in technical installations before the power is metered in the client's premises
Non technical losses	Power used but not metered, i.a theft through illegal connections, meter tampering etc.
Prefixes	
k	kilo (1 000)
M	Mega (1 000 000)
G	Giga (1 000 000 000 or 1 000 M)
T	Terra (1 000 000 000 000 or 1 000 G)
Regional monetary units	
Lakh	100 000 (hundred thousand)
Core	10 000 000 (100 lakh)
Administrative units	
Division	The highest administrative unit (Bangladesh is divided into 6 divisions)
Zila or districts	The medium administrative unit (Bangladesh is divided into 64 zilas)
Upazila	Lowest administrative unit in rural areas unit (Bangladesh is divided into 476 upazilas also sometimes called thanas)

1 BACKGROUND

1.1 The Project

Rural electrification

In 1997 Norway decided to prolong its support for rural electrification in the form of an untied grant to the Government of Bangladesh (GoB) under the "Country Frame Allocation". The grant should be on-lent to REB for specific use for establishment of Bhola Pally Bidyut Samity (PBS = distribution cooperative). The support should cover the foreign currency component of equipment and material acquired through international competitive bidding (ICB). An additional grant of NOK 60 million was allocated in 2001. This time without the condition of foreign currency component. In year 2000 a new grant of NOK 70 million was negotiated to support a similar cooperative, Gaibandha PBS on the same basis.

Goals and objectives

The goal and objective for both projects can be summarised as follows (ref ToR, Appendix 1):

- Goal: Create economic and social development through provision of electricity to rural areas.
- Objective: To establish and finance two specific PBSs

1.2 Basic challenges in rural electrification

Rural Electrification

In present day's society access to electricity is regarded as a necessity for development, even close to a human right. However, rural electrification is a compelling challenge world wide. The challenge can be defined as follows:

How to make the indisputable positive resource of electricity available, at an affordable price, to the rural population?

The goal behind this challenge is difficult to accomplish. Because of the great distances to be covered, the investments for bringing the electricity to the rural consumers is high and operation and maintenance costly. Making the situation even worse, the consumption that shall pay back the investments is low. Many ways of simplifying construction and operation are conceived in order to reduce cost. The pros and cons for such solutions are not discussed in this review; the solutions selected are accepted and reviewed.

Subsidizing

Inevitable some sort of subsidy is necessary in order to make rural electrification workable in developing countries (as well as in most developed countries). Such subsidising can be done in many ways i.a. by cross subsidies between consumer groups, by subsidising power purchase or sales tariff or by investments financed from the tax coffer or by grant and soft loans from donors. Whatever, scheme used the end results should be to create a scheme where funds for **operation** and **maintenance** are generated and made available for the operational unit. It is far outside the scope of this report to discuss the merits of the subsidising schemes but as per Terms of Reference

we are assessing the cooperatives chance for generating the needed resources mentioned above under today's scheme.

1.3 Organisation of rural electrification in Bangladesh

Organisation

The governmental organisation Rural Electrification Board (REB) is given mandate to organise the planning, construction and operation of the facilities for rural electrification. The rural concession areas are demarcated against the other concessionaires by Bangladesh Energy Regulatory Commission (BERC).

Cooperatives

REB has selected the cooperative model as strategy for fulfilling the requirements under its mandate. REB is planning and constructing the grid through their central organisation. When the basic grid is established, each supply area is organised as an independent cooperative (PBS) responsible for normal utility functions in that area. In order to be connected, the customer must buy membership in the cooperative and has thereby right to participate in the selection of the board. This cooperative model gives a remarkable customer loyalty and most cooperatives attain a payment rate above 95 % whereas other utilities in the country struggle to reach 60 %.

1.4 Outside impediment

Balanced chain

Technically successful grid based rural electrification is depending on three equal balanced components:

- Available generation capacity
- Available transmission capacity
- Available distribution and reticulation capacity

Line of responsibility

The PBSs have only control of and responsibility for, the last chain in this link. In reality they are also not allowed to set commercially justified tariffs. Grid power is bought from the Bangladesh Power Development Board, presently at a favourable bulk supply tariff. Bulk supply is normally metered in Power Grid Company of Bangladesh's (PGCB) grid substation and PGCB charges a wheeling tariff. Losses from grid station to PBS' own substations are fully paid for. If the feeding lines are shared with other operators the losses are calculated by an agreed formula.

Shortage of power

Bangladesh is slowed down by a considerable shortage in generation capacity leading to daily load shedding. The load shedding should in principle be equally spread over the consumers but rural consumers seem to be given a disproportional part of the burden. The load shedding leads to noticeable loss of sale (in the range of USD 250 000 per day for REB only). This also gives reason for consumer dissatisfaction leading to installation of private generators, refusal of payment and even to riots. All this gives huge loss in income to the PBSs and threaten the sustainability.

Old lines

Some of the supply lines are old and unreliable giving extra power cuts resulting in loss of income and increased dissatisfaction. The report addresses REB's need to abate these problems.

2 PROJECT ORGANISATION

Programme oriented

REB is a programme oriented organisation whereas the NORAD funds were project specific. As discussed later, this conflict was solved rather unilaterally by REB by themselves charging NORAD account material sent from their store to the two cooperatives at an average store price regardless of the material actually being bought by NORAD funds or not. It is noted that this most likely is outside NORAD's expectations and that these procedures makes it impossible to safeguard that the NORAD funds has only been used for the two cooperatives aimed at or to figure out exactly how much of the funding for these cooperatives that came from NORAD. The Consultant has however, not found any indications that the NORAD funds are used to buy equipment and material not to be used in the rural electrification programme.

Mix of currencies

As commented upon in the mid term review report the funds when transferred from NORAD were placed on a BDT account which later was used to pay procurement in USD. This gave exchange losses that in full are born by REB and the transfer between currencies makes strict reconciliations of the accounts difficult.

3 ACHIEVEMENTS

3.1 Coopratives

Influence on society

The influence of electrification has been thoroughly documented in the "Economic and Social Impact Evaluation Study of the Rural Program in Bangladesh" [2] The main findings here is definitely that rural electrification has positive influence on a multitude of aspects of rural life.

3.1.1 Bhola

Location

The project covers the rural areas in the 3 404 km^2 Bhola District which comprises the Bhola island and some smaller islands at the outlet of Meghana River. The project includes 7 out of 8 upazilas. Not included is the smaller island Manpura and the municipality of Bhola which both are supplied by West Zone Power Distribution Company Limited (WZPDCL; a distribution company unbundled from BPDB).

Completion

The project commenced December 1997 and was completed medio 2005 two years delayed. As mentioned below additional funds had to be allocated to finish the project, which may sound a little peculiar when seeing how much unspent funds are left by project completion. A relatively short and superficial project completion report was submitted September 2005 (Appendix 2). It should however be noted that the first villages were energised in 1999 when formal commercial operation started.

Key Achievements

The key data for the project is summarised in the table below. The major goal is of course the number of connected consumers which is reached with good margin requiring less physical installation than

planned as well as slightly lower drawdown from the Norwegian funds.

Table 3-1 Key data Bhola

Physical installations	**Target**	**Achievement**
Consumer connection	30 000	31 622 nos.
Lines	Total – 1 998 km. New-1700 km. Ren. - 298 km	Total – 1 871 km. New - 1 308 km. Ren. - 563 km.
Sub-stations	2 nos.	2 nos.
BPDB's Taken over Lines	355.37 km	290.41 km
Expenditures1	**Budgeted**	**Used**
Norwegian contribution	9.7 million USD 70 million NOK	
Additional Norwegian funds	5.3 million USD 60 million NOK	
GOB and other donors	16.9 million USD	
TOTAL COST	26.6 million USD 1 070 million BDT	1 020 million BDT
Savings	50 million BDT	
Coverage	**As per revised date**	
Total no. of household in service area	58 321	
No. of household connected	23 747	
Consumption FY 2004/5	95 GWh	
Peak load FY 2004/05	8 MW (provided no load shedding)	

Cost and time

The completion of the project was originally foreseen to be June 2003 and the cost to be met by the Norwegian contribution NOK 70 million plus contribution from GoB. The Norwegian contribution should cover the foreign expenditures accrued for material purchased after International Competitive Bidding.

Delay and cost increase

In 2001 it was evident that REB lagged far behind the plans. Some of the reasons for the delay are noted in the Nordic Consulting Croup's "Mid-term review" [5]. But in 2001 the main reason given was material shortage because GoB had not come up with funds as agreed for purchase of vital parts. In addition the funds from Norway had been converted to Bangladesh Taka (BDT) and depreciation has lead to less buying power. Hence REB was short of NOK 60 million which they requested Norway to fund. An Addendum to the contract providing additional funding of the said amount was agreed upon. The target for completion was moved to medio 2005. This new target was reached by REB.

[1] It should be noted that currency exchange rates fluctuations makes the figures only approximate.

Running entity

Though delayed in completion, Bhola PBS is from June 1999 a running cooperative and by the revised target date serving more clients than planned.

Under voltage

The grid station supplying Bhola is lying on the mainland in the far end of the 132 kV line and has already severe voltage problems. These are amplified by the unusual long (72 km) 33 kV line and submarine cables to Bhola. The voltage on Bhola is far under any acceptable standard (by one big industrial consumer visited the voltage was 280 V instead of the normal 414 V). This situation is alarming and can not be solved by voltage regulators. It will grow worse and worse by increasing load and will inevitable result in total voltage collapse. The losses on the line are also extremely high giving huge extra cost to the PBS.

In addition, the low standard of the 33 kV supply line to the island and the difficult terrain is passes makes supply interruptions caused by line failure very frequent and long lasting. Bhola PBS also complains about the quality of the WZPDCL supply in general. They regard it evident that own WZPDCL network is given priority when there is a shortage of energy. All these problems add to the general load shedding mentioned above and make Bhola very vulnerable. It is also difficult to harvest new customers located close to existing lines which could give extra income with very small investment.

New line

A new 33 kV line with some submarine cable intersections is surveyed from Barisal town. The line would only be 36 km long reducing the losses and the voltage drop considerably. In addition Barisal is more centrally located in the national grid and has better voltage profile a fact that would further improve the situation.

Gas potential

An on land gas field has been discovered at Bhola Island. A production well is drilled and the wellhead is erected. Even a gas transmission pipe to Bhola town is constructed. However, the gas processing plant is missing and the field is totally idle meaning that the investments do not generates any income yet.

Fulfilment of goals

The project goals are met as domestic consumers, commercial and small scale industries in the rural parts of Bhola now is supplied with electricity in a scale as planned. At the same time the goal of the project is fulfilled as the PBS is up and running. More details form the field visit is found in Appendix 4.

3.1.2 Gaibandha

Location

The project covers the rural areas in the 1 530 km^2 Gaibandha District in the north western part of the country. The project covers 5 out of 6 upzilas. The remaining upazila is supplied by the neighbouring PBS and in addition some municipalities which still are and shall be supplied by BPDB.

Commissioning

The project was completed in 2006 and a relatively short and superficial project completion report was submitted in September 2006 (Appendix 3).

Key Achievements

The key data for the project is summarised in the table below. The major goal is of course the number of connected consumers which is double the planned number needing less physical installation than planned as well as slightly less Norwegian funds.

Physical installations	**Target**	**Achievement**
Consumer connection	17 100	34 815 nos [2].
Line	Total – 1 140 km. New-820 km. Ren. - 320 km	Total – 1 099 km. New - 834km. Ren. - 265 km.
Sub-stations	3 nos.	3 nos.
PDB's Taken over Lines	320.00 km	105.49 km
Expenditures[3]	**Budgeted**	**Used**
Norwegian contribution	70 Million NOK	58 million NOK
GOB and other donors	78 Million NOK	31 million NOK
TOTAL COST	148 Million NOK 1 465 Million BDT	81 million NOK 879 million BDT
Savings	586 million BDT or 59 million NOK	
Coverage	**Achieved as per revive date**	
Total no. of household in service area	44 152	
No. of Household connected	41 095	
Consumption FY 2004/5	34 GWh	
Peak load FY 2004/05	11 MW (provided no load shedding)	

Table 3-2 Key data Gaibandha

Cost and time

The completion of the project was originally foreseen to be June 2005 and the cost to be met by the Norwegian contribution NOK 70 million plus contribution from GoB. The Norwegian contribution should cover the foreign expenditures accrued for material purchased after International Competitive Bidding. The project was slightly delayed but kept within the budget with good margin.

Running entity

Gaibandha PBS is from March 2000 a running cooperative and by the revised target date serving more clients than planned.

Fulfilment of goals

The project goals are met as domestic consumers, commercial and small scale industries in the rural parts of Gaibandha now is supplied with electricity. At the same time the goal of the project is fulfilled as the PBS is up and running. More details form the field visit is found in Appendix 5.

[2] Including 6464 connected consumers transferred from Rangpur PBS-1

[3] It should be noted that currency exchange rates fluctuations makes the figures only approximate.

3.1.3 *Future sustainability*

For the year following the close of the projects the financial position of the two NORAD assisted PBSs were as indicated below:

Sl. No.	Indicator	Bhola PBS	Gaibandha PBS
1.	System Loss on the basis of Sub-station meter reading	12.93%*[4]	9.18%
2.	Accounts receivable (in month)	3.75	1.86
3.	Accounts payable (in month)	1.00	1.00
4.	Percentage of billing	100.07	100.71
5.	Per Kwh net loss	BDT 1.18	BDT. 1.014
6.	Net loss for the year	BDT 31,818,531	BDT 36,541,797
7.	Actual sales	BDT 69,830,325	BDT 114,653,682
8.	Break even sale	BDT 101 648 856	BDT 236,768,321
9.	Deficit	BDT 31 818 531	BDT 122,084,639

Table 7-1 *Operqtional data*

In view of the above effective steps need be taken without delay to make the two PBSs financially viable.

3.2 Rural Electrification Board

Document study

A thorough updated review of the obligations and merits of the REB is found in the report “Bangladesh Rural Electrification Program at the Crossroads” [3]. As per ToR, time only allowed a document study of REB complemented by discussions with representatives from REB and the PBSs but then only related to the relationships between them and not much on the broader aspects. Additional information was found in the Annual report FY 2003/04 supplemented by key figures for the years up to FY 2005/06. The document reviewed was supplemented by telephone conversations with representatives from major donors.

Performance

It is the unambiguous statement from all documents and from all personal sources that REB together with the PBSs has been, and still is, a brilliant role model for utility operation and rural electrification. Its merits outweigh all other distribution companies in Bangladesh regardless of key factor used for comparison. The system losses representing the sum of technical and nontechnical losses are well below any other utility in the country, the collection rates are high and the amount receivable is well above any comparable institution in Bangladesh (as well as in the region).

Even by comparison with other countries in the region REB has managed to connect a remarkable number of new consumers and stretch the grid to cover almost all the country. Fig 3 – 1 below shows how REB has managed to accelerate the connection of new consumers

[4] In addition, up to 30 June 2006 the PBS incurred a total loss of BDT. 33,874,108 on account of line loss between PDB Billing Meter and PBS Sub-Station Meter.

through the years. Of course this achievement has only been possible by having access to capital on favourable conditions.

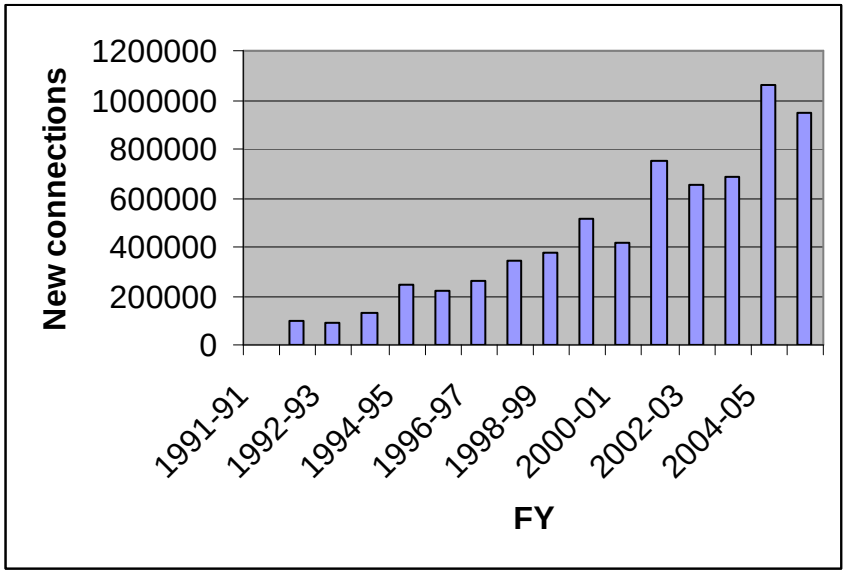


Fig 3-1 New rural connections nation wide

Generation crisis

The shortage of power is a nightmare for everybody involved in electrification and it is questionable if further rural electrification is advisable until the situation is improved. This do not mean that the Consultant means that REB should involve itself in generation, quite contrary all analysis reviewed indicates that REB should withdraw from its current involvement in generation and focus of its mainstream activities establishment of PBSs with purpose of rural electrification.

Warning sign

All documents and responders presented clear warning signs for the future of REB and are pressing for changes. Not dismantling but change in direction and focus. The main areas of concern regarding the current situation can be summarised as follows:

- REB is growing large with 70 cooperatives to supervise. This requires more delegation and a more supervisory style requiring new guidelines and new approach to the challenges.
- The newest PBSs are financially weaker (as the most promising by purpose was established first). Mechanisms have to be established to make also those sustainable.
- REB has become more politicised and used for political advantages not for the purpose of serving the common man and has partly lost focus by entering into generation business.
- The civil service structure of the organisation makes it difficult to recruit persons with outside experience or special skills in emerging technologies.
- Technical thinking is dominant, financial thinking has to be stressed with emphasises on commercial viability.
- Competent PBSs is not given room to act as commercially independent bodies

These grievances should be urgently addressed in order to revitalise the organisation and the donor confidence.

4 PROCUREMENT

4.1 Process

Purchase routines

Material for all PBSs are centrally bought by REB which also plans the construction works and allocates the material needed.

After assessing the demand for equipment in the two PBSs, REB has bundled the purchases into packages based on standard technical specifications.

The procurement was divided into 65 purchase orders under the Bola (0064) scheme and 25 orders under Gaibandha (300) scheme.

Procurement

As far as the Consultant can see procurements are based on well prepared specifications. The Norwegian funded material is bought under International Competitive Bidding schemes with good response indicating that competitive prices are attained. Selection of successful bidders follows well organised procedures From time to time some suppliers may not have performed as expected but they are then excluded from further participation and compensation is sought as far as possible.

No objections

The proposal for each package was given no objection from the Norwegian Embassy before they were floated for International Competitive Bidding. When the bids were opened they were evaluated by the standing evaluation committee. Their recommendations were approved by the governmental evaluation committee before submission for no objection from the Norwegian Embassy.

Material clearance

Each type of material is allocated to specific item number (in fact warehouse number). As each such item number has standard specification attached; in principle an item will be exchangeable regardless of manufacturer or supply lot. This means that REB do not regard it essential to track that the physical material bought under a specific financing agreement for a specific PBS actually reaches this PBS. In their interpretation of the agreement it is enough to document that the PBS has got the same numbers of that specific item. This rationalises the operation of REB as it do not need to keep each purchase order stored separately and it give way for an rational organisation of the construction work as the PBS does not have to wait for a specific lot arrives but can continue working on already stored material.

However, it makes it more difficult for financiers as NORAD to control that funds allocated for a specific project in fact is used for this project. This problem was already addressed under the commodity assistance phase preceding the current ACRE project and discussed in the Review Report of 1997 [1]. The Consultant find that the routines improves the logistics in the project and do not resist the idea of regarding the standard item used in the project even though the tracing of used fund will be a tracing of quantities after the material has

reached the store (or is sent directly form factory). However, the procedures should have been reconciled with NORAD's requirements for reporting and incompliance between loan agreement, accounting procedures and domestic procurement rules should have been sorted out at the start of the project.

Handling

Most materials are passed by the warehouses before sent to the PBSs but some material, in particular concrete poles from domestic suppliers are sent directly from the factory to the PBSs. This is done to avoid expensive and cumbersome handling of such heavy material and avoid breakage by reloading and is a recommended world wide.

4.2 Quality and price

As judged from brief field and store inspections the quality seems to be on the better side though sometime lacking a little in finish as normal in this region. It has not been possible really to do any sensible judgement of prices but all material are procured after ICB which should grant the lowest prices possible at the quality level specified.

4.3 Accounting

REB is a programme oriented organisation with strong central control over the construction projects. Their systems and routines are not at all adapted to the project oriented approach NORAD had in the current financing.

It is clear that the funds provided by NORAD through purchases paid from the NORAD account was not needed by the two cooperatives in the quantity purchased in the different purchase orders or even not needed at all by Bhola or Gaibandha PBS but used elsewhere in the programme. Annex 7 shows the a list of purchase orders paid from the two NORAD accounts and Annex 8 shows the material sent the cooperatives and booked under NORAD financing. Annex 8 also compares the booked amount with the purchased amount and clearly shows the discrepancy even though some smaller item purchased was not identified to make the list complete.

On the other hand the two cooperatives were furnished with a lot of material that they did need but that was not bought under NORAD financed contracts. However, as a relatively arbitrary bookkeeping exercise, such material was defined in the cooperatives' loan base as financed by NORAD.

The key control element is the item number that is a unique store number that material with same specification, even though bought under various purchase orders and supplied by different manufacturer, is given. REB regards, as normal in any well organised store system, all articles with same item number to be identical and do not keep track of from which manufacturer of purchase order they ship the material. This reduces the store area and simplifies store management making it easier to avoid tens of store numbers for functionally identical equipment with the risk that some of this material will

end up unused because it has been forgotten that they could be used at other places.

As our first finding it must be concluded that the NORAD funds were used for buying equipment needed for normal replenishing of the construction store**. I.e. as a program support or commodity support not as project support**.

The result of this is that actual booking of material delivered to the cooperatives is a pure accounting exercise carried out relatively randomly. Equipment sent to the cooperatives is booked to the NORAD accounts regardless of being bought by NORAD funds or not. The costs booked by the cooperatives are the warehouse cost for that specific item meaning the last purchase cost of that item.

However, one can not say if all this equipment has really been used as the store value particularly at Bhola PBS seems to be very high indicating some amount of overstocking.

4.4 Comments

Local suppliers

As seen from the auditors findings discussed in Chapter 7, the use of NORAD funds for paying local suppliers are questioned. This is a two sided coin.

On one side NORAD's, did, for Bhola extension and Gaibanda, remove the condition for offshore supply. Seemingly whishing not to let out domestic firms so far as they are found to be the cheapest under international competitive bidding procedures.

On the other side is Bangladesh's wish not to spend foreign currency on local available items and the opportunity such funding gives suppliers to manipulate VAT requirements and take advantage of exchange rate fluctuations. In fact as the consultant understands the local procurement rules they do not open for such financing of local suppliers.

In any case it seems that the amount of local purchases is quite high to be a foreign financed project. The main local purchase is from a syndicate of concrete pole manufacturer.

Deviations

The Consultant notes the following deviations from the local procurement regulations and/or the loan agreement:

4.4.1 Bhola PBS

- Out of 65 procurement deals as many as 24 have been made with local suppliers.
- The local suppliers were paid in foreign exchange and as a result the benefit (risks[5]) of exchange fluctuation was enjoyed by the suppliers at the cost of project fund.

[5] For a Bangladesh supplier there is virtually no risk

- The Contracts were executed with suppliers observing normal procedures but the main contract deed does not contain vital information, such as, the quantity required to be supplied, the delivery period, the consignee, the quality control arrangements, etc. These parts of the contract are filed separately which is not in strict coherence with the local procurement regulations.
- The Contract file is not self contained. As such, the papers relating to contract processing, awarding, execution and payments are not readily available.
- Materials and equipment procured from NORAD fund were received at the Central Stores of REB; not by the PBS and pooled with similar items procured utilizing funds provided by other agencies.
- Issue of materials and equipment on the basis of annual plan is made from Central Store or supplier's premises as available to PBS and charged the average cost price. As such, it cannot be said that the procurement made utilizing NORAD fund fully reached the PBS for which funded.

4.4.2 *Gaibandha PBS*

- Out of 25 procurement deals as many as 10 were with local suppliers.
- The practice of obtaining delivery of materials and equipment for Gaibandha PBS at the REB Central Stores, creating a pool for each of the different items and afterwards transferring to the PBS at an average price persisted. As such, NORAD fund might not have actually been used for procurement of materials and equipment for Gaibandha PBS.

5 PROVISION OF FUNDS AND THEIR USE BY REB

5.1 General

Programme funding

Donor wise Project Aid , excepting GoB grant, and Actual Expenditure for ACRE Project Phase-VA & Phase-VB (conversion rate 1 US$ = BDT 52.05 as per Project Proforma) were as in Table 5-1 below. The table shows a huge underutilisation of the funds which by remaining in the bank most likely to a great extent assist in covering the operational expenses by the interest they generate.

This should be a concern to both REB and the donors as it most likely indicates that the organisation to a certain degree do not cope with the present volume of activities.

Project Name	Donor's Name	Total Investment		Total Expenditure		Percentage of use
		Million USD	Million BDT	Million USD	Million BDT	
ACRE Phase-5A	IDB	19.21	999.88	18.15	944.70	94.48
	SFD	10.50	546.52	8.36	435.13	79.61
	KFAED	10.00	520.50	4.96	258.17	49.60
	JBIC	28.40	1 478.22	25.80	1 342.90	90.84
	NORAD	15.00	780.75	13.97	727.13	93.13
	Netherlands	23.00	1 197.15	12.14	631.88	52.78
	Total:	**106.11**	**5 523.02**	**83.38**	**4 339.91**	**78.58**
ACRE Phase-5B	OPEC	8.30	432.01	7.41	385.69	89.27
	NORAD	7.80	405.99	6.47	336.76	82.94
	JBIC	12.55	653.22	9.87	513.73	78.64
	Total:	**28.65**	**1 491.23**	**23.75**	**1 ,236.18**	**82.89**

Table 5-1 Utilisation of programme funds

NORAD Funds

According to Appendix 7 the procurements under the NORAD funds amount to (including inspection fee):

- Bhola PBS (Grant BDG 065) USD 14 386 790 (BDT 748 832 420)
- Gaibandha PBS (Grant BGD-300) USD 6 074 259 (BDT 316 165 181)

On the other hand Appendix 8 indicates a transfer of equipment and material to the cooperatives to be as follows:

- Bhola PBS (Grant BDG 065) BDT 588 893 024
- Gaibandha PBS (Grant BGD-300) BDT 374 489 499

It has not been possible to verify the figures as they represent different time windows with different exchange rates, different purchase orders and very arbitrarily allocation to the projects.

5.2 Bhola PBS under ACRE Project Phase-VA

The funding arrangement for the above ACRE Project was as under

Financing Institutions	USD million	
IDB loan	19.21	Out of 8 new PBSs proposed to be constructed with these loans and grants, NORAD contribution was for construction of Bhola PBS (BGD-0064) only.
SFD loan	10.50	
KFAED loan	10.00	
JBIC loan	28.40	
Netherlands Grant	23.00	
NORA grant	15.00	
GOB grant	4.58	

Table 5-2 Funding agreements Phase VA

The release of NORAD grant was made as indicated below:

Agreement Date	Invoice No.	Actual date of payment	Amount in million NOK paid
9th December 1997 (original grant)	BGD-97/018-2	31.12.1997	15 000.00
	BGD-97/018-3	31.12.1998	27 500.00
	BGD-97/018-1	31.12.2000	27 ,500.00
16th December 2001 (additional grant)	BGD-00/351-1	16.12.2001	23 500.00
	BGD-00/351-2	16.08.2002	18 500.00
	BGD-00/351-3	07.10.2003	18 000.00
		Total:	130 000.00

Table 5-3 Release of NORAD grant Bhola

In terms of the provisions contained in Annex-1 to the original grant agreement Norwegian support was to be used for partly financing equipment which must be procured form abroad, for building 1,700 Km. new electricity distribution lines and rehabilitation of additional estimated 298 Km of existing distribution net work in Bhola District. The additional grant was to be utilized to procure specified materials (estimated to cost 6.00 million US Dollar) through international completive bidding and to compensate the currency fluctuations and exchange rate losses (both totalling approximately USD 754,065). The actual utilization of NORAD grant was made in foreign and local procurement as detailed in Appendix 7

5.3 Gaibandha PBS under ACRE Project Phase-VB

The above Project was arranged to be financed as under:

Financing Institutions	USD million	
OPEC Loan	8.30	Out of 5 new PBSs proposed to be constructed with these loans/grants, NORAD contribution was for construction of Gaibandha PBS (BGD-300) only.
NORAD Grant	7.80	
JBIC Loan	12.55	
GOB Grant	4.80	

Table 5-4 Funding agreements Phase VB

The release of NORAD grant was made as noted below:

Agreement Date	Invoice No.	Actual date of payment	Amount in million NOK paid
18th December 2000	BGD-99/376-1	18.12.2000	40 000.00
	BGD-99/376-2	16.11.2001	30 000.00
Total:			70 000.00

Table 5-5 Release of NORAD grant Gaibandha

The Norwegian support was provided against procurement of equipment and materials for Gaibandha PBS through international tenders. The planned output was to construct 1,140 Km. distribution line for connecting 17,100 consumers.

The actual utilization of NORAD grant was made as detailed in Appendix 7

6 EXTENT OF NORWEGIAN FUNDS DISBURSED BY REB

The total amounts of NORAD fund disbursed by REB for Bhola PBS and Gaibandha PBS are indicated below

Name of PBS	Total amount in BDT of fund received		Total amount in BDT of fund disbursed	Unutilized balance in BDT at the close of Projects on 30 June 2005	Location and value of the unspent balance [BDT]	
Bhola PBS	NORAD fund	865 447 894.39			(i) Sonali Bank, Local Office FCAD A/c No. 00013	111,621,773.21
	Net bank interest	20 382 827.80			(ii) Sonali Bank, Local Office STD A/c No. 36002018	832 464.37
	Total:	885 830 722.19	773 376 484.61	112 454 237.58		112 454 237.58
Gaibandha PBS	NORAD fund	414 967 720.00			(i) Sonali Bank, Local Office STD A/c No. 236002265	76 936 050.00
	Net bank interest	17 148 054.00				
	Total:	432 115 774.00	355 179 724.00	76 936 050.00		76 936 050.00

Table 6-1 Disbursed funds

Apart from the above unspent balances, the exact amount of NORAD fund in the form of cost of materials and equipment remaining unused shown below at the close of the Projects on 30 June 2005 could not be readily ascertained in the absence of required information:

Name of PBS	Value based on average price of Project Stores remaining unutilized at the close of project on 30 June 2005	Remarks
Bhola PBS	BDT. 170 601 237.49	The amount represents value of 193 items. These are in addition to Operation & Maintenances stores held by the PBS.
Gaibandha PBS	BDT 76 913 952.00	The amount represents value of 214 items which are in addition to Operation & Maintenance stores held by the PBS.

Table 6-2 Unused material

The above closing stocks of materials and equipment are stated to have been earmarked for transfer to the REB project: “More Intensification and Extension of Distribution System of 67 PBSs”.

7 FINANCIAL MANAGEMENT

7.1 Auditing

Sources of information

The source of information for assessment of the financial management is primarily the audit reports.

Auditing

Two auditing mechanisms are relevant for this project:

1.) The auditing of the individual cooperatives as independent commercial entities

2.) The auditing of REB’s external financed project portfolio as an governmental body

Cooperatives

The auditing of the individual cooperatives is done by local auditing firms. The yearly auditing reports have been presented and reviewed by NORAD. These reports are reviewed by the Consultant and apart from revealing a relatively weak financial position (ref. section 3.1.3) they have none unsettled observations.

REB

The auditing of REB’s is done by the Foreign Aided Projects Audit Directorate (FAPAD). They issues yearly auditing reports covering the ACRE Project. These reports are studied by the Consultant and show an accumulating numbers of unsettled observations as commented upon below.

REB in their comments to the draft report (Annex 9) maintains that several of these observations are settled. It is not for the Consultant to judge on these matters. Settlement will be recorded in the FAPAD’s annual audit reports. However, as REB has not been able to present the audit report year 2005 (project closure), the consultant

will express concern that it still appear to be many unsolved observations and advising NORAD in the future to keep pressure on REB for settling such comments year by year.

Lacking complete auditing chain

In the project agreement it is required to establish in addition to the auditing done by FAPAD an independent external Audit Firm shall be hired to perform an audit certifying the flow of funds from receipt by the relevant central authority to final use on the various activities. This seems to have been deferred as the independent auditing firms did only audit the accounts of the cooperatives not the central procurement under the project phases. This was totally left to the FAPAD and as discussed above their findings was not settled before contract closure.

Findings

Below is a summary of statutory auditors' main findings and conclusions:

It appears from the reports of the Foreign Aided Projects Audit Directorate (FAPAD) of the Govt. that financial management especially the internal control of ACRE Project Phase-VA and ACRE Project Phase-VB was not satisfactory in view of the following:

(i) None of the two Projects had exclusively a Project Director to shoulder the responsibilities of project administration and financial management. Project Director's responsibilities are stated to have been shared by different Directors at REB Headquarters.

(ii) Internal financial control of the projects remained weak as evidenced by

a. non-maintenance of Cash Book or Bank Control Ledger, Receipts and Disbursement Ledgers, Advance Memorandum etc. essential books required under Project Accounting Manual of the GOB issued in consultation with the Comptroller and Auditor General.

b. non-deduction of taxes at source from suppliers,

c. unauthorized transfer of project fund,

d. non-observance of limit in making payments from Imprest Fund, etc.

(iii) At each year end REB loan in kind to PBSs as per books not reconciled with that reflected by the books of account maintained by the concerned PBSs.

(iv) Out of 81 audit observations raised by FAPAD on the accounts of ACRE Project Phase-VA for the period up to 30 June 2004 none could so far be got settled.

(v) On the other hand, out of 37 audit observations raised by FAPAD on the accounts of ACRE Project Phase-VB for the period up to 30 June 2004, only 2 items could so far be got settled.

FAPAD Audit Report on ACRE Project Phase-VA and ACRE Project Phase-VB for the year ending 30 June 2005 (the closing of both the projects) are stated to have not so far been received by REB[6].

7.2 Other Comments

High store volume

By end of project the stores, in particular for Bhola PBS is far too high, representing a financial burden to the cooperative. REB is proposing to transfer most of the surplus material to other PBSs. This will ease the financial burden for Bhola PBS but represents a cross subsidy to projects outside the loan agreement lowering the unspent balance.

8 CONCLUSIONS

8.1 Achievements

The goal and objective of the project components are reached as the two cooperatives are up and running having used less fund than planned. However, concern is raised on the financial viability of the cooperatives under the current supply situation and tariff regime.

Of the total down payment of NOK 200 000 000, the unspent balance is amounting to BDT 76,936,050.00 equivalent to NOK 19 130 332

8.2 Compliance with Funding Agreements

Non objections from the embassy are sought for all purchases in accordance with the loan agreement. However, the consequences of pooling purchases do not seem to be thorough discussed between the parties and reconciliation with local purchase regulations seems to be lacking.

There are no indications that the funds are not used to procure material for REB. However by the pooling system used by REB it is not possible to follow the material all through to the specific PBSs

Documents required by the loan agreements including audit reports have been provided. However, the independent audits had a more limited scope than set forward in the agreement as the total audit of accounts from central purchase to the PBS seems to be replaced by a two stage auditing where centrall purchase is only audited by FAPAD.

Regular meetings between the Embassy and REB has been held as per schedule.

[6] Based on their comments to draft report we cannot see that REB has done anything to trace the whereabouts of this report either.

Audit comments from FAPAD are not settled year by year and deviations from local procurement rules in matters of maintaining records of procurement are observed.

9 USE OF REMAINING FUNDS

Remaining funds

REB should be commended not frenetic spending the remaining funds but keeping to the intentions of the allocation and showing some savings. The unspent balance of BDT 189 390 287 equivalent to NOK 19 130 332 is a substantial amount and could be requested repaid to NORAD and looking on the bleak generation situation one could discuss if further electrification is the best way of using the fund. However, one must assume that the situation is temporary and it is clear that the project has really reached the beneficiaries. In particular it would be tempting to use the funds to improve the supply situation to Bhola as this PBS is on the brink of collapsing if the situation is not improved.

In Terms of Reference the Consultant is asked to recommend on the use of remaining fund. NORAD has two options:

- Get the amount repaid from REB and hence reach final closure of the project
- Use the fund for funding an extension to the project

The Consultant can see reasons for closing this long running project as the main goals (i.e. establishing two PBSs and connecting an agreed number of consumers) are achieved.

The current generation crisis also makes it questionable if more load should be added to he grid the coming 2-3 years.

However, the Consultant will stress the danger that Bhola PBS because of week in feed, can collapse. This can turn the success into a fiasco. A strengthening of the in feed would not increase the load on the grid but reduce it by reducing the large losses.

REB should set the priorities for possible extension of the project. However, REB says in the overall comments to the draft report: "….But at present Bhola PBS is suffering from 33 kV low voltage problem having huge system loss. It is recommended that the balance fund of Norway be utilized for its development"

The consultant understands this to be a priority statement and the statement is endorsed by the Consultant. Such a project is in addition very well defined and should not have more that 1 - 1 ½ years duration.

If the project is extended NORAD should closely follow the process of settling observations made by FAPAD.

References/bibliography

[1] Norwegian Commodity Assistance and Parallel Financing to Rural Electrification Board, Review Report; NORPLAN – S.F. Ahmed & Co; June1997

[2] Economic and Social Impact Evaluation Study of the Rural Program in Bangladesh; Human Development Research Centre, NECRA International Ltd, October 2002

[3] Bangladesh Rural Electrification Program at the Crossroad. An Analysis of Barriers, Threats, and Opportunities to Enhance Program Sustainability; NECRA International Ltd: January 2005

[4] Assessment of Present Status And Ascertaining of Additional Foreign Currency Requirement for Completion of Bhola PBS; Prokaushali Sangsad Ltd.; November 2001

[5] Mid-term Review, Area Coverage Rural Electrification, Phase V-A (Bhola PBS), Bangladesh, BGD 0064, Final report; Nordic Consulting Group; October 2000.

END OF PROJECT REVIEW
BANGLADESH

APPENDIX 1
TERMS OF REFERENCE

Terms of Reference (ToR)
for
End Project Review

BGD – 0064	**: Area Coverage Rural Electrification (ACRE), Phase VA, Bhola PBS**
BGD – 3000	**: Area Coverage Rural Electrification (ACRE), Phase VB, Gaibandha PBS**
Implementing Agency	**: Bangladesh Rural Electrification Board (REB)**
Executing Agency	**: Power Division, Ministry of Power, Energy and Mineral Resources**

1. Introduction and Background

Norway has been supporting the rural electrification in Bangladesh since 1993. It started in the form of 'Commodity Assistance' by financing deliveries of equipment and materials from Norway to Bangladesh Rural Electrification Board (REB). The equipment and materials included treated wooden poles, conductors, transformers, single-phase meters, etc. being imported from Norway. The support was also provided under the Norwegian Commercial and Investment Facilities (Parallel Financing).

In 1997 Norway decided to extend its support to REB in the form of untied grant to the Government of Bangladesh (GoB) under the 'Country Frame Allocation'. The first grant of NOK 70.00 million was allocated for establishment of Bhola Pally Bidyut Samity (PBS – a distribution co-operative) under 'Area Coverage Rural Electrification (ACRE), Phase VA' of REB. Agreement to this effect was signed on 09.12.1997. The Norwegian support was to cover a part of the cost for procurement of equipment and materials through international tender termed as foreign currency component for implementation of the project.

In the year 2000, Norway approved a second similar project allocating NOK 70 million grant for establishment of Gaibandha PBS under ACRE Phase 5B. The agreement for support was signed on 18.12.2000.

Meanwhile REB came up with the request for providing additional amount equivalent to USD 6 million (approximately) to complete implementation of Bhola PBS. The additional amount was required to cover a part of the foreign currency component originally expected from some other development partner and around USD 1 million to cover the currency loss due to the gap between actual procurement/payment and receipt of fund by REB. The additional amount equivalent to NOK 60 million was approved in 2001 and addendum to the original agreement signed in 1997 was entered into on 15.12.2001.

The Norwegian support to both the projects have been provided against procurement of equipment and materials for the projects through international tenders.

The Goals and objectives for both the projects were very similar as mentioned below:

Goals and Objective:
Bhola PBS :
Goal : creating economic and social development through provision of electricity to rural areas in Bangladesh.
Project Objective : one out of eight PBSs under Phase V-A estblished and running namely Bhola PBS.

Gaibandha PBS :
Goal : provide electricity to rural areas in Bangladesh and thereby create a necessary base for employment and income generation, poverty alleviation and economic and social development.
Objective : Norway's assistance under this Project Agreement is to finance the Gaibandha PBS as a part of the larger REB Project "Area Coverage Rural Electrification Phase V-B" and thereby provide electricity to rural consumers of different categories.

Outputs:
Bhola PBS:
Planned output was to build distribution line for making electricity available to 636 villages for estimated 30,000 consumers in Bhola district. The Norwegian support was earmarked for procurement of necessary foreign equipment for building of 1,700 km of new electricity lines and rehabilitation of additional estimated 298 km of the existing distribution network.

Gaibandha PBS:
Under the project, it was planned to construct 1,140 km distribution line for connecting 17,100 nos. consumers in 5 Upazilas under Gaibandha district.

Implementation of both Bhola PBS and Gaibandha PBS officially commenced in 1996 – 97 with scheduled completion in 2002 – 03, but actually both the projects completed implementation in June 2005. It has, however, been informed that a reasonable amount of fund of the projects remained unspent due to procurements at comparatively lower prices.

As per the provisions of the Agreements and the addendum thereto, the Embassy has received final/end of the project reports from REB. The Embassy is responsible for assessing the completion reports and in the agreement for support to Gaibandha, provision for end project review was included. Accordingly, the Embassy has decided to initiate end project review for both the projects.

2. Objectives, purpose and context of the Review

The primary objective of the review is to assess the achievements and sustainability of the projects.

3. Scope of Work

The scope of work for the review will include but not be restricted to the following issues:

- assessment of the achievements of the projects against the planned outputs;
- performance and sustainability aspects of the two PBSs from both financial and management point of view;
- general performance of REB regarding efficiency in distribution of electricity (i.e. system loss), quality of customer services, management of PBSs, etc. based on available secondary information with particular reference to the two PBSs under review;
- assessment of the policy and procedure for procurement and distribution of procured materials/equipment followed for the two PBSs;
- assessment of the quality and price of the equipment and materials procured through international tenders under the projects
- collect detailed statements from REB regarding use of funds against both the projects and assess whether the payments are made based on proper documentation;
- assess whether the procurements paid form the Norwegian funds were only made in accordance with the agreements;
- verify how much of the fund disbursed by Norway has been used, how much are still unused/unspent and report/certify on the availability of those amounts (detail of the accounts, banks shall be provided);
- assess and comment whether all the obligations under the agreements are fulfilled;
- comment on the justifications for further financing to REB for expansion of distribution lines in the context of the present level of generation of electricity.

4. Implementation of the review

The review shall be based on study of existing documents maintained at REB headquarters and PBS offices concerned and study of reports prepared by others as well as collection of first hand information through interview of relevant personnel in the Power Division, Ministry of Power, Energy & Mineral Resources, REB's central office in Dhaka and the respective offices of Bhola PBS and Gaibandha PBS.

Composition of the team

The team for the review shall consist of 2 members, headed by a consultant engaged by Norad, Oslo having adequate experience and exposure to the power sector preferably in Bangladesh.

The Bangladeshi member of the team should have experience and exposure with financial matter in general and preferably GoB/REB procurement procedure.

Selection, appointment, contracts, payments of the team

Norad headquarters will be responsible for recruitment of the team leader and the team leader will choose the other member of the team in consultation with the Embassy if felt necessary.

5 Reporting

Report format : The main report from this review shall not exceed 15 A-4 size pages including an executive summary, major findings, conclusions, recommendations. Supporting information/documents may be provided in the Annex.

Presentation of report

At the end of the field study the consultants shall submit/present the findings in a debriefing meeting with the Embassy in Dhaka and REB/the Ministry. A draft report in 3 copies shall be submitted to Norad, Oslo at the end of the study period. Electronic version of the review reports shall be mailed to the concerned officials in Norad headquarters and the Embassy. It may also be necessary to present the report to Norad headquarters. The Embassy will take initiatives to provide quick feedback/comments on the draft report. The Embassy will be responsible for collecting comments from REB and the Ministry. Within two weeks of receiving comments from the Embassy the consults will submit the final report.

6 Time Frame

The study shall be completed within four calendar weeks from awarding of the contract. The team leader shall decide on individual involvement for the consultants based on planning for the review. The team leader's total involvement shall be for four weeks, one week for planning and commissioning, two weeks in the field after the pre-study and one week for preparation of the draft report and final report in Norway. The Embassy expects that the review take place in May/June 2006.

Approved :

Aud Lise Norheim
Ambassador

Dated : Dhaka _____/_____/ _____

END OF PROJECT REVIEW
BANGLADESH

APPENDIX 2
END OF PROJECT REPORT BHOLA

PROJECT COMPLETION REPORT

ON

NORAD FINANCING

AREA COVERAGE RURAL ELECTRIFICATION PHASE V-A (BHOLA PBS)
(Grant Agreement No. BGD 0064)

RURAL ELECTRIFICATION BOARD
BANGLADESH
September, 2005

PROJECT SUMMARY FINANCED BY NORAD

1.	Loan No.	:	BGD-0064
2.	Name of the project	:	Area Coverage Rural Electrification Phase V-A (Bhola PBS).
3.	Name of the Sponsoring Ministry	:	Ministry of Power, Energy & Mineral Resources (MPEMR), Power Division.
4.	Name of Executing Agency	:	Rural Electrification Board (REB)
5.	Name of the Donor Agency	:	The Government of the Kingdom of Norway.
6.	Date of Grant Agreement	:	09.12.1997
7.	Date of Addendum to Agreement	:	15.12.2001
8.	Grant Amount	:	NOK 130.00 Million (Eqv. US$ 15.00 Million)
9.	Total Expenditure	:	14.465 Million US$
10.	Goal of the Project	:	The goal of the project is to create economic and social development through providing electricity to rural areas in Bangladesh.
11.	Objective of the Project	:	To build up 1998 Km. of distribution lines in Bhola district for providing connection to 30,000 nos. of different types of consumers.
12.	(i) Introduction	:	Annexure–A
	(ii) Background	:	Annexure–B
	(iii) The Sector	:	Annexure–C
	(iv) The Project	:	Annexure–D
	(v) The Impact of the Project	:	Annexure–E
	(vi) Economic Justification	:	Annexure–F
	(vii) Physical Achievement	:	Annexure–G
	(viii) Consultants	:	Annexure–G
	(ix) Audit Report	:	Annexure–G
	(x) Procurement Status	:	Annexure–H

Annexure-A

1. Introduction:

1.1 Name of the Project: -

Area Coverage Rural Electrification Phase V-A (Bhola PBS).

1.2 Location of the Project: -

The project covers the area of 7 thanas of Bhola district.

1.3 Formulation of the Project: -

Rural Electrification Program in Bangladesh was started in 1977. As per laid down master plan the rural areas of Bangladesh will be electrified in five phases. Implementation of the fifth phase of rural electrification program has been started in the FY 1996-97 . In order to build up reliable power supply to the intended beneficiaries in the rural areas comprising different categories of consumers Area Coverage Rural Electrification Phase V-A Project was undertaken in 1996-97 with the approval of the Govt. of Bangladesh. This project comprised of 08 (eight) PBS covering 45 (forty five) Upa-zillas of the country. It was envisaged that, implementation of the project as a whole will entail an expenditure of US$ 165.59 million out of which the amount of local currency is Tk. 37424.00 lakh equivalent to US$ 71.90 million and US$ 93.69 million in foreign currency.
The Government of the Kingdom of Norway extended their support by providing NOK 130.00 million (US$ 15.00 million) for implementation of phase V-A project partly including 7 Thanas covering an area of 3404 sq. km. of the district Bhola district

Annexure-B

2. Background

Rural Electrification has been identified as a principal component of the overall rural infrastructure to achieve the goal of rural development in particular and that of national economy in general. Availability of electricity not only promotes productivity in agriculture through the application and use of better production techniques e.g. mechanized irrigation but causes small and cottage industries to energy resulting in new employment opportunities for the unemployed or disguisedly unemployed. The programme also significantly contributes to improve the international balance of payment situation resulting a cut in the import of petroleum products. Bangladesh had already embarked on a planned and organized rural electrification program. Through the creation of Rural Electrification Board (REB) a statutory Govt. organization under the Ministry of Energy and Mineral Resources in 1977, Area Coverage Rural Electrification Projects are being implemented in different parts of the country. 31 (thirty one) such projects were undertaken by REB prior to the formulation of ACRE phase V-A (Revised) covering 424 Upa-zillas which together accounts for about 90% of the country's geographical area. Implementation of the Area Coverage Rural Electrification Projects and operation of the rural distribution systems over the past years has proven that the rural electrification projects are sustainable and viable as rural institutions.

The project created a significant and sustained impact on the reduction of both income-poverty and all dimensions of human poverty such as health, education, women empowerment etc. So the objective of the project is relevant with the national development perspectives, PRSP, goals and objectives of Five Years plan as well as Three Years Rolling Plan.

3. The Sector :

The Power Sector of Bangladesh has been passing through a transformation process over the last one decade. The Govt. of Bangladesh has decided to restructure its Power Sector with the objective of creating suitable conditions for the sustainable development of it's power industry through promoting competition, efficiency and transparency, attracting private financing and improving the efficiency and quality of electricity services in Bangladesh. The ultimate goal of the reform process is to ensure that :

a) Electricity power will be supplied under the most efficient conditions in terms of quality and cost to support the economic development of the country.

b) The Power Sector ceases to be a burden on the govt. and eventually becomes a net generator of financial resources. General agreement has been reached on the unbundling of integrated sector operation and a program to implement the structural changes. GOB has decided that, the existing institutional, organizational, financial and ownership arrangement under which the power industry is operating, functioning as an extension of the Govt. is no longer adequate to meet the requirement of the country. The Govt. has also decided to operate the industry along commercial principles, through privatization of particularly the distribution business and to gradually enable it to access the capital markets on it's own strength.

Bangladesh's power sector reform program has involved (i) the unbundling and structural separation of generation, transmission and distribution into separate services to be provided by separate companies. (ii) incorporation of new utilities as companies under the companies act. (iii) private sector participation in the distribution business (iv) competitive bidding for new generation (v) development of a statutorily created independent and autonomous regulatory agency (vi) reforming of electricity tariffs for bulk supply, transmission and retail supply. An appropriate legislation amending the existing electricity act is also under way.

Annexure-D

4. The Project :

A grant agreement (grant no. BGD 0064) for an amount of NOK 70.00 million (US$ 8.17 million) was signed between the Govt. of Bangladesh (GOB) and The Government of the Kingdom of Norway on 09.12.97 for implementation of Bhola PBSs under ACRE phase V-A project. The fund was provided to build-up infrastructural facilities in 07 (seven) Upazillas of Bhola district (Bhola, Borhanuddin, Daulatkhan, Char-Fasson, Lal-Mohon, Monpura, Tazimuddin) provide reliable power supply to the intended beneficiaries within the project area. The project envisages construction of 1998 km. of distribution lines and 2 nos. 5 MVA capacity 33/11 KV sub-stations which will provide facilities for electrical connection to 30,000 nos. of different types of consumers. The GOB provided local currency support to the project to meet the associated local costs of the project including construction of Head Quarter Complex for the PBS.

An addendum of the loan agreement was signed for an amount of NOK 60.00 million (US$ 6.74 million) for implementation of the same project with same PBSs on 15.12.2001 because the line construction target against the PBS was not complete.

The project was commenced from the FY 1996-97, which was scheduled to be complete in 2002-03. But due to late availability of foreign fund and non-handing over of PDB line in the phase V-A project, it has completed in June'2005. Two sub-stations each having of 5 MVA capacities have been constructed which have facilitated service connection to 31622 nos. The civil construction of the PBSs head quarter has been completed in time. All employees of different rank and file were recruited by phases for smooth operation and maintenance of the PBS during the implementation period of the project.

Annexure-E

5. The Impact of the Project:

Before undertaking the rural electrification program in the 7 (seven) Upa-zillas of the Bhola district, most of the project areas remained in darkness a result of which there were not many socio-economic activities. Due to the electrification program, a total of 31622 consumers have been provided with electricity, which includes24670 nos. domestic, 6413 nos. commercial, 77 nos. irrigation, 360 nos. industry and 102 nos. streetlights. The PBS is buying electricity from the Power Development Board at Bulk Supply Tariff rate and sells the power to different categories of consumers at different rate as determined by the PBS Board and REB. Bills for the PBS is paying purchase of power to PDB on a regular basis.

Electrification of Bhola PBSs has opened up sizeable employment opportunities for both skilled and unskilled work force in the rural areas of Bhola districts. Establishment of Bhola PBS has created direct employment opportunities. Engineers, Accountants, Wiring Inspectors, Lineman, Meter readers, Cashiers, Billing Assistants, generalist are working being employed by the PBS for operation and maintenance activities, while huge number of regular and seasonal workforce have been employed by the emerging industries, irrigation pumps and commercial institutions through linkage effects of rural electrification. The irrigation pumps have intensified cropping pattern, which in turn have translated into increased demand for agricultural labors and enhanced food production rendering positive impact on national economy. Emerging rural and cottage industries having the benefit of electricity have created employment opportunities. Gainful employment resulting from the project would increase the purchasing power of those employed thus having a favorable impact an alleviation of poverty. Electrification in Bhola districts is also having a positive impact on the literacy rate of children and adult people and the people are also exposed to the modern world with the TV and media network. The birth control rate is also expected to come down due to electrification as the people are now having prolonged activities at night due to electrification. The law and order situation is improving due to less crime activities. In short, rural electrification in Bhola PBSs is having manifold positive impact.

Annexure-F

6. Economic Justification:

Human Development Research Centre (HDRC) has conducted a study on 'Economic and Social Impact Evaluation Study of the Rural Electrification Program in Bangladesh' recently. Based on the analysis of data major findings are **:**

Overall Impact:

- The Importance of electricity is clear as it is ranked as number one infrastructure ingredient to improve living standard in rural Bangladesh.
- Electricity has become an integral part of the life.
- Rural beneficiaries cannot even think of their lives without electricity.
- Even if no substantial material gains for all the rural people, electricity has been closely integrated with the hopes and aspirations of the beneficiaries.

Economic Impact:

- Greater income.
- More jobs in rural areas.
- Average income for EHH is twice that of NEHH in electrified villages and 15% higher than NEHH in control.
- Percent of people below poverty line in villages served by PBSs: 34% (27% in developed PBS) as against 41% in control villages.
- Single greatest economic impact is electric power to irrigation pumps although benefits are unequal.
- Corp yields are higher in electrified villages.
- Wage employment in agriculture is higher in EV.
- Off-farm employment soared in EV (Increased by 2/3rd in EHH)
- EHHs save 40% more money annually than their neighbors without electricity.
- EHHs have greater access to credit.
- Entirely new segment of commerce and industry due to RE.
- REB/PBS employ directly more than 6,000 people in addition to 22,000 created by electrical manufacturers, suppliers and retailers.

- 240,000 skilled and unskilled laborers for loading and carrying REP materials.

- Electrified business stay open longer and do a third more business in a day.

  Electrified commercial units hire more employees at higher salaries.

- Industries move slowly into electrified areas.

- Older PBSs have begun to benefit from larger industrial consumers (e.g. textile mills).

- Small industries (e.g. saw mills, rice husking mills, ice-cream factories) respond more quickly to rural electrification.

- Smaller industries help develop local economy as they all most of their products local markets.

- The better-established industries make productive use of local resources.

Social Impact:

Positive changes in the way of life through:

- Availability of lights in the home

  * Power for TV and Radio.
  * Power for refrigeration in commercial units.
  * Appliances and machines.

- Presence of lights and power in the home has accelerated the process of learning and exposure to new ideas and information.

- 96% of the respondents identify a significant positive impact on the education of the children, as lights are available in the evening for studying.

- Greater participation of women in teaching the children.

- TV viewing has opened a new window for globalization for isolated communities.

- TV is a popular source of entertainment.

- TV is a new means of informing and education people (e.g. on health, education. agriculture, voting, social development).

- Significant success in popularizing immunizations and use of latrines.

- Positive impact in the formation and promotion of social values.

- Many welcome TV's positive role.

- Others are concerned about waste of children's time and bad influences from foreign cultures.

- Clear improvement of the condition of women.
- More evening hours available for relaxation and assisting children with homework.

- Women are now better informed of matters outside the home.

Environmental Impact:

- The Rural Electrification Projects have no adverse effect on environment. The programme is expected to reduce indoor air polluting by replacing kerosene, firewood with electricity as energy source for lighting. This will deliver health impunements, particularly for women and young children, who spend much of their time indoors. The project will also reduce the use of diesel as an energy source for pumping, agriculture processing, light industry, commerce and service delivery.

  This can potentially increase energy efficiency and may mitigate the growth in carbon emissions and their contribution to global warming. It will also reduce pollution from exhausts fuel spills. Moreover introduction of electricity driven irrigation equipment's replacing diesel driven irrigation equipment's help to reduce air pollution. Besides creation of irrigation facility will help Tree Plantation Programme. RE- Programme helps not only to increase productivity of farmlands but also lessen flood probability by accelerating Tree Plantation Programme.

Annexure-G

7. Physical Achievements :

Item	Target	Achievement
i) Line	Total - 1998 km. New-1700 km. Ren. - 298 km	Total - 1871 km. New - 1308 km. Ren. - 563 km.
ii) Sub-stations	2 nos.	2 nos.
iii) Consumer connection	30,000	31622 nos.
iv) PDB's Taken over Lines	355.37 km	290.41 km

8. Consultant:

List of Consultants engaged for Norway financed PBS.

Name of PBS	Name of the Consultants		Remarks
Bhola	Civil	ACE-MEPC Consortium, Dhaka	Work Completed
	Electrical	PEU Consortium, Dhaka	Work Completed

9. Audit of the Accounts:

M/s Rahman Rahman haque& Co. (an independent audit firm) audited the accounts of REB which comprises Norway financed activities in Bhola PBSs for FY 2004-2005 and the audit report will be sent on March 2006.

Procurement Status of June 2005

Fund : NORAD

Grant Amount : 130.00 Million NOK

Grant No.BGD 0064

Project : VA

Project Velidity : 30th June 2005 **Loan Validity :** No Specific Date.

IFB No.	L/C No	L/C Date	Item	Supplier	Contract Amount (US$)	Delivery Period	Due Delivary		Payment of 90%			Payment of 10%			Total (Tk)	Deduction / Balance (US$)	Current Status
							50 %	100 %	US$	Ex. Rate	Bangladeshi Taka	US$	Ex. Rate	Bangladeshi Taka			
1st Tench																	
NR - 1			SPC Pole	Charka	450 000,00				405 000,00	48,75	19 743 750,00	45 000,00	58,51	2 632 950,00	22 376 700,00	-	Completed
NR - 2			SPC Pole	Charka	400 000,00				360 000,00	48,75	17 550 000,00	40 000,00	58,51	2 340 400,00	19 890 400,00	-	Completed
NR - 3			SPC Pole	Gemcon	478 000,00				430 200,00	48,75	20 972 250,00	47 800,00	58,51	2 796 778,00	23 769 028,00	-	Completed
NR - 4			SPC Pole	Charka	521 000,00				468 900,00	48,75	22 858 875,00	52 100,00	58,51	3 048 371,00	25 907 246,00	-	Completed
NR - 5			Cross Arm	Esac	111 800,00				6 120,00	48,75	298 350,00	7 092,50	51,25	363 490,63	5 268 715,63	4 087,50	Completed
									11 250,00	48,75	548 437,50						
									83 250,00	48,75	4 058 437,50						
NR - 6			Anchor Log	Diran	100 250,00				44 865,00	49,75	2 232 033,75	2 745,87	51,26	140 753,30	4 697 487,05	7 279,13	Completed
									45 360,00	51,25	2 324 700,00						
NR - 7			Hardware	Bahar	59 830,00				27 252,00	51,25	1 396 665,00	-		-	2 759 924,70	5 983,00	Completed
					-				26 595,00	51,26	1 363 259,70						
NR - 8			Hardware	Bayazid	53 264,24				47 937,82	48,75	2 336 968,53	-	58,51	-	2 336 968,53	5 326,42	Completed
NR - 9			Hardware	Bright Steel	52 776,29				31 000,27	51,25	1 588 763,84	2 100,10	51,26	107 651,13	2 541 957,45	3 177,53	Completed
									16 498,39	51,25	845 542,49						
NR - 10			Hardware	Asbesco	47 190,00				42 471,00	48,75	2 070 461,25	4 247,10	51,25	217 663,88	2 288 125,13	471,90	Completed
NR - 11			Hardware	Asbesco	46 543,51				41 889,16	48,75	2 042 096,50	1 689,42	58,51	98 847,96	2 140 944,47	2 964,93	Completed
NR - 12			Ins. Cond.	Bangkok	463 000,00				416 700,00	51,25	21 355 875,00	45 704,87	54,26	2 479 946,25	23 835 821,25	595,13	Completed
NR - 13			Ins. Cond.	Bangkok	300 725,00				270 652,50	51,25	13 870 940,63	30 072,50	-	-	-	-	Completed
NR - 14			Bare Cond.	BRB	169 500,00				152 550,00	48,75	7 436 812,50	16 950,00	51,25	868 687,50	8 305 500,00	-	Completed
NR - 15			Insulator	Jaya Shree	63 890,00				57 501,00	49,75	2 860 674,75	6 389,00	51,25	327 436,25	3 188 111,00	-	Completed
NR - 16			Cond.& Guy	PLP, USA	43 530,00				39 177,00	58,51	2 292 246,27	4 353,00	51,25	223 091,25	2 515 337,52	-	Completed
NR - 17			Guy & Gr.	Trifileurope	473 975,00				426 577,50	58,51	24 959 049,53	46 532,26	58,25	2 710 504,15	27 669 553,67	865,24	Completed
NR - 18			Connectors	Bahar	45 449,24				22 316,18	48,75	1 087 913,78	4 544,91	54,26	246 606,82	2 240 692,90	-	Completed
									18 588,15	48,75	906 172,31					-	
NR - 19			Connectors	UTECO	22 412,00				20 170,80	49,75	1 003 497,30	2 241,20		-	1 003 497,30	-	Completed
NR - 20			Connectors	Bahar	12 784,00				11 505,60	49,75	572 403,60	1 214,48	58,51	71 059,22	643 462,82	63,92	Completed
NR - 21			Fuse Cutout		-				-	-	-	-	-	-	-	-	Re-tender
NR - 22			Surge Arrest.		-				-	-	-	-	-	-	-	-	Re-tender
NR - 23			Fuse Links	EAC	27 168,00				24 451,20	49,75	1 216 447,20	2 037,60	51,26	104 447,38	1 320 894,58	679,20	Completed
NR - 24			Recloser		-				-	-	-	-	-	-	-	-	Re-tender
NR - 25			1-Ph. Meter	PT Fuji	422 280,00				211 815,65	48,75	10 326 012,94	18 692,93	49,75	929 973,27	20 663 915,96	-	Completed
					-				168 236,35	48,75	8 201 522,06	23 535,07	51,26	1 206 407,69			
NR - 26			3 -Ph. Meter		184 920,00				-		-	-	-	-	-	184 920,00	Contract Cancel
NR - 27			CT & PT	TEWC	166 860,00				150 174,00	49,75	7 471 156,50	16 686,00	58,51	976 297,86	8 447 454,36	-	Completed
NR - 28			Line Tools	UTECO	42 572,60				38 315,34	49,75	1 906 188,17	4 067,51	51,25	208 459,89	2 114 648,05	189,75	Completed
NR - 29			Street Light	TEWC	47 639,62				42 875,66	51,25	2 197 377,47	2 149,78			2 197 377,47	2 614,18	Completed
NR - 30			Power Xformer	Vijai	162 670,88				146 403,79	48,75	7 137 184,86	14 216,62	51,26	728 743,94	7 865 928,80	2 050,47	Completed
NR - 31			S/S Switches	UTECO	119 996,58				107 996,92	49,75	5 372 846,87	11 399,68	51,25	584 233,60	5 957 080,47	599,98	Completed
NR - 32			Volt. Regulator	Siemens	267 216,00				240 494,40	49,75	11 964 596,40	26 721,60	51,26	1 369 749,22	13 334 345,62	-	Completed
NR - 33			Bare Cond.	East. Cable	415 800,00				133 088,63	51,25	6 820 792,29	41 579,99			6 820 792,29	0,02	Completed
									128 452,50	51,25	6 583 190,63						
									21 642,39	51,25	1 109 172,49						
									70 999,32	51,25	3 638 715,15						
									20 037,15	51,26	1 027 104,31						

IFB No.	L/C No	L/C Date	Item	Supplier	Contract Amount (US$)	Delivery Period	Due Delivary		Payment of 90%			Payment of 10%			Total (Tk)	Deduction / Balance (US$)	Current Status
							50 %	100 %	US$	Ex. Rate	Bangladeshi Taka	US$	Ex. Rate	Bangladeshi Taka			
NR - 34			Bare Cond.	East. Cable	834 000,00				101 331,00	51,25	5 193 213,75	83 400,00			5 193 213,75	-	Completed
									47 287,80	51,25	2 423 499,75						
									206 039,70	51,25	10 559 534,63						
									222 928,20	51,25	11 425 070,25						
									74 309,40	51,26	3 809 099,84						
									98 703,90	51,26	5 059 561,91						
NR - 35			Bare Cond.	East. Cable	246 400,00				28 512,93	51,25	1 461 287,66	24 639,79			1 461 287,66	-	Completed
									142 335,00	51,26	7 296 092,10						
									50 912,28	51,26	2 609 763,47						
NR - 36			Ins. Cond.	Bangkok	621 600,00				279 720,00	51,26	14 338 447,20	62 160,00	54,26	3 372 801,60	17 711 248,80	-	Completed
									279 720,00	51,26	14 338 447,20						
NR - 37			Dist. Xformer	CMEC	288 900,00				260 010,00	51,25	13 325 512,50	16 224,22	58,51	949 279,11	14 274 791,61	12 665,78	Completed
NR - 38			Dist. Xformer	Vijai	313 526,50				282 173,85	51,25	14 461 409,81	19 337,88			14 461 409,81	12 014,77	Completed
NR - 39			Fuse Cutout	EAC	133 950,00				60 277,50	51,25	3 089 221,88	6 697,50	54,26	363 406,35	3 452 628,23	-	Completed
									60 277,50	51,26	3 089 824,65	6 697,50	54,26	363 406,35			
NR - 40			Surge Arrest.	Lamco	33 750,00				30 375,00	51,25	1 556 718,75	3 375,00	54,26	183 127,50	1 739 846,25	-	Completed
NR - 41			CT & PT	EMEK	198 000,00				89 100,00	51,25	4 566 375,00	19 800,00	54,26	1 074 348,00	5 640 723,00	-	Completed
									89 100,00	51,26	4 567 266,00						
NR - 42			3-Ph. Meter	TEWC	175 900,00				158 310,00	51,25	8 113 387,50	17 249,80			8 113 387,50	340,20	Completed
NR - 43			Meter Seal	TEWC	37 600,00				33 840,00	51,25	1 734 300,00	3 760,00	54,26		1 734 300,00	-	Completed
NR - 44			Ins. Cond.	PT Voksel	461 726,00				415 553,40	58,51	24 314 029,43	32 320,82			24 314 029,43	13 851,78	Completed
NR - 45			Bare Cond.	Paradise	178 300,00				160 470,00	58,51	9 389 099,70	12 481,00	58,51	730 263,31	10 119 363,01	5 349,00	Completed
NR - 46			1 Ph. Meter	Hosaf	116 700,00				105 030,00	58,51	6 145 305,30	11 670,00	58,51	682 811,70	6 828 117,00	-	Completed
NR - 47			3 -Ph. Meter		-				-	-	-	-	-	-	-	-	Purchase Drop
NR - 48			Test Bench		-				-	-	-	-	-	-	-	-	Re-tender
(a) Sub Total =					9 413 395,46	-	-	-	8 305 628,13		426 414 952,33	841 677,50		32 501 994,08	367 146 257,05	266 089,83	
2nd Tench																	
NR - 49	002	02.jan.03	Hardware	BMTF	286 810,58	90-150	######	06.22.03	129 064,76	58,51	7 551 579,11	28 681,06				0,00	Completed
									129 064,76	58,51	7 551 579,11						
NR - 50	013	05.mar.03	Insulator	Allied	165 996,60	90-150	######	08.23.03	74 698,47	58,51	4 370 607,48	463,18	58,51	27 100,66		16 136,48	
									74 698,47	58,51	4 370 607,48						
NR - 51	027	11.des.02	Bare Cond.	Paradise	817 000,00	120-180	######	06.30.03	367 855,88	58,51	21 523 247,54	79 174,05	58,51	4 632 473,67		2 525,95	Completed
									367 444,12	58,51	21 499 155,46						
NR - 52	024	16.jan.03	Cond.& Guy	Tyco	93 935,00	100%-120		06.06.03	84 541,50	58,51	4 946 523,17	8 258,42	58,51	483 200,15		1 135,08	Completed
NR - 53	031	11.des.02	Dist. Xformer	Vijai	682 000,00	140-210	######	07.30.03	613 800,00	58,51	35 913 438,00	68 200,00	58,51	3 990 382,00		-	Completed
NR - 54	037	11.des.02	Dist. Xformer	Vijai	440 300,00	140-210	######	07.30.03	396 270,00	58,51	23 185 757,70	40 291,79	58,51	2 357 472,63		3 738,21	Completed
NR - 55	005	15.jan.03	Fuse Cutout	Delmar	154 000,00	100%-150		07.05.03	138 600,00	58,51	8 109 486,00	15 400,00	58,51	901 054,00		-	Completed

IFB No.	L/C No	L/C Date	Item	Supplier	Contract Amount (US$)	Delivary Period	Due Delivary		Payment of 90%			Payment of 10%			Total (Tk)	Deduction / Balance (US$)	Current Status
							50 %	100 %	US$	Ex. Rate	Bangladeshi Taka	US$	Ex. Rate	Bangladeshi Taka			
NR - 56	003	27.jan.03	Surge Arrest.	Oblum	45 125,00	100%-120		06.17.03	40 612,50	58,51	2 376 237,38	2 255,88	67,00	151 143,96		2 256,62	Completed
NR - 57	007	20.jan.03	3 - Ph. ACR	Travida	101 625,00	100%-150		07.10.03	91 462,50	58,51	5 351 470,88	10 162,50	58,51	594 607,88		-	Completed
NR - 58	004	02.jan.03	Line Volt. Reg.	Cooper	82 935,00	100%-150		06.22.03	74 641,50	58,55	4 370 259,83	8 293,50	58,51	485 252,69		-	Completed
NR - 59	003	02.jan.03	Connectors	EAC	5 800,00	100%-90		04.23.03	5 220,00							580,00	Supply Not yet completed
NR - 60	029	11.des.02	SPC Pole	Gemcon	654 660,00	120-180	######	06.30.03	176 904,00	58,55	10 357 729,20	65 466,00	58,51	3 830 415,66			Completed
									412 290,00	58,55	24 139 579,50						
NR - 61	030	11.des.02	SPC Pole	Charka	390 080,00	120-180	######	06.30.03	157 982,40	58,55	9 249 869,52	39 008,00	58,51	2 282 358,08			Completed
									193 089,60	58,55	11 305 396,08						
NR - 62	012	05.mar.03	SPC Pole	Gemcon	531 900,00	120-180	######	09.22.03	262 926,00	58,55	15 394 317,30	53 190,00	58,51	3 112 146,90			Completed
									215 784,00	58,55	12 634 153,20						
NR - 63	028	11.des.02	X-Arm & Log	Consol.	623 900,00		######	06.30.03	561 510,00	58,55	32 876 410,50	62 390,00	58,51	3 650 438,90		-	Completed
NR - 64	001	02.jan.03	Power Xformer	Energy Pac	91 000,00	100%-150		06.22.03	81 900,00	58,55	4 795 245,00	9 100,00	58,51	532 441,00		-	Completed
NR - 65			Recloser		-	100%-120										-	Re-tender
NR - 48-1	015	30.apr.05	Meter Test Bench	Guangzhau	87 507,00												Contract Cancel
NR - 65-1	084	18-12-04	Sub-Station Switch & Power Fuse	Energy Pac	36 400,00	100%=90 days		12.03.05	32 760,00	59,88	1 961 505,00	3 640,00	58,51	212 976,40		-	Completed
(b) Sub-Total=					5 290 974,18	-			4 683 120,46		273 834 154,41	493 974,38		27 243 464,57	-	26 372,34	
Grand Total =					14 704 369,64	-	-	-	12 988 748,59	-	700 249 106,74	1 335 651,88		59 745 458,65	367 146 257,05	292 462,18	

a. **Total Alloocation in NOK** **130.00 Million**
b. **Total Alloocation in US$** **15 Million**
c. **Total Disbursment in US$** **14 324 400,47**
d. **Total Contract Amount in US$ =** **14 704 369,64**
e. **Deduction+due 10%** **379 969,17**

f. **Inspection Fee in USD =** **62 390,00**

Grand Total =(c+f) = 14 386 790,47

END OF PROJECT REVIEW
BANGLADESH

APPENDIX 3
END OF PROJECT REPORT GAIBANDHA

PROJECT COMPLETION REPORT

ON

NORAD FINANCING

AREA COVERAGE RURAL ELECTRIFICATION PHASE V-B (GAIBANDHA PBS)
(Grant Agreement No. BGD 3000)

RURAL ELECTRIFICATION BOARD
BANGLADESH
September, 2005

PROJECT SUMMARY FINANCED BY NORAD

1.	Loan No.	:	BGD-3000
2.	Name of the project	:	Area Coverage Rural Electrification Phase V-B (Gaibandha PBS).
3.	Name of the Sponsoring Ministry	:	Ministry of Power, Energy & Mineral Resources (MPEMR), Power Division.
4.	Name of Executing Agency	:	Rural Electrification Board (REB)
5.	Name of the Donor Agency	:	The Government of the Kingdom of Norway.
6.	Date of Grant Agreement	:	18.12.2000
7.	Grant Amount	:	NOK 70.00 Million (Eqv. US$ 7.78 Million)
8.	Total Expenditure	:	5.856 Million US$
9.	Goal of the Project	:	The goal of the project is to provide electricity to rural areas in Bangladesh and thereby create a necessary base for employment and income generation, poverty alleviation, and economic and social development.
10.	Objective of the Project	:	To build up 1140 Km. of distribution lines in Gaibandha district for providing connection to 17,100 nos. of different types of consumers.
11.	(i) Introduction	:	Annexure–A
	(ii) Background	:	Annexure–B
	(iii) The Sector	:	Annexure–C
	(iv) The Project	:	Annexure–D
	(v) The Impact of the Project	:	Annexure–E
	(vi) Economic Justification	:	Annexure–F
	(vii) Physical Achievement	:	Annexure–G
	(viii) Audit Report	:	Annexure–G
	(ix) Procurement Status	:	Annexure–H

Annexure-A

1. Introduction:

1.1 Name of the Project: -

Area Coverage Rural Electrification Phase V-B (Gaibandha PBS).

1.2 Location of the Project: -

The project covers the area of 5 thanas of Gaibandha district.

1.3 Formulation of the Project: -

Rural Electrification Program in Bangladesh was started in 1977. As per laid down master plan the rural areas of Bangladesh will be electrified in five phases. Implementation of the fifth phase of rural electrification program has been started in the FY 1996-97 . In order to build up reliable power supply to the intended beneficiaries in the rural areas comprising different categories of consumers Area Coverage Rural Electrification Phase V-B Project was undertaken in 1996-97 with the approval of the Govt. of Bangladesh. This project comprised of 06 (six) PBS covering 29 (twenty nine) Upa-zillas of the country. It was envisaged that, implementation of the project as a whole will entail an expenditure of US$ 95.20 million out of which the amount of local currency is Tk. 21290.00 lakh equivalent to US$ 50.69 million and US$ 44.51 million in foreign currency. The Government of the Kingdom of Norway extended their support by providing NOK 70.00 million (US$ 7.78 million) for implementation of phase V-B project partly including 5 Thanas covering an area of 1525 sq. km. of the district Gaibandha district.

Annexure-B

2. Background

Rural Electrification has been identified as a principal component of the overall rural infrastructure to achieve the goal of rural development in particular and that of national economy in general. Availability of electricity not only promotes productivity in agriculture through the application and use of better production techniques e.g. mechanized irrigation but causes small and cottage industries to energy resulting in new employment opportunities for the unemployed or disguisedly unemployed. The programme also significantly contributes to improve the international balance of payment situation resulting a cut in the import of petroleum products. Bangladesh had already embarked on a planned and organized rural electrification program. Through the creation of Rural Electrification Board (REB) a statutory Govt. organization under the Ministry of Energy and Mineral Resources in 1977, Area Coverage Rural Electrification Projects are being implemented in different parts of the country. 31 (thirty one) such projects were undertaken by REB prior to the formulation of ACRE phase V-B (Revised) covering 424 Upa-zillas which together accounts for about 90% of the country's geographical area. Implementation of the Area Coverage Rural Electrification Projects and operation of the rural distribution systems over the past years has proven that the rural electrification projects are sustainable and viable as rural institutions.

The project created a significant and sustained impact on the reduction of both income-poverty and all dimensions of human poverty such as health, education, women empowerment etc. So the objective of the project is relevant with the national development perspectives, PRSP, goals and objectives of Five Years plan as well as Three Years Rolling Plan.

Annexure-C

3. The Sector :

The Power Sector of Bangladesh has been passing through a transformation process over the last one decade. The Govt. of Bangladesh has decided to restructure its Power Sector with the objective of creating suitable conditions for the sustainable development of it's power industry through promoting competition, efficiency and transparency, attracting private financing and improving the efficiency and quality of electricity services in Bangladesh. The ultimate goal of the reform process is to ensure that :

a) Electricity power will be supplied under the most efficient conditions in terms of quality and cost to support the economic development of the country.

b) The Power Sector ceases to be a burden on the govt. and eventually becomes a net generator of financial resources. General agreement has been reached on the unbundling of integrated sector operation and a program to implement the structural changes. GOB has decided that, the existing institutional, organizational, financial and ownership arrangement under which the power industry is operating, functioning as an extension of the Govt. is no longer adequate to meet the requirement of the country. The Govt. has also decided to operate the industry along commercial principles, through privatization of particularly the distribution business and to gradually enable it to access the capital markets on it's own strength.

Bangladesh's power sector reform program has involved (i) the unbundling and structural separation of generation, transmission and distribution into separate services to be provided by separate companies. (ii) incorporation of new utilities as companies under the companies act. (iii) private sector participation in the distribution business (iv) competitive bidding for new generation (v) development of a statutorily created independent and autonomous regulatory agency (vi) reforming of electricity tariffs for bulk supply, transmission and retail supply. An appropriate legislation amending the existing electricity act is also under way.

Annexure-D

4. The Project :

A grant agreement (grant no. BGD 3000) for an amount of NOK 70.00 million (US$ 7.78 million) was signed between the Govt. of Bangladesh (GOB) and The Government of the Kingdom of Norway on 18.12.2000 for implementation of Gaibandha PBSs under ACRE phase V-B project. The fund was provided to build-up infrastructural facilities in 05 (five) Upazillas of Gaibandha district (Gaibandha, Palashbari, Fulchari, Gobindagonj & Sughatta) provide reliable power supply to the intended beneficiaries within the project area. The project envisages construction of 1140 km. of distribution lines which will provide facilities for electrical connection to 17,100 nos. of different types of consumers. The GOB provided local currency support to the project to meet the associated local costs of the project including construction of Head Quarter Complex for the PBS.

The project was commenced from the FY 1996-97, which was scheduled to be complete in 2003-04. But due to late availability of foreign fund and non-handing over of PDB line in the phase V-B project, it has completed in June'2005. Three sub-stations each having of 5 MVA capacities have been constructed which have facilitated service connection to 34,815 nos. The civil construction of the PBSs head quarter has been completed in time. All employees of different rank and file were recruited by phases for smooth operation and maintenance of the PBS during the implementation period of the project.

Annexure-E

5. The Impact of the Project:

Before undertaking the rural electrification program in the 5 (five) Upa-zillas of the Gaibandha district, most of the project areas remained in darkness a result of which there were not many socio-economic activities. Due to the electrification program, a total of 34815 consumers have been provided with electricity, which includes28381 nos. domestic, 4325 nos. commercial, 1394 nos. irrigation, 690 nos. industry and 25 nos. streetlights. The PBS is buying electricity from the Power Development Board at Bulk Supply Tariff rate and sells the power to different categories of consumers at different rate as determined by the PBS Board and REB. Bills for the PBS is paying purchase of power to PDB on a regular basis.

Electrification of Gaibandha PBSs has opened up sizeable employment opportunities for both skilled and unskilled work force in the rural areas of Gaibandha districts. Establishment of Gaibandha PBS has created direct employment opportunities. Engineers, Accountants, Wiring Inspectors, Lineman, Meter readers, Cashiers, Billing Assistants, generalist are working being employed by the PBS for operation and maintenance activities, while huge number of regular and seasonal workforce have been employed by the emerging industries, irrigation pumps and commercial institutions through linkage effects of rural electrification. The irrigation pumps have intensified cropping pattern, which in turn have translated into increased demand for agricultural labors and enhanced food production rendering positive impact on national economy. Emerging rural and cottage industries having the benefit of electricity have created employment opportunities. Gainful employment resulting from the project would increase the purchasing power of those employed thus having a favorable impact an alleviation of poverty. Electrification in Gaibandha districts is also having a positive impact on the literacy rate of children and adult people and the people are also exposed to the modern world with the TV and media network. The birth control rate is also expected to come down due to electrification as the people are now having prolonged activities at night due to electrification. The law and order situation is improving due to less crime activities. In short, rural electrification in Gaibandha PBSs is having manifold positive impact.

Annexure-F

6. Economic Justification:

Human Development Research Centre (HDRC) has conducted a study on 'Economic and Social Impact Evaluation Study of the Rural Electrification Program in Bangladesh' recently. Based on the analysis of data major findings are **:**

Overall Impact:

- The Importance of electricity is clear as it is ranked as number one infrastructure ingredient to improve living standard in rural Bangladesh.
- Electricity has become an integral part of the life.
- Rural beneficiaries cannot even think of their lives without electricity.
- Even if no substantial material gains for all the rural people, electricity has been closely integrated with the hopes and aspirations of the beneficiaries.

Economic Impact:

- Greater income.
- More jobs in rural areas.
- Average income for EHH is twice that of NEHH in electrified villages and 15% higher than NEHH in control.
- Percent of people below poverty line in villages served by PBSs: 34% (27% in developed PBS) as against 41% in control villages.
- Single greatest economic impact is electric power to irrigation pumps although benefits are unequal.
- Corp yields are higher in electrified villages.
- Wage employment in agriculture is higher in EV.
- Off-farm employment soared in EV (Increased by 2/3rd in EHH)
- EHHs save 40% more money annually than their neighbors without electricity.
- EHHs have greater access to credit.
- Entirely new segment of commerce and industry due to RE.
- REB/PBS employ directly more than 6,000 people in addition to 22,000 created by electrical manufacturers, suppliers and retailers.

- 240,000 skilled and unskilled laborers for loading and carrying REP materials.

- Electrified business stay open longer and do a third more business in a day.

  Electrified commercial units hire more employees at higher salaries.

- Industries move slowly into electrified areas.

- Older PBSs have begun to benefit from larger industrial consumers (e.g. textile mills).

- Small industries (e.g. saw mills, rice husking mills, ice-cream factories) respond more quickly to rural electrification.

- Smaller industries help develop local economy as they all most of their products local markets.

- The better-established industries make productive use of local resources.

Social Impact:

Positive changes in the way of life through:

- Availability of lights in the home

  * Power for TV and Radio.
  * Power for refrigeration in commercial units.
  * Appliances and machines.

- Presence of lights and power in the home has accelerated the process of learning and exposure to new ideas and information.

- 96% of the respondents identify a significant positive impact on the education of the children, as lights are available in the evening for studying.

- Greater participation of women in teaching the children.

- TV viewing has opened a new window for globalization for isolated communities.

- TV is a popular source of entertainment.

- TV is a new means of informing and education people (e.g. on health, education. agriculture, voting, social development).

- Significant success in popularizing immunizations and use of latrines.

- Positive impact in the formation and promotion of social values.

- Many welcome TV's positive role.

- Others are concerned about waste of children's time and bad influences from foreign cultures.

- Clear improvement of the condition of women.
- More evening hours available for relaxation and assisting children with homework.

- Women are now better informed of matters outside the home.

Environmental Impact:

- The Rural Electrification Projects have no adverse effect on environment. The programme is expected to reduce indoor air polluting by replacing kerosene, fire wood with electricity as energy source for lighting. This will deliver health impunements, particularly for women and young children, who spend much of their time indoors. The project will also reduce the use of diesel as an energy source for pumping, agriculture processing, light industry, commerce and service delivery.

  This can potentially increase energy efficiency and may mitigate the growth in carbon emissions and their contribution to global warming. It will also reduce pollution from exhausts fuel spills. Moreover introduction of electricity driven irrigation equipment's replacing diesel driven irrigation equipment's help to reduce air pollution. Besides creation of irrigation facility will help Tree Plantation Programme. RE- Programme helps not only to increase productivity of farmlands but also lessen flood probability by accelerating Tree Plantation Programme.

Annexure-G

7. Physical Achievements :

Item	Target	Achievement
i) Line	Total - 1140 km. New-820 km. Ren. - 320 km	Total – 1099 km. New - 834km. Ren. - 265 km.
ii) Sub-stations	3 nos.	3 nos.
iii) Consumer connection	17,100	34,815 nos.
iv) PDB's Taken over Lines	320.00 km	105.49 km

8. Consultant :

List of Consultants engaged for Norway financed PBS.

Name of PBS	Name of the Consultants		Remarks
Gaibandha	Civil	ACE-MEPC Consortium, Dhaka	Work Completed
	Electrical	PEU Consortium, Dhaka	Work Completed

9. Audit of the Accounts : M/s Rahman Rahman Haque& Co. (an independent audit firm) audited the accounts of REB which comprises Norway financed activities in Gaibandha PBSs for FY 2004-2005 and the audit report will be sent as scheduled (March 2006).

Procurement Status of JUNE 2005

Fund : NORAD

Grant Amount : Tk. 414.97 Million

Grant No.BGD 3000

Project : V-B

Project Validity : 30th June 2005 **Loan Validity : Not Specified.**

IFB No.	L/C No.	L/C Date	Item	Supplier	Contract Amount (US$)	Delivary Period	Due Delivary Period		Payment of 90%			Payment of 10%			Deduction / Balance (US$)	Current Status
							50 %	100 %	US$	Ex. Rate	Bangladeshi Taka	US$	Ex. Rate	Bangladeshi Taka		
NOR - 1	01/5	24.12.2001	Insulator	Jaya Shree	108 350,00	100%-150		13.06.2002	97 515,00	58,51	5 705 602,65	4 640,66	58,55	271 710,64	6 194,34	
NOR - 2	01/3	05.12.2001	Bare Cond.	Paradise	456 200,00	100%-150		25.05.2002	382 063,51	58,51	22 354 536,00	45 620,00	58,51	2 669 226,20	0,00	Completed
						100%-150			28 516,49	58,51	1 668 500,00	-				
NOR - 3	006	28.01.2002	Bare Cond.	Paradise	149 300,00	100%-150		18.07.2002	134 370,00	58,51	7 861 988,70	14 700,18	58,51	860 107,53	229,82	Completed
NOR - 4	01/6	24.01.2002	Ins. Cond.	PT Jembo	386 000,00	100%-150		14.07.2002	347 400,00	58,51	20 326 374,00	38 600,00	58,55	2 260 030,00	-	Completed
NOR - 5	01/7	24.12.2001	Cond. & Guy	Tyco	73 485,00	100%-120		14.05.2002	66 136,50	58,51	3 869 646,62	6 820,74	58,55	399 354,33	527,76	Completed
NOR - 6	01/2	05.12.2001	Dist. Xformer	Vijai	493 850,00	120-180	25.04.2002	24.06.2002	444 465,00	58,51	26 005 647,15	43 048,48	58,55	2 520 488,50	6 336,52	Completed
NOR - 7	009	11.03.2002	Fuse Cutout	Creative	126 840,00	100%-150		29.08.2002	114 156,00	58,51	6 679 267,56	11 487,87	58,55	672 614,79	1 196,13	Completed
NOR - 8	008	18.02.2002	Surge Arrester	Precise	59 619,00	100%-150		08.08.2002	53 657,10	58,51	3 139 476,92	5 961,90	58,86	350 917,43	-	Completed
NOR - 9	003	05.01.2002	Connectors	ACE Energy	57 720,00	100%-150		25.06.2002	51 948,00	58,51	3 039 477,48	5 772,00	58,55	337 950,60	-	Completed
NOR - 10	001	02.01.2002	3 - Ph. Meter	Schlumberge	155 155,00	100%-150		22.06.2002	139 639,50	58,51	8 170 307,15	6 186,56	58,55	362 223,09	9 328,94	Completed
NOR - 11	005	09.01.2002	SPC Poles	Charka	651 000,00	120-180	30.05.2002	07.29.02	232 092,00	58,51	13 579 702,92	65 100,00	58,55	3 811 605,00	-	Completed
									247 968,00	58,51	14 508 607,68	-				
									105 840,00	58,51	6 192 698,40	-				
NOR - 12	01/8	24.12.2001	SPC Poles	Gemcon	204 680,00	100%-180		07.13.02	184 212,00	58,51	10 778 244,12	20 468,00	58,55	1 198 401,40	-	Completed
NOR - 13	007	20.01.2002	Cross Arms	Esac Bros.	46 375,00	100%-150		07.10.02	41 737,50	58,51	2 442 061,13	4 637,50	58,55	271 525,63	-	Completed
NOR - 14	002	05.01.2002	S/S Switches	S & C	145 557,73	100%-150		06.25.02	131 001,96	58,51	7 664 924,68	11 983,50	58,55	701 633,93	2 572,27	Completed
NOR - 15	01/4	05.12.2001	Recloser	Cooper	177 700,00	100%-150		05.25.02	159 930,00	58,51	9 357 504,30	17 770,00	58,55	1 040 433,50	-	Completed
NOR - 16	01/1	05.12.2001	Power Xformer	Vijai	279 505,00	100%-120		04.25.02	251 554,50	58,51	14 718 453,80	26 324,91	58,55	1 541 323,48	1 625,59	Completed
NOR - 17	004	05.01.2002	Guy & Ground.	Bortrans	37 690,00	100%-120		05.26.02	33 921,00	58,51	1 984 717,71	1 966,13	58,55	115 116,91	1 802,87	Completed
Sub-total =					**3 609 026,73**				3 248 124,06		190 047 738,95	331 088,43		19 384 662,96	29 814,24	Completed

IFB No.	L/C No.	L/C Date	Item	Supplier	Contract Amount (US$)	Delivary Period	Due Delivary Period		Payment of 90%			Payment of 10%			Deduction / Balance (US$)	Current Status
							50 %	100 %	US$	Ex. Rate	Bangladeshi Taka	US$	Ex. Rate	Bangladeshi Taka		
NOR - 18	020	28.10.2002	Hardware	Bahar	208 461,44	90-150	02.16.03	04.17.03	150 918,18	58,55	8 836 259,44	20 826,14	58,55	1 219 370,50	20,00	Completed
									36 697,12	58,55	2 148 616,38					
NOR - 19	017	12.10.2002	Bare Cond.	Paradise	639 000,00	120-180	03.02.03	05.01.03	308 277,20	58,55	18 049 630,06	63 900,00	58,55	3 741 345,00	(0,01)	Completed
									266 822,81	58,55	15 622 475,53					
NOR - 20		24.01.2003	Dist. Xformer	Sun Rice	388 808,50	120-180	06.14.03	08.13.03	349 927,65	58,55	20 488 263,91	38 880,85	59,01	2 294 358,96	-	Completed
NOR - 21	019	12.10.2002	SPC Poles	Confidence	524 752,50	120-180	03.02.03	05.01.03	75 469,50	58,55	4 418 739,23	47 019,06	59,01	2 774 594,73	5 456,19	Completed
									109 647,00	58,55	6 419 831,85					
									68 913,00	58,55	4 034 856,15					
									218 247,75	58,55	12 778 405,76					
NOR - 22	018	04.01.2003	SPC Poles	Confidence	439 377,00	120-180	05.25.03	07.24.03	112 612,27	58,55	6 593 448,41	40 677,02	58,95	2 397 910,33	3 260,91	Completed
									43 361,55	58,55	2 538 818,75					
									22 169,25	58,55	1 298 009,59					
									217 296,00	58,55	12 722 680,80	-				
NOR - 23	024	18.11.2002	Cross Arms	Rafique	189 300,00	120-180	04.08.03	06.07.03	153 540,00	58,55	8 989 767,00	7 121,75	58,51	416 693,59	11 808,25	Completed
									16 830,00	58,55	985 396,50					
NOR - 24	021	28.10.2002	1 Ph.Volt. Reg.	Cooper	99 558,00	100%-150		04.17.03	89 602,20	58,55	5 246 208,81	9 955,80	58,55	582 912,09	-	Completed
NOR - 25	022	28.10.2002	Com. Equipmen	Skyways	12 742,78	100%-120		03.18.03	11 158,45	58,55	653 327,25	1 239,83	64,52	79 993,83	344,50	Completed
Sub-total					2 502 000,22				2 251 489,93		131 824 735,40	229 620,45		13 507 179,03	20 889,84	
Grand Total					**6 111 026,95**				5 499 613,99		**321 872 474,35**	560 708,88	-	32 891 841,99	50 704,08	

Allocation in Tk. =	**414.97 Million**	**(a) Allocation in Tk. =**	414 967 720,01
Total Disbursment in USD	**6 060 322,87**	**(b) Total Disbursment in Tk.**	354 764 316,34
Total Contract Amount in USD =	**6 111 026,95**	**(c) Inspection Fee in Tk. =**	816 000,81
Inspection Fee in USD=	**13 936,82**	**(d)=(b+c) Total dis. Amount in Tk. =**	355 580 317,15
Total dis. Amount in USD(+Ins. Fee) =	**6 074 259,69**	**(e) Total Balance in Tk.(a-d) =**	59 387 402,86

END OF PROJECT REVIEW
BANGLADESH

APPENDIX 4

SITE VISIT BHOLA

TABLE OF CONTENTS

1 INTRODUCTION

1.1 Schedule

Visiting team

The review team visiting Bhola consisted of:

From the Embassy:	
Mr Wilhem A. Wiig	First Secretary
From the Consultant:	
Mr Md. Mosleh Uddin	Senior Consultant, Accounting
Mr Halvor Aarrestad	Senior Consultant Electrical Engineering/ Team leader

Visiting plan

The following visiting plan were followed:

Saturday 8 September	20.00 Arriving Bhola PBS' guesthouse
Sunday 9 September	Full day discussion with BPS staff & field visits
Monday 10 September	Full day discussion with BPS staff & field visits
Tuesday 11 September	05.30 return to Dhaka

People met

The following people were met

Mr MD Saifult Alam	General Manager
Mr Lakshom Chandra Das	Assistant general Manager
Mr A. F. M. Mofakhharul Islam	Assistant general Manager
Mr Binoy Kumar Das	Assistant general Manager
Mr MD. Emanul Haque	Assistant general Manager
Mr Niranjan Kumar Kundu	Retainer Engineer, PEU Construction
Mr Sadananda Das	Supervision Engineer, PEU Construction

Data

At the first meeting, Bhola PBS handed over an updated summary presenting key information from construction and operation. This document was used intensively in the subsequent discussions and is used in preparation of this document and where some of the tables are directly copied from it.

1.2 General description of the area

Location

The Bhola PBS is located in the southern part of Bangladesh, on the Bhola Island at the coast of the Bay of Bengal. Six of the upazilas in the district are included in project, namely: Bhola Sadar, Daulatkhan, Burhanuddin, Lalmohon, Tajumuddin and Charfassion. The seventh upazila in the district is the separate island of Monpura which is not served by Bhola PBS but has a small grid operated by WZPDCL supplied by some old diesel generators.

Demography

Population on the Bhola Island alone is 1.4 million according to the 2001 census. As the area is 3 133 km^2, the population density is 374 persons per km^2. Number of households is estimated to be around 210,000 meaning that by the end of FY 2005/06 approximately 15 % has installed electricity.

Economic life

The Bhola Island is dominated by agriculture. There is no considerable need for irrigation, since the land is low-lying and wet. Farmers can normally grow 3 crops a year by applying shallow-well irrigation only. For this purpose the energy needs are limited. Small scale agricultural processing like rice-mills exist in numbers together with various cottage industries.

The island is surrounded by rivers and fishing is an important occupation on Bhola, and a number of factories manufacture ice for fish-storing with considerable input of energy. With Bhola PBS the ice factories are the major industrial power consumers

Transport

Transport to and from mainland normally goes via the town of Barisal. This town is reached by use of two care ferries using 1.5 hours and 10 minutes respectively. The two ferries are connected by 5 km gravel road.

2 BHOLA PBS

2.1 Technical

Reorganisation

Presently the utility sector in Bangladesh is undergoing an unbundling process and the former Bangladesh Power Development Board is going to take the role as a holding company for the corporatized, state own generation, transmission and distribution companies. Those companies will work together with private enterprises all overseen by the Bangladesh Energy Regulator Commission (BECR). The transmission system including the 132 kV grid is taken over by Power Grid Company of Bangladesh (PGCB), the distribution and power sales to town and large consumers in the Bhola surroundings is taken over by West Zone Power Distribution Company Limited (WZPDCL).

Grid connection

The connection to the PGCB owned national grid by is in the 132/33 kV grid substation in Patukhali. From here a 72 km 33 kV line with Marlin conductors and two sections of submarine cables (1.5 + 6 km) goes to Bhola substation near the town of Bhola. Underway there is a T-off to Baufai PBS. All together the feeder line supplies the following three bulk consumers: Baufai PBS (current peak load approximately 5 MW), West Zone Power Distribution Company, Bhola Branch (current peak load approximately 5 MW) and Bhola PBS (current peak load approximately 8 MW).

Feeding of PBS grid

WZPDCL, Bhola Branch owns the Bhola Substation and supplies the town of Bhola from here. However, in the station there is a feeder bay for the backbone 33 kV line belonging to Bhola PBS and running north south on the island all the way to Charfassion substation 70 km South of Bhola.

Load centres

Important PBS load centres are situated around Bhola Town and at Charfassion and Lalmohon, where the PBS owns and operates the 33/11 kV substations.

Taking over of asset

By establishment of the Bhola PBS they are entitled to take over from WZPDCL (then BPDB) the existing infrastructure not serving towns and large customers. This take over has not always been smooth as WZPDCL has to give away consumers. Most of the actual lines and customers has now been taken over by Bhola PBS but as mentioned below discussions are still going on regarding one substation and some small pockets of consumers former served by WZPDCL.

Load shedding

The power supply to Bhola is extremely deficient, with frequent load shedding, as people have grown accustomed to in Bangladesh. The problem lies in shortage of generation capacity in general in the country but the situation is very demoralizing. An example is that during World Cup in football, mob smashed the windows in one for Bhola PBS' offices in anger over power cuts.

Under voltage

The grid station is lying in the far end of the 132 kV line and has already severe voltage problems. These are amplified by the unusual long 33 kV (72 km) line and submarine cables to Bhola. The voltage on Bhola is far under any acceptable standard (by one big industrial consumer visited the voltage was 280 V instead of the normal 414 V). This situation is alarming and can not be solved by voltage regulators. It will grow worse and worse by increasing load and will inevitable result in total voltage collapse. The losses on the line are also extremely high giving, as discussed later in the report, huge extra cost to the PBS.

In addition, the low standard of the 33 kV supply line to the island and the difficult terrain is passes makes supply interruptions caused by line failure very frequent and long lasting. Bhola PBS also complains about the quality of the WZPDCL supply in general. They regard it evident that own WZPDCL network is given priority when there is a shortage of energy. All these problems adds to the general load shedding mentioned above and makes Bhola very vulnerable.

New line

A new 33 kV line with some submarine cable intersections is surveyed from Barishal town. The line would only be 36 km long reducing the losses and the voltage drop considerably. In addition Barishal is more centrally located in the national grid and has better voltage profile a fact that would further improve the situation.

Gas potential

An on land gas field has been discovered at Bhola Island. A production well is drilled and the wellhead is erected. Even a gas transmission pipe to Bhola town is constructed. However, the gas processing plant is missing and the field is totally idle meaning that the investments do not generates any income yet.

Power Station

Development of this gas field will certainly boost activity on the island. Industry could possibly be attracted. Another interesting aspect is the possibility to construct a gas fired power plant of about 10 MW at an estimated cost of USD 5 million. This could solve the electricity problem on the island by providing an alternative source of supply. Private

sector will normally be invited to develop a project like this on BOO basis and has in other projects shown to be able to operate small scale power stations with profit at the current bulk supply tariff.

Solutions

A new shorter 33 kV line or local generation is the only solutions that can bring acceptable conditions in the grid.

Assets

By the end of FY 2005/06 the PBS has built up a considerable amount of technical assets. In addition to the Head Quarter outside Bhola with administrative building, store workshop, guesthouse and workers village the main technical installations are as follows:

Substations

Bhola PBS has constructed three new 5 MW substations namely PBS H/Q REB S/S 12 km south of Bhola town, Lamohan REB S/S and Charifassion S/S. In addition they are entitled to take over the 10 MW Burhanuddin BPDB S/S from WZPDCL, Bhola Branch.

Transformers

A large number of single phase transformers units are spread in the grid. Automatic voltage regulators are erected in the substations without much effect. Auto-reclosers are used as circuit breakers in substations and as sectionalizers along the lines

Other lines

70 km partly new and partly renovated 33 kV 3 phase transmission lines is the backbone grid on the island. HV and LV lines are installed as shown in the table below:

Project	11 kV 3-ph [km]	11 kV1-ph [km]	LV 3-ph [km]	Lv 1-ph [km]	TOTAL [km]
New	581	322	9	563	1475
renov	242	92	5	244	583
TOTAL	823	414	14	807	2058

Observations

The installation work inspected, gave a good impression. The work was professional accomplished with a nice finish. It looks like REB guidelines are followed and these seems to yield good results.

Material quality

Much of the material seen was of regional design and sometime lacked the finish one finds in other parts of the world.

Store

The indoor and outdoor store was well kept, tidy and orderly arranged.

As in all PBSs the store mostly contains material which is foreseen for construction and is ordered by REB according to approved project list. A small part of the store contains operation and maintenance material which is managed by the PBS. However, all material is financially transferred to the PBS. One can question if such arrangement give the necessary oversight. It is also questionable if such an arrangement, where the unit deciding on how much to store is not accountable for the economy in the transaction is an optimal solution.

The quantity stored looked was definitely too high compared with the activities which was reported as planned. Also much of the material was of sizes that were not used on the island. Ways of reducing the store and put the material in active use in other PBSs should definitely be found order to reduce the financial burden on the PBS

Workshop — The workshop is of vital importance for the PBS as they there can repair most of the failing transformers regardless of manufacturer.

2.2 Organisation

Independent company — As elaborated in Appendix 6, it is noted in several reports that the PBSs for better and worse are very tightly controlled by REB. This is also the Consultants opinion after the visit in Bhola

Taking over — The taking over of facilities from WZPDCL is a two sided coin. On one hand it gives the PBS new income with little investments. This is probably why WZPDCL is reported to obstruct the taking over as far as they can. On the other side, the WZPDCL customers has been used to sloppy billing procedures and little control so the morale is generally low which can have a negative spill over effect on the normal PBS customers. In fact WZPDCL customers do not need to buy membership in the PBS. In addition much of the technical facilities are of low standard and neglected meaning a great deal of rehabilitation is needed in order to bring the grid up to normal REB quality standard.

Loyalty — An interesting fact was that many former WZPDCL consumers refused to sign membership contract because they found it more “legally binding” than the relation they had with WZPDCL. This one more indication of the status the cooperative system has gained and the loyalty it brings.

Bhola PBS however, is pursuing the taking over remaining WZPDCL customers together with more of 11 kV lines.

2.3 Power Purchase and Sales

Connection policy — The standard REB connection philosophy (Ref Appendix 6) is generally followed leaving not much up to local initiative but assuring fair treatment and an economic sound approached. However, they have noticed pressure from parliament members that feel they have right to decide on line construction.

Power Purchase — Power is purchased in the Patukhali grid substation according meter readings in the outgoing feeder. As both BPDB and PBSs are supplied from the same line, losses are calculated after an agreed formula and amounts to staggering 23 % which means that Bhola has to pay for 23 % of the power even before it reaches the island and can be sold.

Private generators — Because of load shedding a lot of private back-up generators are installed. Among others all ice factories that have not moved away have full backup. The owner of one factory visited stated that power

produced by own generator costs 60 – 70 BDT/kWh in fuel costs alone.

Purchase tariff

The power purchase tariff is the governmental set bulk supply tariff plus a wheeling charge to the grid company. The bulk tariff is according information received from other sources heavily subsidised. The purchase tariff is as follows:

	BDT
Bulk supply (kWh)	2.05
Wheeling charge	1.2281
TOTAL	**3.2781**

Sales Tariff

The sales tariff is in principle proposed by REB set by the PBS and approved by REB. In real life it is set by REB. The current tariff was set 1st August 2002 and has not been adjusted for inflation since then. The tariff is shown in the table below:

Group	BDT
Domestic (< 100 kWh/month)	2.81
(100 - 300 kWh/month)	2.86
(300 - 500 kWh/month)	4.06
(> 100 kWh/month)	5.90
Commercial	5.11
Irrigation (20 % paid by government)	2.87
Industrial	4.01
Charity	3.28
Streetlight (or 500 fixed per lamp)	3.70
Other rates	
Membership fee (reimbursable)	30

Control

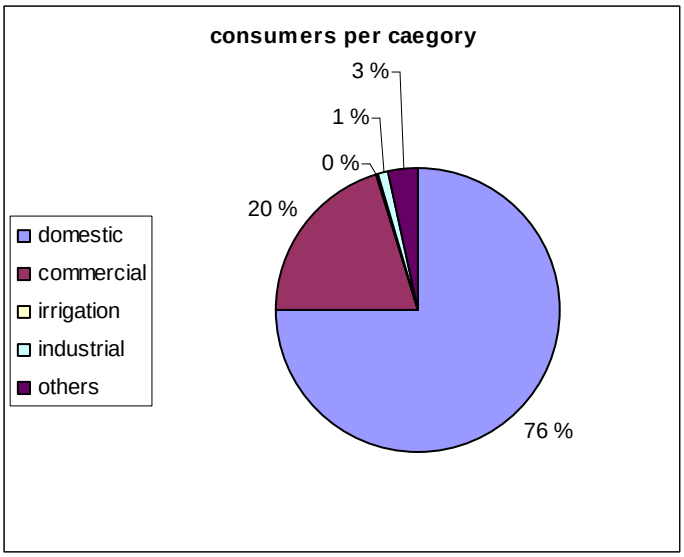
As all indicators shows illegal connections and fraud is kept very low.

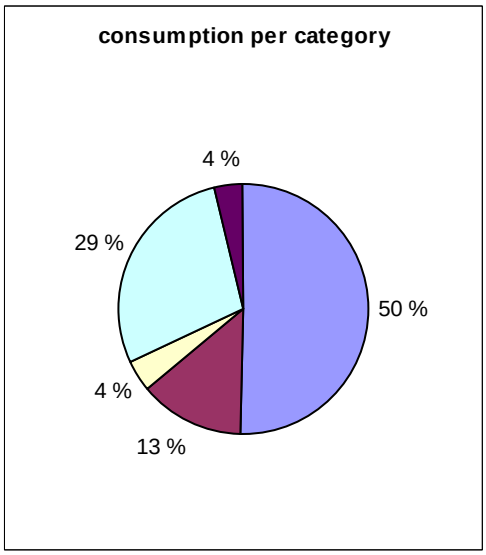
Disconnection

A strict disconnection policy is followed by payment failure. Most disconnected consumers return after paying a reconnection fee.

Consumption

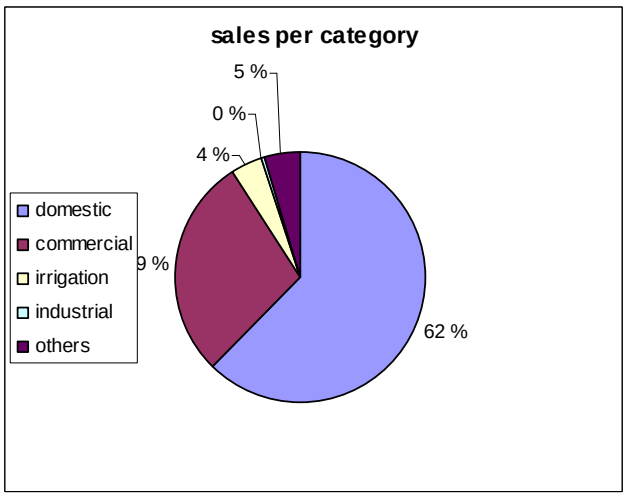
The following charts illustrates the mix of consumers and the consumption in each group. Total number of consumers by end of FY 2005/2006 are 40 352 and totals sale in same year 34 GWh (up from 34 072 customers and 28 GWh sale previous year)

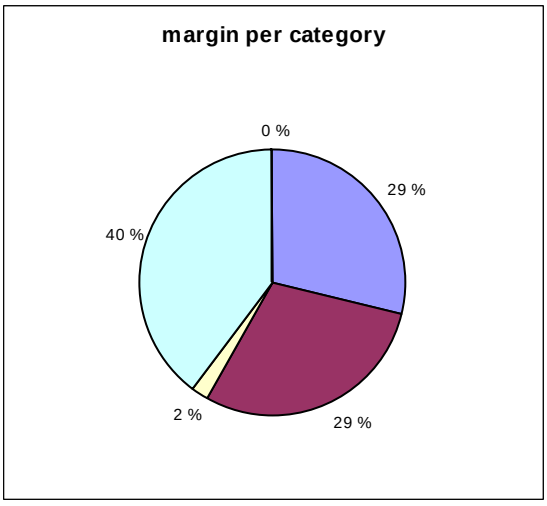




Sale

If the consumers are grouped according to sales and the profit margin they gives as in the charts below it shows how important it is to have a base of commercial/industrial consumers. They are clearly the bread makers for the PBS with the prevailing tariff structure. This is of course natural as a heavy element of cross subsidising is build into the tariffs. It should be noted that the margins are calculated using some assumptions and simplifications but the overall picture is not distorted. It is quite clear that the PBSs should do everything possible to attract industrial and commercial consumers to their grid.





2.4 Efficiency Data

Key figures

As in the case of all others, Bhola PBS and Gaibandha PBS entered into Performance Target Agreement (PTA) with REB. In order to make the comparison between the two BPSs the resulting achievements for both are presented in this section.

Bhola PBS was energized and went into commercial operation from 5th March 1999. On the other hand,. Gaibandha PBS was energized and started commercial operation from 1st March 2000 and this PBS subsequently took over from Rangpur PBS-1 (one 5 MVA substation,

477.61 km. distribution line with 6,464 consumers at a total cost of BDT. 8,454,011.36 vide handing/taking over note of 31 May 2003). The reports submitted by the two PBSs for the period ending 30 June 2006 are subject to evaluation by the REB Board of Directors and to determine the rate of incentive (bonus) for the staff. For their performance during the previous year both Bhola and Gaibandha staff were allowed bonus of 8% of pay. The comparative position of their performance for the year 2005-2006 is presented hereunder

Sl. No.	Description	Bhola PBS		Gaibandha PBS	
		P.T.A Target for 2005-06	Achievement upto June 2006	P.T.A Target for 2005-06	Achievement upto June 2006
1.	System Loss-Without Re-sale	15.00%	12.93%	11.50%	11.02%
2.	Account receivable	2.40	3.75	1.78	1.86
3.	Account payable	1	1	1	1
4.	Annual load factor	37.00%	37.28%	44.00	44.23
5.	Rev. of per km. of line-BDT. “000”	4,200	41,581	65.00	71.71
6.	Total cost of electric service exp. per km. BDT.	11,500	14,622	14,000	13,940
7.	% of billing	100%	100.07%	100%	100.71%
8.	Growth of consumer	36,000	36,092	39,000	40,352
9.	Annual growth in MWh sold	20,500	20,351	30,000	33,950
10.	Ratio of service in place & consumer connected	99%	98.63%	98%	98.19%
11.	Ratio of consumer connected and consumer staked [1)]	60%	59.28%	93%	93.08%
12.	Inspection of distribution line km.	20%	20%	20%	23.77%
13.	Maint. of distribution line km.	20%	20%	20%	21.75%
14.	Preventive maint. of X-former & OCR (no.)	80	80	90	92
15.	Repair of damage X-former & OCR (no.) waiting	50	50	20	18
16.	Ratio of disconnected and disconnecttable consumer over 90 days	5%	36%	1%	6.66%
17.	Consumer hour outage	18	16	16	11.161

1) Staked consumers are consumers living not more than 100 feet from a low voltage line or transformer and therefore can be connected as soon as they apply.

2.5 Commercial operation

As for many of the newly established cooperatives, the commercial results derived from the accounts are far from a sustainable value. As shown in the simplified setup below Bhola PBS has not even managed during the two last years to cover their operational expenses and can surely not pay interest on the loan or repay the loans.

	FY 2004/05	FY 2005/06
	[BDT]	[BDT]
Sale of electricity	69 830 333	77 544 535
Cost of power purchased	56 563 373	55 229 620
Margin	**13 266 960**	**22 314 915**
Other operatin revenues	2 893 070	2 541 357
Distribution expences	7 497 455	10 868 216
Admin and gen.expences	6 743 664	7 726 448
Consumer selling expences	5 348 938	9 710 137
Operational results	**(3 430 027)**	**(3 448 529)**
Government subsidy	-	818 000
Non-operating margins interest	1 817 344	2 388 236
Non-operating margins other	766 293	1 688 457
Interest on long term debt	1 149 717	4 455 036
Dep & amortization	25 701 319	28 567 658
Tax expences	103 724	242 001
TOTAL RESULT	**(27 801 150)**	**(31 818 531)**

However, improving the supply so that the losses staggering losses of 23 % were reduced to 10 % (which still is high) by building a new line the saving would have been in the range oh BDT 5 617 967 per year. As this will apply directly on the bottom line Bhola PBS would then be able to cover their operational expenses.

Even by assuming that the load shedding ceased leading to an optimistic assumption that this would result in 20 % higher consumption would not help much as shown in the next table.

In the same table it is indicated that the only true solution to the problem is to raise the margin by for instance, increasing the sales tariff which has been fixed for years disregarding the inflation in last years. A 30 % increase in sales tariff assuming the consumption will be as before. I.e. assuming zero price elasticity will have much effect as shown in the table below. Zero price elasticity may be optimistic but the PBS may stand a slower load growth rate and still be far better off.

	FY 2005/06	Without loadshedding	With increased margin
	[BDT]	[BDT]	[BDT]
Sale of electricity	77 544 535	93 053 442	100 807 896
Cost of power purchased	55 229 620	66 275 544	55 229 620
Margin	**22 314 915**	**26 777 898**	**45 578 276**
Other operatin revenues	2 541 357	2 541 357	2 541 357
Distribution expences	10 868 216	10 868 216	10 868 216
Admin and gen.expences	7 726 448	7 726 448	7 726 448
Consumer selling expences	9 710 137	9 710 137	9 710 137
Operational results	**(3 448 529)**	**1 014 454**	**19 814 832**
Government subsidy	818 000	818 000	818 000
Non-operating margins interest	2 388 236	2 388 236	2 388 236
Non-operating margins other	1 688 457	1 688 457	1 688 457
Interest on long term debt	4 455 036	4 455 036	4 455 036
Dep & amortization	28 567 658	28 567 658	28 567 658
Tax expences	242 001	242 001	242 001
TOTAL RESULT	(31 818 531)	(27 355 548)	(8 555 171)

It is the Consultant's opinion is that apart from other mechanisms proposed (i.a. reducing the interest) the margin between power purchase and power sales has to be increased either by a increase in the sales tariff or a lowering of the purchase tariff by cross subsidising between the cooperatives. In addition the supply situation must be improved. Supply losses should definitely not be above 10 %.

Emphasis on profit

Bhola PBS should pay more attention to profit and it should be constantly on the agenda in the board. The usual breakdown by the auditor ending with a recommendation to sell double amount of power (which is not easy and even more difficult without increasing investment or operational expenses) should be replaced by a more in-depth analysis of the option available and the pros and cons with the different options.

Bad debt

Bhola PBS has a very high collection rate but do disconnect consumers for non payments. However, it is found no regular indication of write off of bad debt and how much it amounts to. The only indication is in a report from board meeting #103 which state the write off of BDT 32 946. If this is the only one it is extremely good. But it can also mean that bad debt is kept too long in the books. This parameter should also be followed closely as other performance indicators.

END OF PROJECT REVIEW
BANGLADESH

APPENDIX 5

SITE VISIT GAIBANDHA

TABLE OF CONTENTS

1 INTRODUCTION

1.1 Schedule

Visiting team

The review team visiting Gaibandha consisted of:

From the Consultant:	
Mr Md. Mosleh Uddin	Senior Consultant, Accounting
Mr Halvor Aarrestad	Senior Consultant Electrical Engineering/ Team leader

Visiting plan

The following visiting plan were followed:

Wednesday 13 September	18.00 Arriving Gaibandha PBS' guesthouse, introductory meeting with PBS staff
Thursday 14 September	Full day discussion with PBS staff & field visits
Friday 15 September	06.00 return to Dhaka

People met

The following people were met

MD Rezaul Haque	General Manager Gaibandha PBS
A. K. M. Hasudwr Rahman	Assistant General Manager, General Services
Acreaful Alam Khan	Assistant General Manager, Finance
MD Alam Hossein	Assistant General Manager, Construction, Operation and Maintenance
MD Azizur Rahman	Superintending Engineer, REB Rangpur Zone

Data

At the first meeting, Gaibandha PBS handed over an updated summary presenting key information from construction and operation. This document was very useful and was used intensively in the subsequent discussions. It is also used in preparation of this document and some of the tables are directly copied from it.

1.2 General description of the area

Location

The Gaibandha PBS is located in the district of the same name and lies in the in the northwest division of Bangladesh. The district is riparian to the Jamuna River. The district comprises seven upazilas of which the following are covered by Gaibandha PBS: Gaibandha Sadar, Sagata, Fulchori, Palasbari and Gobindagonj. The two last mentioned were transferred from the existing cooperative Rangpur PBS 1 after Gaibandha PBS was formed. The remaining two upazilas in the district is served by existing Rangpur PBS 1.

BPDB is not yet unbundled in this region and the following three municipalities are served by them: Gobindagonh, Gaibandha and Palashbari. However, some of the lines and consumers in the outskirts

of these towns are taken over by Gaibandha PBS and still more remains to be transferred.

Population

Population of the service area is 1.3 million and the area is 1 530 km^2, giving a population density of 880 persons per km^2. Number of households is estimated to be around 255 000. With a number of consumers amounting to 40 352 this gives an electrification rate of approximately 15 %.

Economic life

Gaibandha rural areas are dominated by agriculture, mainly paddy fields, but also bananas, vegetables etc. Irrigation is needed to bring the number of crops per year from 2 to 3, Shallow-well irrigation is used and the irrigation season is from late December to early April. The farmers are encouraged to use their pumps in off peak periods. Operational cost for alternative diesel driven pumps cost are in average the double of the electrical pumps. Small scale agricultural processing like rice mills, flour grinding as well as sawmills exist in numbers and represents the relative modest but important industrial consumers.

2 GAIBANDHA PBS

2.1 Technical

Quality of supply

All ranks of people complains about the load shedding. The problem is shortage of generation capacity in the country. The board members reports that this, poorly planned, load shedding is eroding customer's willingness to pay their bills. This is a very dangerous signal as the customers' loyalty has been the most important base for the much acclaimed success of the PBS model. The load shedding does also directly influence the balance sheet of the PBS as the losses of sales do not lead to a reduction in operation costs.

Gaibandha takes the energy form a 132/33 kV grid station at Palashbari some 15 km away from headquarter and the transfer losses are low (2-3 %). After establishment of 2x125 MW generation capacity in the not far away town of Phulbari, the voltage quality is also good.

Kick start

Gaibandha PBS was energised and started formal operation 3 March 2000. Gaibandha PBS got facilities transferred from the established Rangpur PBS1 as well as BPDB. The facilities transferred included one substation, 478 km lines and 6 464 customers. This gave the cooperative a kick start.

Assets

By the end of FY 2005/06 the PBS has built up a considerable amount of technical assets. In addition to the Head Quarter at Tulshigat with administrative building, store workshop, guesthouse and workers village the main technical installations are as follows:

Substations

Three 33/11 kV substations with 5 MVA transformer capacity each. The stations are located in Head Quarter, Gorbindagonj and Saghata and are the feeding points for PBS' consumers.

Transformers

Approximately 5 000 single phase transformer units are energised. Automatic voltage regulators are erected in the substations and in some long 11 kV lines. Auto-reclosers are used as circuit breakers in substations and as sectionalizers along the lines

Other lines

39 km new 33 kV 3 phase transmission lines are constructed under the V-B project. Other HV and LV lines as shown in the table below:

Project	11 kV 3-ph [km]	11 kV1-ph [km]	LV 3-ph [km]	Lv 1-ph [km]	TOTAL [km]
V-B New	393	195	3	243	834
V-B renov	111	52	3	98	264
V-B TOTAL	504	247	6	341	1 098
WB 67 new	26	32	1	34	93
Rangp-1	257	100	3 478	117	478
GRAND TOTAL	787	379	10	493	1 669

Observations

The installation work inspected, gave a good impression. The work was professional accomplished with a nice finish. It looks like REB guidelines are followed and these seems to yield good results.

Material quality

Much of the material seen was of regional design and sometime lacked the finish one finds in other parts of the world. Particularly it was observed defect painting and emerging rust on single phase transformers. REB should consider reviewing their painting specifications in order to assure withstand ability against the very moist climate. Generally however, the material seems to be of actable quality and no major complaints were raised when the question about quality was raised. However, it is clear that such a swift visual inspection is very superficial.

Store

The indoor and outdoor store was well kept, tidy and orderly arranged.

As in all PBSs the store mostly contains material which is foreseen for construction and is ordered by REB according to approved project list. A small part of the store contains operation and maintenance material which is managed by the PBS. However, all material is financial transferred to the PBS. One can question if such arrangement give the necessary oversight. It is also questionable if such an arrangement where the unit deciding on how much to store is not accountable for the economy in the transaction is optimal.

The quantity stored looked on the larger side compared with the activities which was reported as planned. Through the computerised store management system one should be able to get information on store revolving time and carefully look into the possibilities of reduc-

ing the stored quantities in order to reduce the financial burdens on the PBS

Much broken material was neatly collected but one may better discharge it in a controlled and environmentally friendly way.

Workshop

The workshop was small and primitive without proper work benches. However, it is of vital importance for the PBS as they there can repair most of the failing transformers regardless of manufacturer. The failure rate of the approximately 5 000 transformers in operation was in the region of 200 per year which is a relatively high number for such a new PBS. REB should study their specifications in order to get better quality and should carefully analyse if some manufacturer have higher failure rate than others. If so, those manufacturer should be excluded in future bidding provided they do not presents improved designs.

2.2 Organisation

Independent company

As elaborated in Appendix 6, it is noted in several reports that the PBSs for better and worse are very tightly controlled by REB. This is also the Consultants opinion after the visit in Gaibandha even though the local administration maintained the opposite. For instance a quick look on the tariffs which is approved by REB reveals that they are mostly identical in two as different PBSs as Gaibandha and Bhola.

Taking over

The taking over of facilities from BPDB is a two sided coin. On one hand it gives the PBS new income with little investments. This is probably why BPDB is reported to obstruct the taking over as far as they can. On the other side, the BPDB customers has been used to sloppy billing procedures and little control so the morale is generally low which can have a negative spill over effect on the normal PBS customers. In fact BPDB customers do not need to buy membership in the PBS. In addition much of the technical facilities are of low standard and neglected meaning a great deal of rehabilitation is needed in order to bring the grid up to normal REB quality standard.

Hence, Gaibandha PBS is relatively passively waiting for take over of 5-6 000 former BPDB customers together with 204 km of 11 kV lines

New project

Gaibandha PBS is part of the 67 PBS project financed by various donors and will expand further in the coming years.

Stealing

Stealing of neutral conductor is a big problem. Large sections of lines (both 3-phase and 1-phase) is lacking neutral conductor. The danger and technical problems this may cause is tried neutralized by rigid neutral earthing both at the transformers and in the house connections.

Also transformers are stolen and the copper used by small scale artisans. The Consultant do not see any obvious solution for this problem but is should be given attention by REB and contact with the police should be established.

2.3 Power Purchase and Sales

Connection policy

The standard REB connection philosophy (Ref Appendix 6) is generally followed leaving not much up to local initiative but assuring fair treatment and an economic sound approached.

Power Purchase

Power is purchased in the Palashbari grid substation according meter readings in each outgoing feeder. As both BPDB and PBSs are supplied from the same line, losses are calculated after an agreed formula and amounts to 2-3 % which is acceptable. Gaibandha PBS also wheels some power to other PBS. Such resale is done with loss compensation but without profit.

Purchase tariff

The power purchase tariff is the governmental set bulk supply tariff plus a wheeling charge to the grid company. The bulk tariff is according information received from other sources heavily subsidised. The purchase tariff is as follows:

	BDT
Bulk supply (kWh)	1.8209
Wheeling charge	0.2291
TOTAL	**2.05**

Sales Tariff

The sales tariff is in principle proposed by REB set by the PBS and approved by REB. In real life it is set by REB. The current tariff was set 1st August 2002 and has not been adjusted for inflation since then. The tariff is shown in the table below:

Group		BDT
Domestic	(< 100 kWh/month)	2.81
	(100 - 300 kWh/month)	2.86
	(300 - 500 kWh/month)	4.06
	(> 100 kWh/month)	5.90
Commercial		5.11
Irrigation (20 % paid by government)		2.81
Industrial		4.01
Charity		2.81
Streetlight (or 650 fixed per lamp)		3.75
Other rates		
Membership fee (reimbursable)		20
Cost of meter	(domestic)	700
(industrial)		1 800
Security deposit per kW initial load		200
Study fee	(within two poles reach)	20
(large remote consumers)		1 000
Reconnection fee	(domestic)	30
	(industrial)	200

Control

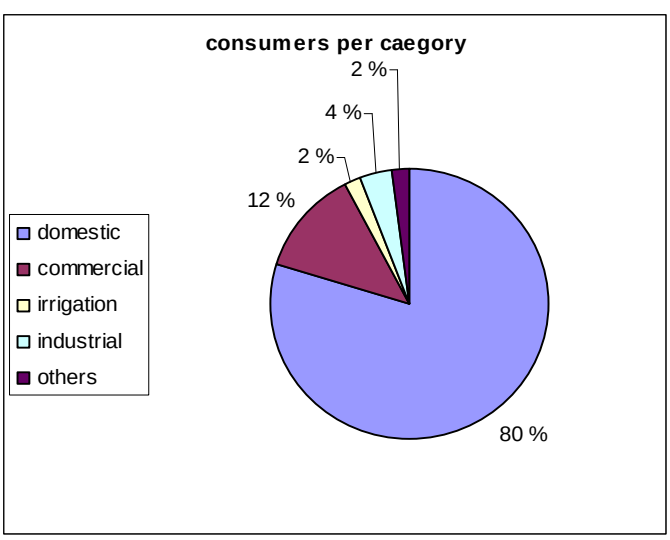
As all indicators shows illegal connections and fraud is kept very low. Contracted meter readers and messengers reports irregularities and the PBS personnel perform regular checks. The indications of the efficiency the routines was clearly demonstrated after taking over of BPDB consumers giving very high system losses (mostly non technical). These losses have been reduced from 30 % to 9 % over 4 years by improving technical installation but mostly by reducing irregular connections.

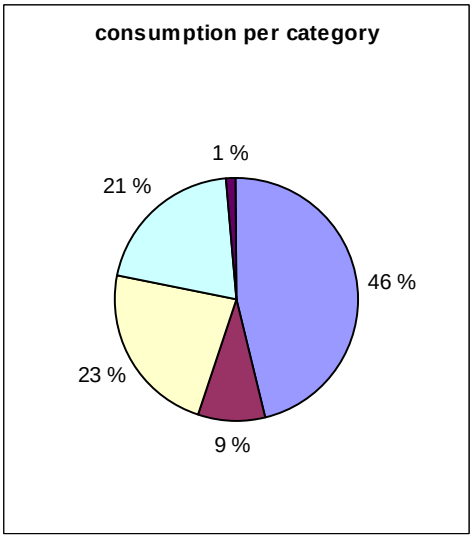
Disconnection

A strict disconnection policy is followed by payment failure. Most disconnected consumers return after paying a reconnection fee.

Consumption

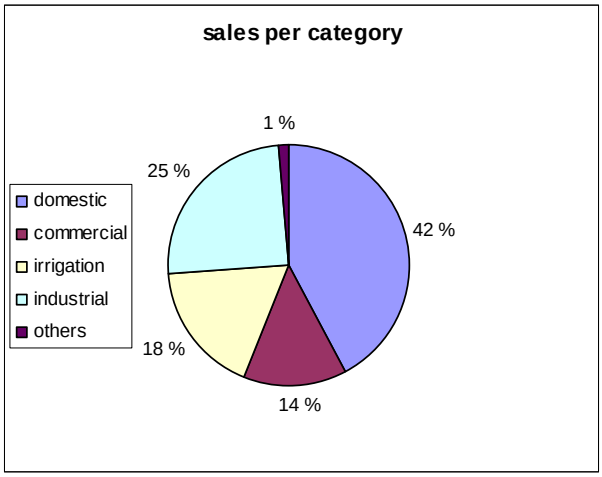
The following charts illustrates the mix of consumers and the consumption in each group. Total number of consumers by end of FY 2005/2006 are 40 352 and totals sale in same year 34 GWh (up from 34 072 customers and 28 GWh sale previous year)

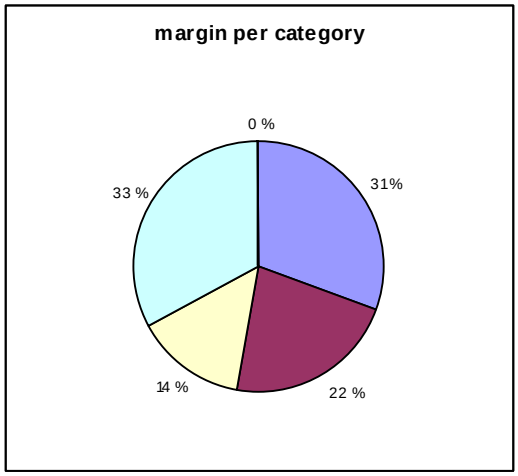




Sale

If the consumers are grouped according to sales and the profit margin they gives as in the charts below it shows how important it is to have a base of commercial/industrial consumers. They are clearly the bread makers for the PBS with the prevailing tariff structure. This is of course natural as a heavy element of cross subsidising is build into the tariffs. It should be noted that the margins are calculated using some assumptions and simplifications but the overall picture is not distorted. It is quite clear that the PBSs should do everything possible to attract industrial and commercial consumers to their grid.





2.4 Efficiency Data

Key figures

The performance data achievements for Gaibandha are for comparison shown in the Appendix 4 and not repeated here.

2.5 Commercial operation

Operating Results

As for many of the newly established cooperatives, the commercial results derived from the accounts are far from a sustainable value. As shown in the simplified setup below Gaibandha PBS just manages to cover their operational expenses but can not pay much interest on the loan and can not at all repay the loans.

	FY 2003/04 [BDT]	FY 2004/05 [BDT]	FY 2005/06 [BDT]
Sale of electricity	74 331 260	95 221 061	114 653 682
Cost of power purchased	53 169 049	67 483 674	80 237 256
Margin	**21 162 211**	**27 737 387**	**34 416 426**
Other operatin revenues	2 946 760	3 869 242	4 145 683
Distribution expences	4 644 364	6 268 770	6 410 921
Admin and gen.expences	4 110 029	5 612 165	7 462 324
Consumer selling expences	4 480 527	6 480 803	9 450 531
Operational results	**10 874 051**	**13 244 891**	**15 238 333**
Government subsidy	4 657 958	9 940 602	1 357 282
Non-operating margins interest	2 392 181	3 056 126	4 553 163
Non-operating margins other	490 731	463 725	266 217
Interest on long term debt	-	-	18 414 677
Dep & amortization	20 102 732	27 434 804	28 803 771
Tax expences	285 516	323 252	409 024
Financial cost	47 627 472	47 627 472	47 627 472
TOTAL RESULT	**(1 973 327)**	**(1 052 712)**	**(26 212 477)**

Load shedding

Even by assuming that the load shedding ceased and using an optimistic assumption that this would result in higher 20 % higher consumption would not help much as shown in the next table.

Tariff increase

The only true solution to the problem is to raise the margin by increasing the sales tariff which has been fixed for years disregarding the inflation in last years. A 30 % increase in sales tariff assuming the consumption will be as before. I.e. assuming zero price elasticity will have much effect as shown in the same table below. Zero price elas-

ticity may be optimistic but the PBS may stand a slower load growth rate and still be far better off.

	FY 2005/06 [BDT]	Without loadshedding [BDT]	With increased margin [BDT]
Sale of electricity	114 653 682	137 584 418	149 049 787
Cost of power purchased	80 237 256	96 284 707	80 237 256
Margin	**34 416 426**	**41 299 711**	**68 812 531**
Other operatin revenues	4 145 683	4 145 683	4 145 683
Distribution expences	6 410 921	6 410 921	6 410 921
Admin and gen.expences	7 462 324	7 462 324	7 462 324
Consumer selling expences	9 450 531	9 450 531	9 450 531
Operational results	**15 238 333**	**22 121 618**	**49 634 438**
Government subsidy	1 357 282	1 357 282	1 357 282
Non-operating margins interest	4 553 163	4 553 163	4 553 163
Non-operating margins other	266 217	266 217	266 217
Interest on long term debt	18 414 677	18 414 677	18 414 677
Dep & amortization	28 803 771	28 803 771	28 803 771
Tax expences	409 024	409 024	409 024
Financial cost	47 627 472	47 627 472	47 627 472
TOTAL RESULT	**(26 212 477)**	**(19 329 192)**	**8 183 628**

Conclusions

The conclusions already formulated in Appendix 4 are also valid for Gaibandha PBS. It was not specific addressed how much bad debt that was written off but the Consultant has not been able to find any references to it in the accounts so it must be anticipated that the amount is low.

END OF PROJECT REVIEW
BANGLADESH

APPENDIX 6

VISIT REB HEAD OFFICE

TABLE OF CONTENTS

1 INTRODUCTION

Visits

The review team visited REB a number of times both before and after the visits to the PBSs requesting information and having discussions with various key persons. The team was always met with openness and information was collected and handed over albeit the team sometimes had to wait for the documents and data.

The team will express gratitude for all openness and friendliness we were met with despite giving REB a lot of extra work in normal busy days.

2 GENERAL OBSERVATIONS

General Performance

The REB is still regarded as a model for successful rural electrification and the statistical material presented in the annual reports shows a constant growing activity. However, as the organisation is growing and maturing it is put under pressure and should in a flexible way adapt to the developments both regarding growth and the developments taking place in the electricity industry in Bangladesh.

Reports, observations and other indicators show that there are under laying strains in the organisation that have to be addressed and solved shall the success continue. REB must in a guiding way assure that the PBSs are taking responsibility for their own managerial, technical and financial organisation. This must be accomplished by setting framework and by supervision not by continuous detail management. REB must also make sure that neither they nor the PBSs surrenders to short sighted influence by political forces but that they continue to electrify the countryside in an unbiased way creating sustainable operation.

Load shedding

The destructive deficit in production capacity in Bangladesh leading to an unbelievable amount of load shedding leading to huge amounts in lost sales without any reduction in operational or financial costs has a profound negative effect on the organisation as well as on the customers. These problems should however, not be allowed to overshadow the long term goals and for REB.

NRECA report

A very useful introduction to the functions of and relations between REB and the cooperatives is given in the report “Bangladesh Rural Electrification Program at the Crossroad. An Analysis of Barriers, Threats, and Opportunities to Enhance Program Sustainability” [3]. As the title indicates it also contains an updated analyse of the threats and opportunities and is as such a must for anybody who wants to attain any understanding of the programme. The Consultant could confirm many of the observations presented in this report.

3 STATISTICS

Annual reports

The last available Annual report covers FY 2003-04 and contains useful statistics for REB. This information is complemented by updated information from the accounting system covering the two remaining years up FY 2005-06. The following charts illustrates a promising development in three key parameters in the rural electrification program

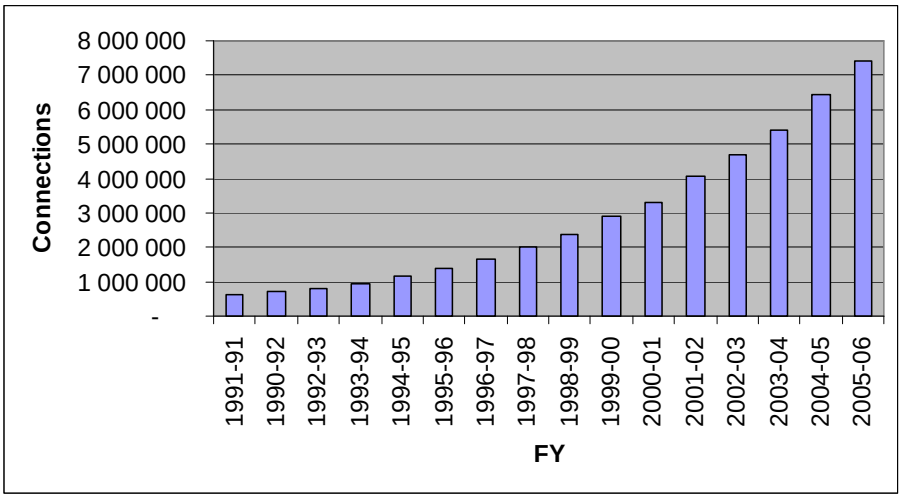


Fig. 3-1 Number of connected consumers

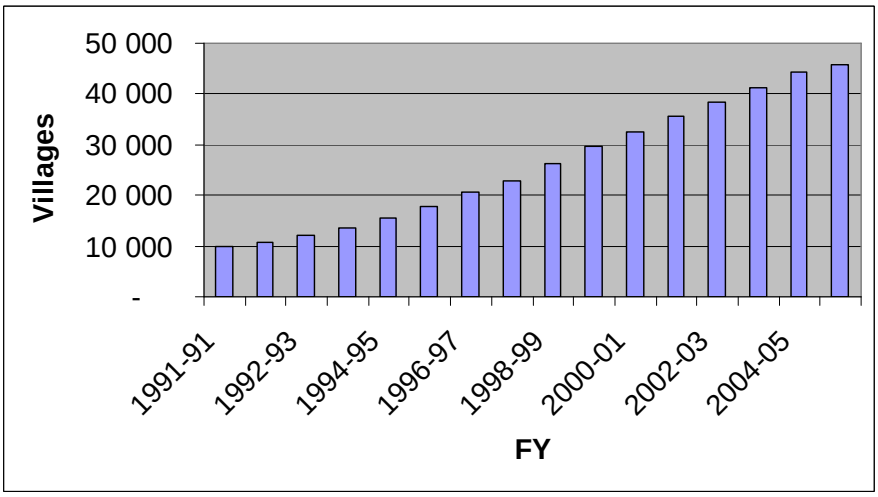


Fig. 3-2 Number of connected villages

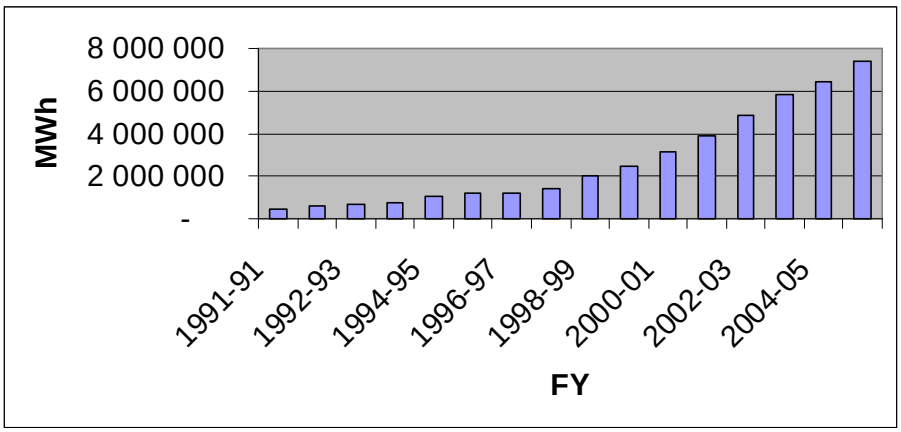


Fig. 3-3 Power consumption in PBSs

However, great challenges lays ahead and the connection speed must be accelerated shall REM manage to reach the growing number of rural households within the next decade.

4 RELATIONSHIP WITH COOPERATIVES

Independent company

It is noted by several informers' reports and deliberated in depth in the "Electrification Programme at a Crossroad" report that the PBSs for better and worse are very tightly controlled by REB. This is also the Consultants opinion after the visit in the field. A quick look on the tariffs which is approved by REB reveals that they mostly are identical in two as different PBSs as Gaibandha and Bhola.

The general manager and much of the key staff are appointed by REB and rotates among the various PBSs. Construction is planned, organised and supervised by REB after a rigorous system of master plans and allocations. This central control gives some benefits as conformity and quality in technical solutions, prioritisation in the use of funds, professionalism in acquiring and handling such funds, and commercial benefits in large scale purchase. It may also well be that the newest and most remote PBSs do not have the organisational skill and technical knowledge to manage such a complicated setup as the PBSs are but one should never underestimate the local competence.

The danger lies in stretching REB's organisation, rigid and inefficient operation, lack of involvement from the local society, lack of local knowledge and competence and a feeling of remoteness from the decision process. The risk exists that REB develops into a bureaucratic mastodon as more and more PBSs are formed.

Sales Tariff

The sales tariff is in principle proposed by REB set by the PBS and approved by REB. In real life it is set by REB. The current tariff was set 1st August 2002 and has not been adjusted for inflation since then. The tariff or at least the margin between purchase price and

sales price must be increased for the two cooperatives if they should have any chance to obtain financial sustainability.

Common tariff

The idea of a common tariff is in most developed countries normally not pursued. It is often more a slogan by politicians that in addition promises cheap power instead of reliable power to a sustainable price. It was interesting to note that both the directors in the PBSs visited confirmed that in their opinion their consumers would accept a considerable hike in price (even up to the double of the current level) if they could be granted reliable power. It must be realised that also the consumers are accruing extra cost under the load shedding as they must relay on more expensive means of energy as candles and kerosene lamps or private generators. This comes in addition to the loss of comfort that lacking electricity brings them.

Connection policy

Two consumers within 100 feet from a transformer (staked consumers) are connected as soon as house wiring is approved (wiring done by certified private contractors at set REB rate). No connection fee but meter has to be bought. Two consumers requiring erection of one or two poles only will normally be accepted but have to pay a study fee. Five consumers requiring a new transformer and not more than one pole will be connected after payment of study fee. Grid will be extended in accordance with the master plan and the economic criteria therein as per prioritisation of RED provided not influenced by the quota of 40 km grid extension that in a very detrimental way is given to parliament members from the ruling party.

Technical overweight

The whole organisation is leaned towards technical performance in this also laudable included efficient meter reading, billing and payment: Within all these parameters the REB and the PBSs lays far ahead of the old BPDB organisation. Still REB on lower levels seems to lack an understanding of the importance of financial sustainable operation. Instructions from government and feelings about tariff structure seem to have precedence over financial realities and questions of sustainability. This can be very damaging for the future as it seems that everybody feel sure that they will be saved by outside help instead of analysing the situation and finding solutions that can bring the PBSs up to financial viable entities.

5 PROCUREMENT

REB is a programme oriented organisation with strong central control over the construction projects. Their systems and routines are not at all adapted to the project oriented approach NORAD had in the current financing.

It is clear that the funds provided by NORAD through purchases paid from the NORAD account was not needed by the two cooperatives in the quantity purchased in the different purchase orders or even not needed at all by Bhola or Gaibandha PBS but used elsewhere in the programme. Annex 7 shows the a list of purchase orders paid from the two NORAD accounts and Annex 8 shows the material sent the cooperatives and booked under NORAD financing. Annex 8 also compares the booked amount with the purchased amount and clearly

shows the discrepancy even though some smaller item purchased was not identified to make the list complete.

On the other hand the two cooperatives were furnished with a lot of material that they did need but that was not bought under NORAD financed contracts. However, as a relatively arbitrarily bookkeeping exercise, such material was defined in the cooperatives' loan base as financed by NORAD.

The key control element is the item number that is a unique store number that material with same specification, even though bought under various purchase orders and supplied by different manufacturer, is given. REB regards, as normal in any well organised store system, all items with same item to be identical and do not keep track of from which manufacturer of purchase order they ship the material. This reduces the store area and simplifies store management making it easier to avoid tens of store numbers for functional identical equipment with the risk that some of this material will end up unused because it has been forgotten that they could be used other places.

As our first finding it must be concluded that the NORAD funds were used for buying equipment needed for normal replenishing of the construction store**. I.e. as a program support or commodity support not as project support**.

The result of this is that actual booking of material delivered to the cooperatives is a pure accounting exercise carried out relatively randomly. Equipment sent to the cooperatives is booked to the NORAD accounts regardless of being bought by NORAD funds or not. The costs booked by the cooperatives are the warehouse cost for that specific item meaning the last purchase cost of that item.

However, one can not say if all this equipment has really been used as the store value particularly at Bhola PBS seems to be very high indicating some amount of overstocking.

6 USE OF FUNDS

Programme funding

Donor wise Project Aid and Actual Expenditure for ACRE Project Phase-VA & Phase-VB Conversion rate 1 US$ = BDT 52.05 as per Project Proforma. The table shows a huge underutilisation of the funds which by remaining in the bank most likely to a great extent assist in covering the operational expenses by the interest they generate.

This should be a concern to both REB and the donors as it most likely indicates that the organisation to a certain degree do not cope with the present volume of activities.

Project Name	Donor's Name	Total Investment		Total Expenditure		Percentage of use
		Million US$	Million Taka	Million US$	Million Taka	
ACRE Phase-5A	IDB	19.21	999.88	18.15	945.05	94.48
	SFD	10.50	546.52	8.36	435.35	79.61
	KFAED	10.00	520.50	4.96	258.49	49.60
	JBIC	28.40	1428.22	25.80	1343.30	90.84
	NORAD	15.00	780.75	13.97	727.07	93.13
	Netherlands	16.00	832.80	12.14	632.04	75.87
	Total:	209	5472	418	4,341.52	84.12
ACRE Phase-5B	OPEC	8.30	432.01	7.41	385.76	89.27
	NORAD	7.80	405.99	6.47	337.19	82.94
	JBIC	12.55	653.22	9.87	514.09	78.64
	Total:	401	7084	615	1,237.04	82.89

NORAD Funds

According Appendix 7 the procurements under the NORAD funds amount to (including inspection fee):

- Bhola PBS (Grant BDG 065) USD 14 386 790 (BDT 748 832 420)
- Gaibandha PBS (Grant BGD-300) USD 6 074 259 (BDT 316 165 181)

On the other hand Appendix 8 indicates a transfer of equipment and material to the cooperatives to be as follows:

- Bhola PBS (Grant BDG 065) BDT 588 893 024
- Gaibandha PBS (Grant BGD-300) BDT 374 489 499

It has not been possible to the figures as they represent different time windows with different exchange rates, different purchase orders and very arbitrarily allocation to the projects.

END OF PROJECT REVIEW
BANGLADESH

APPENDIX 7
PURCHASES UNDER NORAD FINANCING

PURCHASES FOR BHOLA PBS from NORAD fund Grant No. BGD 0064
Grant Amount : 130.00 Million NOK
Project : VA

Status per: 30th June 2005

Cont. Reference/IFB No.	Meterial Description	Item No	Quantity Bought	Supplier	Foreign/ Local	Contract Amount (US$)	Quantity Received	Disbursement(90%)		Disbursement(10%)		Remarks
								US$	Bangladeshi Taka	US$	Bangladeshi Taka	
1st Tench												
NR - 1	SPC Pole	R-40	R-40= 7500	Charka	L	450 000,00	R-40= 7500	405 000,00	19 743 750,00	45 000,00	2 632 950,00	Completed
NR - 2	SPC Pole	R-41, R-42	R-41= 2000, R-42 = 2000	Charka	L	400 000,00	R-41= 2000, R-42 = 2000	360 000,00	17 550 000,00	40 000,00	2 340 400,00	Completed
NR - 3	SPC Pole	R-43, R-44	R-43= 2000, R-44= 2000	Gemcon	L	478 000,00	R-43= 2000, R-44= 2000	430 200,00	20 972 250,00	47 800,00	2 796 778,00	Completed
NR - 4	SPC Pole	R-45, R-46 R-47	R-45 = 1000, R-46 = 1000, R-47= 500	Charka	L	521 000,00	R-45 = 1000, R-46 = 1000, R 47= 500	468 900,00	22 858 875,00	52 100,00	3 048 371,00	Completed
NR - 5	Cross Arm	X-1, X-2, X-3	X-1= 5000, X-2= 500, X-3 = 200	Esac	L	111 800,00	X-1= 5000, X-2= 500, X-3 = 200	6 120,00	298 350,00	7 092,50	363 490,63	Completed
								11 250,00	548 437,50			
								83 250,00	4 058 437,50			
NR - 6	Anchor Log	Z-1, Z-2	Z-1= 7500, Z-2= 500	Diran	L	100 250,00	Z-1= 7500, Z-2= 500	44 865,00	2 232 033,75	2 745,87	140 753,30	Completed
								45 360,00	2 324 700,00			
NR - 7	Hardware	B-1, B-18, B- 19, B-20, B-22, B-122	B-1= 1200, B-18= 10000, B-19= 10000, B-20= 5000, B-22=2000, B-122= 2000	Bahar	L	59 830,00	B-1= 1200, B-18= 10000, B-19= 10000, B-20= 5000, B-22=2000, B-122= 2000	27 252,00	1 396 665,00	-	-	Completed
								26 595,00	1 363 259,70			
NR - 8	Hardware	B-33, B-34, B-35, B-53, B-54, B-55, B-62, B-63,B-80	B-33=5000Nos.B-34=5000Nos.B-35=2000Nos.B-53=10000Nos.B-54=2000Nos.B-55=6000Nos.B-62=6000NosB-63=1000Nos.B-80=5000Nos.	Bayazid	L	53 264,24	B-33=5000Nos.B-34=5000Nos.B-35=2000Nos.B-53=10000Nos.B-54=2000Nos.B-55=6000Nos.B-62=6000NosB-63=1000Nos.B-80=5000Nos.	47 937,82	2 336 968,53	-	-	Completed
NR - 9	Hardware	B-2,.B-41.B-42.B-46.B-48.B-49.B-56,B-65.B-67.B-71.B-72.B-73.B-87.B-88.B-200Nos.B-118	B-2=6000Nos.B-41=5000Nos.B-42=2000Nos.B-46=20000Nos.B-48=2000Nos.B-49=2000Nos.B-56=6000Nos.B-65=5000Nos.B-67=600000Nos.B-71=2000Nos.B-72=3000Nos.B-73=7000Nos.B-87=250Nos.B-88=20Nos.B-200Nos.B-118=500Nos.	Bright Steel	F	52 776,29	B-2=6000Nos.B-41=5000Nos.B-42=2000Nos.B-46=20000Nos.B-48=2000Nos.B-49=2000Nos.B-56=6000Nos.B-65=5000Nos.B-67=600000Nos.B-71=2000Nos.B-72=3000Nos.B-73=7000Nos.B-87=250Nos.B-88=20Nos.B-200Nos.B-118=500Nos.	31 000,27	1 588 763,84	2 100,10	107 651,13	Completed
								16 498,39	845 542,49			
NR - 10	Hardware	B-83.B-84.B-85.B-86.B-110.B-111.B-132.B-133.B-134.	B-83=5000Nos.B-84=2000Nos.B-85=10000Nos.B-86=4000Nos.B-110=5000Nos.B-111=5000Nos.B-132=4000Nos.B-133=500Nos.B-134=500Nos.	Asbesco	F	47 190,00	B-83=5000Nos.B84=2000Nos.B-85=10000Nos.B-86=4000Nos.B-110=5000Nos.B-111=5000Nos.B-132=4000Nos.B-133=500Nos.B-134=500Nos.	42 471,00	2 070 461,25	4 247,10	217 663,88	Completed
NR - 11	Hardware	R-40,R-42 & R-41	R-40=5000,R-42=1000 & R-41=3000	Asbesco	F	46 543,51	R-40=5000,R-42=1000 & R-41=3000	41 889,16	2 042 096,50	1 689,42	98 847,96	Completed
NR - 12	Ins. Cond.	D-12	D-12=1000Km	Bangkok	F	463 000,00	D-12=1000Km	416 700,00	21 355 875,00	45 704,87	2 479 946,25	Completed
NR - 13	Ins. Cond.	D-14, D-15 , D-16, D-17, D-25	D-14=100Km, D-15 = 50, D-16=25Km, D-17=25Km, D-25=100Km	Bangkok	F	300 725,00	100% Received	270 652,50	13 870 940,63	30 072,50	-	Completed

Cont. Reference/IFB No.	Meterial Description	Item No	Quantity Bought	Supplier	Foreign/ Local	Contract Amount (US$)	Quantity Received	Disbursement(90%)		Disbursement(10%)		Remarks
								US$	Bangladeshi Taka	US$	Bangladeshi Taka	
NR - 14	Bare Cond.	D-29, D-30	D-29=300km., D-30=200Km.	BRB	L	169 500,00	D-29=300 KM & D -30=200 KM	152 550,00	7 436 812,50	16 950,00	868 687,50	Completed
NR - 15	Insulator	C-1, C-2, C-3, C-4, C-5, C-10, C-11	C-1=12000Nos.C-2=4000Nos.C-3=7000Nos.C-4=3000Nos.C-5=2000Nos.C-10=6000Nos.C-11=2000Nos	Jaya Shree	F	63 890,00	C-1=12000Nos.C-2=4000Nos.C-3=7000Nos.C-4=3000Nos.C-5=2000Nos.C-10=6000Nos.C-11=2000Nos	57 501,00	2 860 674,75	6 389,00	327 436,25	Completed
NR - 16	Cond.& Guy	E-10,E-11., E-12, E-17, E-18s, E-21, E-22, E-23 , E-25	E-10=10,E-11=4000Nos., E-12 = 2000Nos, E-17=30,000Nos, E-18=4000Nos, E-21=7000, E-22=3000Nos, E-23 = 3000, E-25 = 1000Nos	PLP, USA	F	43 530,00	E-10=10,E-11=4000Nos., E-12 = 2000Nos, E-17=30,000Nos, E-18=4000Nos, E-21=7000, E-22=3000Nos, E-23 = 3000, E-25 = 1000Nos	39 177,00	2 292 246,27	4 353,00	223 091,25	Completed
NR - 17	Guy & Gr.	N-1.N-2.N-3.N-4.	N-1=125Km.N-2=400Km.N-3=200Km.N-4=120Km.	Trifileurope	F	473 975,00	N-1=125Km.N-2=400Km.N-3=200Km.N-4=120Km.	426 577,50	24 959 049,53	46 532,26	2 710 504,15	Completed
NR - 18	Connectors	I-1., I-2 ., I-3, I-4, I-5., I-6, I-14, I-24, I-45, , I-49, I-50, I54, I-68, I-70	I-1=2000Nos., I-2 = 2000Nos., I-3=2000Nos, I-4=2000Nos, I-5=15000Nos., I-6=20000Nos, I-14=4000Nos, I-24=1000Nos, I-45=1000Nos, , I-49=500Nos, I-50=500Nos, I54=1000Nos, I-68=500Nos, I-70=200Nos,	Bahar	L	45 449,24	I-1=2000Nos., I-2 = 2000Nos., I-3=2000Nos, I-4=2000Nos, I-5=15000Nos., I-6=20000Nos, I-14=4000Nos, I-24=1000Nos, I-45=1000Nos, , I-49=500Nos, I-50=500Nos, I54=1000Nos, I-68=500Nos, I-70=200Nos,	22 316,18	1 087 913,78	4 544,91	246 606,82	Completed
								18 588,15	906 172,31			
NR - 19	Connectors	I-57, I-58, I-59	I-57=800Nos., I-58=800Nos., I-59=2000Nos.	UTECO	F	22 412,00	I-57=800Nos., I-58=800Nos., I-59=2000Nos.	20 170,80	1 003 497,30	2 241,20	-	Completed
NR - 20	Connectors	I-73	I-73=200Nos.	Bahar	L	12 784,00	I-73=200	11 505,60	572 403,60	1 214,48	71 059,22	Completed
NR - 21	Fuse Cutout					-		-	-	-	-	Re-tender
NR - 22	Surge Arrest.					-		-	-	-	-	Re-tender
NR - 23	Fuse Links	Lot	Lot	EAC	F	27 168,00	100% Received	24 451,20	1 216 447,20	2 037,60	104 447,38	Completed
NR - 24	Recloser					-		-	-	-	-	Re-tender
NR - 25	1-Ph. Meter	J-1	J-1=36000 Nos.	PT Fuji	F	422 280,00	J-1=36000 Nos.	211 815,65	10 326 012,94	18 692,93	929 973,27	Completed
						-		168 236,35	8 201 522,06	23 535,07	1 206 407,69	
NR - 26	3 -Ph. Meter					184 920,00		-	-	-	-	Contract Cancel
NR - 27	CT & PT	GS-1, GS-3, G-12, G-15	GS-1=6Nos, GS-3= 6Nos., G-12=120Nos., G-15=240Nos.	TEWC	F	166 860,00	GS-1=6Nos, GS-3= 6Nos., G-12=120Nos., G-	150 174,00	7 471 156,50	16 686,00	976 297,86	Completed
NR - 28	Line Tools	Lot	Lot	UTECO	F	42 572,60	100% Received	38 315,34	1 906 188,17	4 067,51	208 459,89	Completed
NR - 29	Street Light	L-1, L-2, L-3 , L-4	L-1=550Nos, L-2=100Nos., L-3=120Nos. , L-4=120Nos	TEWC	F	47 639,62	L-1=550Nos, L-2=100Nos., L-3=120Nos. , L-4=120Nos	42 875,66	2 197 377,47	2 149,78		Completed
NR - 30	Power Xformer	GS-42, GS-43	GS-42=4 Nos., GS-43=4 Nos.	Vijai	F	162 670,88	GS-42=4 Nos., GS-43=4 Nos.	146 403,79	7 137 184,86	14 216,62	728 743,94	Completed
NR - 31	S/S Switches	HS-6.100E, HS-6.175E, H-18.600, H-16.600 , HS-5.1200, HS-13.600	HS-6.100E=10Nos, HS-6.175E=20Nos, H-18.600=60Nos., H-16.600 = 60Nos., HS-5.1200=6Nos., HS-13.600=60Nos.	UTECO	F	119 996,58	HS-6.100E=10Nos, HS-6.175E=20Nos, H-18.600=60Nos., H-16.600 = 60Nos., HS-5.1200=6Nos., HS-13.600=60Nos.	107 996,92	5 372 846,87	11 399,68	584 233,60	Completed
NR - 32	Volt. Regulator	KS-2.656	KS-2.656=16 Nos.	Siemens	F	267 216,00	KS-2.656=16 Nos.	240 494,40	11 964 596,40	26 721,60	1 369 749,22	Completed

Cont. Reference/IFB No.	Meterial Description	Item No	Quantity Bought	Supplier	Foreign/ Local	Contract Amount (US$)	Quantity Received	Disbursement(90%)		Disbursement(10%)		Remarks
								US$	Bangladeshi Taka	US$	Bangladeshi Taka	
NR - 33	Bare Cond.	D-1, D-2	D-1=1200Km, D-2=600 Km	East. Cable	L	415 800,00	D-1=1200, D-2=600	133 088,63	6 820 792,29	41 579,99	2 131 390,29	Completed
								128 452,50	6 583 190,63			
								21 642,39	1 109 172,49			
								70 999,32	3 638 715,15			
								20 037,15	1 027 104,31			
NR - 34	Bare Cond.	D-3	D-3=1200 Km.	East. Cable	L	834 000,00	D-3=1200 Km.	101 331,00	5 193 213,75	83 400,00	4 275 084,00	Completed
								47 287,80	2 423 499,75			
								206 039,70	10 559 534,63			
								222 928,20	11 425 070,25			
								74 309,40	3 809 099,84			
								98 703,90	5 059 561,91			
NR - 35	Bare Cond.	D-4, D-5, D-6,D-7, D-8	D-4=400 Km, D-5=400 Km, D-6=100 Km,D-7=100 Km, D-8=100 Km.	East. Cable	L	246 400,00	D-4=400 Km, D-5=400 Km, D-6=100 Km,D-7=100 Km, D-8=100 Km	28 512,93	1 461 287,66	24 639,79	1 263 035,64	Completed
								142 335,00	7 296 092,10			
								50 912,28	2 609 763,47			
NR - 36	Ins. Cond.	D-11	D-11=2400 Km	Bangkok	F	621 600,00	D-11=2400 Km	279 720,00	14 338 447,20	62 160,00	3 372 801,60	Completed
								279 720,00	14 338 447,20			
NR - 37	Dist. Xformer	G-4, G-5, G-16	G-4=250, G-5=350, G-16=150	CMEC	F	288 900,00	10 KVA=250,15 KVA=350, 25 KVA=100	260 010,00	13 325 512,50	16 224,22	949 279,11	Completed
NR - 38	Dist. Xformer	G-6, G-7, G-8, G-17	G-6=75Nos., G-7=75Nos., G-8=50Nos, G-17=100Nos.	Vijai	F	313 526,50	37.5 KVA =100, 50KVA=75, 75KVA =75, 100 KVA=50	282 173,85	14 461 409,81	19 337,88		Completed
NR - 39	Fuse Cutout	H-1.100, H-1.002	H-1.100=5400, H-1.002=400	EAC	F	133 950,00	H-1.100=5400, H-1.002=400	60 277,50	3 089 221,88	6 697,50	363 406,35	Completed
								60 277,50	3 089 824,65	6 697,50	363 406,35	
NR - 40	Surge Arrest.	H-2.009	H-2.009=3000 Nos	Lamco	F	33 750,00	H-2.009=3000 Nos	30 375,00	1 556 718,75	3 375,00	183 127,50	Completed
NR - 41	CT & PT	G-13, G-14	G-13=1200, G-14=1000	EMEK	F	198 000,00	G-13=1200, G-14=1000	89 100,00	4 566 375,00	19 800,00	1 074 348,00	Completed
								89 100,00	4 567 266,00			
NR - 42	3-Ph. Meter	J-3, J-4, J-5., J-6	J-3=300Nos., J-4=600Nos., J-5=50Nos., J-6=50Nos	TEWC	F	175 900,00	J-3=300Nos., J-4=600Nos., J-5=50Nos., J-6=50Nos	158 310,00	8 113 387,50	17 249,80	935 974,15	Completed
NR - 43	Meter Seal	J-31	J-31=200000Nos.	TEWC	F	37 600,00	J-31=200000Nos.	33 840,00	1 734 300,00	3 760,00	204 017,60	Completed
NR - 44	Ins. Cond.	D-11, D-12	D-11=700Km, D-12=500Km.	PT Voksel	F	461 726,00	D-11=700Km, D-12=500Km.	415 553,40	24 314 029,43	32 320,82	1 753 727,69	Completed
NR - 45	Bare Cond.	D-28	D-28=100Km.	Paradise	L	178 300,00	D-28=100Km.	160 470,00	9 389 099,70	12 481,00	730 263,31	Completed
NR - 46	1 Ph. Meter	J-1	J-1=10000	Hosaf	L	116 700,00	J-1=10000	105 030,00	6 145 305,30	11 670,00	682 811,70	Completed
NR - 47	3 -Ph. Meter					-		-	-	-	-	Purchase Drop
NR - 48	Test Bench					-		-	-	-	-	Re-tender
(a) Sub Total =						9 413 395,46		8 305 628,13	426 414 952,33	841 677,50	43 065 223,44	
NR - 49	Hardware	Lot	Lot	BMTF	L	286 810,58	100% Received	129 064,76	7 551 579,11	28 681,06	81 157 096,88	Completed
								129 064,76	7 551 579,11			

Cont. Reference/IFB No.	Meterial Description	Item No	Quantity Bought	Supplier	Foreign/ Local	Contract Amount (US$)	Quantity Received	Disbursement(90%)		Disbursement(10%)		Remarks
								US$	Bangladeshi Taka	US$	Bangladeshi Taka	
NR - 50	Insulator	C-1, C-3, C-5, C-10, C-11	C-1=40000Nos., C-3=30000Nos., C-5=2000Nos., C-10=36000Nos, C-11=4000Nos.	Allied	F	165 996,60	C-1=40000Nos., C-3=30000Nos., C-5=2000Nos., C-10=36000Nos, C-11=4000Nos.	74 698,47	4 370 607,48	463,18	27 100,66	
								74 698,47	4 370 607,48			
NR - 51	Bare Cond.	D-1	D-1=5000Km	Paradise	L	817 000,00	D-1=5000 Km.	367 855,88	21 523 247,54	79 174,05	4 632 473,67	Completed
								367 444,12	21 499 155,46			
NR - 52	Cond.& Guy	E-10,E-12,E-17m,E-18,,E-21=35000Km,E-22,E-24.	E-10=28000Km,E-12=12000Km,E-17=80000Km,E-18=20000Km,E-21=35000Km,E-22=15000Km,E-24=1500Km.	Tyco	F	93 935,00	E-10=28000Km,E-12=12000Km,E-17=80000Km,E-18=20000Km,E-21=35000Km,E-22=15000Km,E-24=1500Km.	84 541,50	4 946 523,17	8 258,42	483 200,15	Completed
NR - 53	Dist. Xformer	G-4	G-4=2200Nos.	Vijai	F	682 000,00	G-4=2200Nos.	613 800,00	35 913 438,00	68 200,00	3 990 382,00	Completed
NR - 54	Dist. Xformer	G-5,G-16,G-17,G-21	G-5=250Nos,G-16=250Nos,G-17=50Nos,G-21=800Nos	Vijai	F	440 300,00	G-5=250Nos,G-16=250Nos,G17=50Nos,G-21=800Nos	396 270,00	23 185 757,70	40 291,79	2 357 472,63	Completed
NR - 55	Fuse Cutout	H-1.100, H-1.002	H-1.100= 7000Nos, H-1.002= 200Nos	Delmar	F	154 000,00	H-1.100= 7000, H-1.002=	138 600,00	8 109 486,00	15 400,00	901 054,00	Completed
NR - 56	Surge Arrest.	H-2.009	H-2.009= 5000 Nos.	Oblum	F	45 125,00	H-2.009= 5000 Nos.	40 612,50	2 376 237,38	2 255,88	151 143,96	Completed
NR - 57	3 - Ph. ACR	H-8.100.	H-8.100= 15 Nos.	Travida	F	101 625,00	H-8.100= 15 Nos.	91 462,50	5 351 470,88	10 162,50	594 607,88	Completed
NR - 58	Line Volt. Reg.	K-1	K-1= 15 Nos	Cooper	F	82 935,00	K-1= 15 Nos	74 641,50	4 370 259,83	8 293,50	485 252,69	Completed
NR - 59	Connectors	I-1,I-3,I-4,I-14	I-1=2000,I-3=5000,I-4=4000,I-14=12000	EAC	F	5 800,00	I-14=12000	5 220,00				Material Rejected
NR - 60	SPC Pole	R-40, R-41.	R-40= 5800, R-41= 5000 Nos.	Gemcon	L	654 660,00	R-40= 5800, R-41= 5000	176 904,00	10 357 729,20	65 466,00	3 830 415,66	Completed
								412 290,00	24 139 579,50			
NR - 61	SPC Pole	R-42, R-44	R-42= 2000, R-44= 2000 Nos.	Charka	L	390 080,00	R-42= 2000, R-44= 2000 Nos.	157 982,40	9 249 869,52	39 008,00	2 282 358,08	Completed
								193 089,60	11 305 396,08			
NR - 62	SPC Pole	R-43, R-45	R-43= 5000, R-45= 200 Nos.	Gemcon	L	531 900,00	R-43= 5000, R-45= 200 Nos.	262 926,00	15 394 317,30	53 190,00	3 112 146,90	Completed
								215 784,00	12 634 153,20			
NR - 63	X-Arm & Log	X-1, X-2, Z-1, Z- 2	X-1= 12000, X-2= 2000, Z-1= 400000, Z- 2= 1500	Consol.	L	623 900,00	X-1= 12000, X-2= 2000, Z-1= 400000, Z- 2= 1500	561 510,00	32 876 410,50	62 390,00	3 650 438,90	Completed
NR - 64	Power Xformer	G5-42= 07	G5-42= 07	Energy Pac	L	91 000,00	G5-42= 07	81 900,00	4 795 245,00	9 100,00	532 441,00	Completed
NR - 65	Recloser					-						Re-tender
NR - 48-1	Meter Test Bench	TI-37,TI-38	TI-37=3,TI-38=3	Guangzhau	F	87 507,00						Contract Cancel
NR - 65-1	Sub-Station Switch & Power Fuse	HS-6.100E, HS-6.002E, H-18.600., H-19.600 .,	HS-6.100E=20Nos, HS-6.002E=50Nos, H-18.600=30Nos., H-19.600 = 20Nos..	Energy Pac	L	36 400,00	HS-6.100E=20Nos, HS-6.002E=50Nos, H-18.600=30Nos., H-19.600 = 20Nos..	32 760,00	1 961 505,00	3 640,00	212 976,40	Completed
(b) Sub-Total=						5 290 974,18		4 683 120,46	273 834 154,41	493 974,38	108 400 561,46	
						14 704 369,64	-	12 988 748,59	700 249 106,74	1 335 651,88	151 465 784,90	

a. **Total Alloocation in NOK** **130.00 Million**
b. **Total Alloocation in US$** **15 Million**
c. **Total Disbursment in US$** **14 324 400,47**
d. **Total Contract Amount in US$ =** **14 704 369,64**
e **Inspection Fee in USD =** **62 390,00**
Grand Total =(c+e) = 14 386 790,47

PURCHASES FOR GAIBANDHA PBS from NORAD fund Grant No. BGD 3000
Grant Amount : Tk. 414.97 Million
Project : V-B

Status per: 30th June 2005

Cont. Reference /IFB No.	eterial Descriptio	Item No.	Quantity Bought	Supplier	Foreign/ Local	Contract Amount (US$)	Quantity Received	Disbursement(90%)		Disbursement(10%)		Current Status
								US$	Bangladeshi Taka	US$	Bangladeshi Taka	
NOR - 1	Insulator	C-1,C-2,C-30,C-5,	C-1=24000,C-2=3000,C-3=24000,C-5=1000 Nos.	Jaya Shree	F	108 350,00	C-1=24000,C-2=3000,C-3=24000,C-5=1000 Nos.	97 515,00	5 705 602,65	4 640,66	271 710,64	Completed
NOR - 2	Bare Cond.	D-1,	D-1=1000 Km,D.3=400Km	Paradise	L	456 200,00	D-1=1000 Km,0.3=400	382 063,51	22 354 536,00	45 620,00	2 669 226,20	Completed
								28 516,49	1 668 500,00	-		
NOR - 3	Bare Cond.	D-28	D-28=100Km	Paradise	L	149 300,00	D-28=100Km	134 370,00	7 861 988,70	14 700,18	860 107,53	Completed
NOR - 4	Ins. Cond.	D-11, D-12	D-11=500Km, D-12=700Km	PT Jembo	F	386 000,00	D-11=500Km, D-12=700Km	347 400,00	20 326 374,00	38 600,00	2 260 030,00	Completed
NOR - 5	Cond. & Guy	E-10,E-11,E-12,E-17,E-18,E-21,E-22,E-23 &E-24.	E-10=30000,E-11=3500,E-12=7500,E-17=50000,E-18=10000,E-21=22000,E-22=10000,E-23=1600 &E-24=1000Km.	Tyco	F	73 485,00	100% Received	66 136,50	3 869 646,62	6 820,74	399 354,33	Completed
NOR - 6	Dist. Xformer	G-4,G-5 & G-16.	G-4=1150,G-5=300 & G-16=50 Nos.	Vijai	F	493 850,00	G-4=1150,G-5=300 & G-16=50 Nos.	444 465,00	26 005 647,15	43 048,48	2 520 488,50	Completed
NOR - 7	Fuse Cutout	H-1.100	H-1.100=6000 Nos	Creative	F	126 840,00	H-1.100=6000 Nos	114 156,00	6 679 267,56	11 487,87	672 614,79	Completed
NOR - 8	Surge Arrester	H-2.009,HS-2.010,HS-3.036	H-2.009=5000,HS-2.010=50,HS-3.036=30	Precise	F	59 619,00	H-2.009=5000,HS-2.010=50,HS-3.036=30	53 657,10	3 139 476,92	5 961,90	350 917,43	Completed
NOR - 9	Connectors	I-57,I-58,I-59	I-57=3000,I-58=1300,I-59=2000	ACE Energy	F	57 720,00	I-57=3000,I-58=1300,I-59=2000	51 948,00	3 039 477,48	5 772,00	337 950,60	Completed
NOR - 10	3 - Ph. Meter	J-2,J-5,J-6.	J-2=1000Nos,J-5=150Nos,J-6=100Nos.	Schlumberge	F	155 155,00	J-2=1000Nos,J-5=150Nos,J-6=100Nos.	139 639,50	8 170 307,15	6 186,56	362 223,09	Completed
NOR - 11	SPC Poles	R-40,R-42 & R-41	R-40=5000Nos. R-42=1000Nos. & R-41=3000Nos.	Charka	L	651 000,00	R-40=5000,R-42=1000 & R-41=3000	232 092,00	13 579 702,92	65 100,00	3 811 605,00	Completed
								247 968,00	14 508 607,68	-		
								105 840,00	6 192 698,40	-		
NOR - 12	SPC Poles	R-45,R-46& R-47	R-45=600,R-46=200& R-47=150	Gemcon	L	204 680,00	R-45=600,R-46=200& R-47=150	184 212,00	10 778 244,12	20 468,00	1 198 401,40	Completed
NOR - 13	Cross Arms	X-1,X-2,	X-1=5000Nos.,X-2=500Nos,	Esac Bros.	L	46 375,00	X-1=5000Nos.,X-2=500Nos,	41 737,50	2 442 061,13	4 637,50	271 525,63	Completed
NOR - 14	S/S Switches	HS-6.100,HS-6.175,H18.600,H-16.600,HS-5.1200,H-19.600HS-13.600	HS-6.100=30,HS-6.175=30,H-18.600=150,H-16.600=100HS-5.1200=10,H-19.600=30HS-13.600=10	S & C	F	145 557,73	100% Received	131 001,96	7 664 924,68	11 983,50	701 633,93	Completed
NOR - 15	Recloser	H-7.800,H-8.200.	H-7.800=4,H-8.200=18.	Cooper	F	177 700,00	H-7.800=4,H-8.200=18.	159 930,00	9 357 504,30	17 770,00	1 040 433,50	Completed
NOR - 16	Power Xformer	GS-42	GS-42=20 Nos	Vijai	F	279 505,00	GS-42=20 Nos	251 554,50	14 718 453,80	26 324,91	1 541 323,48	Completed
NOR - 17	Guy & Ground.	GS-1,GS-3,G-12,G-13.	GS-1=10,GS-3=10,G-12=50,G-13=50.	Bortrans	F	37 690,00	GS-1=10,GS-3=10,G-12=50,G-13=50.	33 921,00	1 984 717,71	1 966,13	115 116,91	Completed
			Sub-total =			**3 609 026,73**	-	3 248 124,06	190 047 738,95	331 088,43	19 384 662,96	Completed
NOR - 18	Hardware	Lot	Lot	Bahar	L	208 461,44	100% Received	150 918,18	8 836 259,44	20 826,14	1 219 370,50	Completed
								36 697,12	2 148 616,38			
NOR - 19	Bare Cond.	D-1,D-3 & D-5.	D-1=1600 Km. ,D-3=500Km & D-5=100Km	Paradise	L	639 000,00	D-1=1600Km.,D-3=500Km & D-5=100Km	308 277,20	18 049 630,06	63 900,00	3 741 345,00	Completed
								266 822,81	15 622 475,53			

Cont. Reference /IFB No.	eterial Descriptio	Item No.	Quantity Bought	Supplier	Foreign/ Local	Contract Amount (US$)	Quantity Received	Disbursement(90%)		Disbursement(10%)		Current Status
								US$	Bangladeshi Taka	US$	Bangladeshi Taka	
NOR - 20	Dist. Xformer	5KVA,10 KVA & 25KVA	5KVA=900Nos,10 KVA=500Nos& 25KVA=75Nos	Sun Rice	F	388 808,50	5KVA=900,10 KVA=500& 25KVA=75	349 927,65	20 488 263,91	38 880,85	2 294 358,96	Completed
NOR - 21	SPC Poles	R-40,R-42 & R-41	R-40=1200,R-42=3000 & R-41=4500	Confidence	L	524 752,50	R-40=1200,R-42=3000 & R-41=4500	75 469,50	4 418 739,23	47 019,06	2 774 594,73	Completed
		R-43	R-43=2000				R-43=2000	109 647,00	6 419 831,85			
								68 913,00	4 034 856,15			
								218 247,75	12 778 405,76			
NOR - 22	SPC Poles	R-44	R-44=1000	Confidence	L	439 377,00	R-44=1000	112 612,27	6 593 448,41	40 677,02	2 397 910,33	Completed
		R-45	R-45=1000				R-45=1000	43 361,55	2 538 818,75			
		R-46 & R-47	R-46=100 & R-47=300				R-46=100 & R-47=300	22 169,25	1 298 009,59			
								217 296,00	12 722 680,80	-		
NOR - 23	Cross Arms	X-1,X-2,Z-1/4,Z-2	X-1=4000,X-2=1500,Z-1/4=12000,Z-2=1200	Rafique	F	189 300,00	X-1=4000,X-2=1500,Z-1/4=12000,Z-2=1200	153 540,00	8 989 767,00	7 121,75	416 693,59	Completed
								16 830,00	985 396,50			
NOR - 24	1 Ph.Volt. Reg.	KS-2.328	KS-2.328=12.	Cooper	F	99 558,00	KS-2.328=12.	89 602,20	5 246 208,81	9 955,80	582 912,09	Completed
NOR - 25	Com. Equipment	CE-1, CE-1.1, CE-1.2, CE-3,CE-4	CE-1=15Nos., CE-1.1=15Nos, CE-1.2=15Nos. CE-3=8Nos and CE-4=1Nos.	Skyways	L	12 742,78	CE-1=15Nos., CE-1.1=15Nos, CE-1.2=15Nos. CE-3=8Nos and CE-4=1Nos.	11 158,45	653 327,25	1 239,83	79 993,83	Completed
Sub-total						2 502 000,22		2 251 489,93	131 824 735,40	229 620,45	13 507 179,03	
Grand Total						**6 111 026,95**		**5 499 613,99**	**321 872 474,35**	**560 708,88**	**32 891 841,99**	

Allocation in Tk. = 414.97 Million
Total Disbursment in USD= 6 060 322,87
Total Contract Amount in USD = 6 111 026,95

Inspection Fee in USD= 13 936,82
Total dis. Amount in USD(+Ins. Fee) = 6 074 259,69

END OF PROJECT REVIEW
BANGLADESH

APPENDIX 8
MATERIAL MOVEMENT
UNDER NORAD FINANCING

Material Supplied to Bhola charged NORAD compared to material bought of NORAD funds

ITEM NO	DESCRIPTION OF THE ITEM	UNIT	Qty Issued to Bhola PBS	Cost Charged PBS	Quantity Purchased
B-1	PIN, INSULATOR, X-ARM, 1" LEAD THRD, 5/8"x10-3/4"	No.	23 200	1 805 656,00	1 200
B-100	BOLT, CLEVIS, 5/8"x10", DROP-FORGED, GALVANIZED	No.	226	17 356,80	
B-101	BOLT, CLEVIS, 5/8"x12", DROP-FORGED, GALVANIZED	No.	11	203,94	
B-102	BOLT, CLEVIS, 5/8"x 14", DROP-FORGED, GALVANIZED	No.	525	47 822,25	
B-104	HOOK, DRIVE, PILOT POINT, HOT DIPPED GALVANIZED	No.	1 500	27 810,00	
B-110	WASHER, FERROUS, GALV. 4" SQR CURVED, 13/16" HOLE	No.	18 360	1 474 491,60	5 000
B-111	GUY ATTACHMENT, TWO BOLT, HOOK TYPE, GALVANIZED	No.	2 560	188 723,20	5 000
B-115	BOLT, MACHINE, 1/2"x8", ROLLED THREADS, GALVANIZED	No.	350	9 527,00	
B-118	WASHER 2-1/4" SQURE, FLATE,13/16" HOLE.	No.	730	29 105,10	5 000
B-119	LOCKNUT, M F 3/4".	No.	300	1 680,00	
B-12	BOLT, MACHINE, 5/8"x20", ROLLED THREADS, GALVANIZD	No.	3 580	346 937,80	
B-122	PIN, INSULATOR, X-ARM, 1-3/8" LEAD THREAD 3/4"x17"	No.	1 200	279 000,00	2 000
B-132	CLAMP, DEAD-END, STRAIGHT, #6 THRU 266.8 MCM ACSR	No.	11 754	2 894 422,50	4 000
B-133	CLAMP,CONDCTR DEAD-END,STGHT,266.8"1192.5 MCM ACSR	No.	466	146 799,32	500
B-134	CLAMP,SUSPENSION, 2-BOLT, FOR 477MCM ACSR	No.	530	206 233,60	500
B-136	NUT, MACHINE BOLT (3/8 INCH)	No.	15 000	48 450,00	
B-137	NUT, MACHINE BOLT (1/2 INCH)	No.	8 100	41 148,00	
B-138	NUT, MACHINE BOLT (5/8 INCH)	No.	123 050	771 523,50	
B-139	NUT MACHINE BOLT (3/8")	No.	300	1 956,00	
B-140	THIMBLE CLEVISE	No.	5 000	185 550,00	
B-141	GROUNDING CLAMP	No.	28 800	734 400,00	
B-15	BOLT, MACHINE, 3/4"x12"	No.	150	9 256,50	
B-16	BOLT, MACHINE, 3/4"x14".	No.	80	6 408,80	
B-18	BOLT, OVAL EYE, 5/8"x8", DROP-FORGED ROLLED THREAD	No.	12 050	752 281,50	10 000
B-19	BOLT, OVAL EYE, 5/8"x10", DROP-FORGED ROLLED THRED	No.	27 850	2 012 441,00	10 000
B-2	PIN, INSULATOR, X-ARM, POLE TOP, 1" LEAD THRD, 20"	No.	16 000	2 129 600,00	6 000
B-20	BOLT, OVAL EYE, 5/8"x12", DROP-FORGED ROLLED THRED	No.	6 700	495 934,00	5 000
B-22	BOLT, EYE OVAL 5/8"x18" DROP-FORGED,ROLLED THREAD.	No.	3 300	262 119,00	2 000
B-24	BOLT, THIMBLE-EYE, STRAIGHT, DROP-FORGED, 5/8"x10"	No.	847	41 858,74	
B-27	BOLT, DOUBLE ARMING, ROLLED THREADS 5/8"x18"	No.	6 158	602 745,04	
B-28	BOLT, DOUBLE ARMING, ROLLED THREADS 5/8"x20"	No.	4 931	427 221,84	
B-29	BOLT, DOUBLE ARMING, ROLLED THREADS 5/8"x22"	No.	3 339	349 493,13	
B-30	BOLT, DOUBLE ARMING, ROLLED THREADS 5/8"x24"	No.	725	69 027,25	
B-32	BOLT, CARRIAGE, ROLLED THREADS, GALV., 3/8"x4-1/2"	No.	22 500	1 618 200,00	2 000
B-33	BOLT, SINGLE UPSET, ROLLED THREADS, GALV. 5/8"x8"	No.	1 300	79 313,00	5 000
B-34	BOLT, SINGLE UPSET, ROLLED THREADS, GALV. 5/8"x10"	No.	10 300	733 978,00	5 000
B-35	BOLT, SINGLE UPSET, ROLLED THREADS, GALV. 5/8"x12"	No.	2 650	204 076,50	
B-4	BOLT, MACHINE, 1/2"x6", ROLLED THREADS, GALVANIZED	No.	2 300	52 003,00	
B-4.1	BOLT, MACHINE, 1/2"x8",		2 250	57 892,50	
B-4.2	BOLT, MACHINE, 1/2"x10",		5 350	147 285,50	
B-4.3	BOLT, MACHINE, 1/2"x12",		2 490	88 693,80	
B-40	SCREW, LAG, PILOT POINT, HOT DIPPED, GALV, 1/2"x4"	No.	10 500	130 095,00	
B-41	BRACE, CROSSARM, 28" STEEL	No.	26 400	1 862 256,00	5 000
B-42	BRACE, CROSSARM, 60" SPAN (V BRACE)	No.	1 450	483 473,50	2 000
B-46	WASHER, FERROUS, GALV. 2-1/4" SQR. 11/16" HOLE	No.	187 012	1 750 432,32	2 000
B-48	WASHER, FERROUS, GALV. ROUND, FLAT, 9/16" HOLE	No.	4 016	14 096,16	2 000
B-49	WASHER, FERROUS, GALV 3" SQR CURVED, 11/16" HOLE	No.	4 300	78 002,00	2 000
B-5	BOLT, MACHINE, 5/8"x6", ROLLED THREADS, GALVANIZED	No.	70	1 876,00	
B-53	NUT, OVAL-EYE, DROP-FROGED, GALV., FOR 5/8" BOLT	No.	25 650	1 073 709,00	10 000
B-54	NUT, THIMBLE-EYE, DROP-FROGED, GALV. FOR 5/8" BOLT	No.	6 279	70 638,75	2 000
B-55	SHACLE, ANCHOR, DROP-FROGED, HOT DIPPED GALVANIZED	No.	5 050	244 117,00	6 000
B-56	GUY ATTACHMENT, FORMED STARP, HOT DIPPED GALVANIZD	No.	23 790	921 386,70	6 000
B-6	BOLT, MACHINE, 5/8"x8", ROLLED THREADS, GALVANIZED	No.	4 600	150 880,00	
B-62	ROD, ANCHOR, TWIN-EYE, DROP-FORGED, GALV. 5/8"x8'	No.	23 650	6 294 920,50	6 000

ITEM NO	DESCRIPTION OF THE ITEM	UNIT	Qty Issued to Bhola PBS	Cost Charged PBS	Quantity Purchased
B-63	ROD, ANCHOR, TWIN-EYE, DROP-FORGED, GALV. 3/4"x10'	No.	456	169 682,16	10 000
B-65	ROD, GROUND, HOT DIPPED GALVANIZED, 5/8"x8'	No.	9 250	731 675,00	5 000
B-66	PLATE GROUND,GALVANIZED, 7.5"X7.5"	No.	235	10 161,40	
B-67	STAPLE, GROUND WIRE, HOT-DIPPED GALV. 1-1/2"x1/4"	No.	140 000	319 200,00	600 000
B-7	BOLT, MACHINE, 5/8"x10", ROLLED THREADS, GALVANIZD	No.	33 950	1 682 222,50	
B-71	BRACKET, TRANSFORMER, SECONDARY LEAD TRAINER	No.	1 600	68 432,00	2 000
B-72	CLEVIS, BRACKET, SECONDARY, HOT DIPPED GALVANIZED	No.	8 800	624 096,00	3 000
B-73	CLEVIS, SWINGING, SECONDARY, HOT DIPPED GALVANIZED	No.	36 180	2 111 103,00	7 000
B-75	CLEVIS, SWINGING, SERVICE, HOT DIPPED GALVANIZED	No.	500	6 870,00	
B-8	BOLT, MACHINE, 5/8"x12", ROLLED THREADS, GALVANIZD	No.	25 600	1 265 920,00	
B-80	CLAMP, GROUND ROD, 5/8", HOT-DIPPED GALVANIZED	No.	8 000	293 440,00	5 000
B-82	CALMP, SUSPENSN SNGLE BLT #3 ACSR.	No.	200	10 270,00	
B-83	CLAMP, CLEVIS, SUSPENSION, TWO BOLT, FOR 1/0 ACSR	No.	6 600	1 721 610,00	5 000
B-84	CLAMP, CLEVIS, SUSPENSION, TWO BOLT, FOR 4/0 ACSR	No.	1 050	224 248,50	2 000
B-85	CLAMP, LOOP, DEAD-END, FOR #3 ACSR THRU #1/0 ACSR	No.	44 200	3 233 672,00	10 000
B-86	CLAMP, LOOP,DEAD-END, FOR #1/0 ACSR THRU #4/0 ACSR	No.	4 250	263 967,50	4 000
B-87	CLUSTER MOUNT, TRANSFORMER, FOR 5 KVA THRU 50 KVA	No.	1 200	3 474 900,00	250
B-88	CLUSTER MOUNT, TRANSFORMR, FOR 75 KVA THRU 167 KVA	No.	175	206 501,75	20
B-9	BOLT, MACHINE, 5/8"x14", ROLLED THREADS, GALVANIZD	No.	7 600	441 940,00	
B-90	BRACKET, CUTOUT & ARRESTER, POLE MOUNTING, GALV.	No.	2 400	748 704,00	
B-97	PIN CROSSARM, 1"LEAD THREAD, SADDLE TYPE.	No.	130	32 826,30	
C-1	INSULATOR, PIN TYPE, 11 KV 1" THREAD	No.	42 360	4 462 626,00	52 000
C-10	INSULATOR,SUSPENSION,6 INCH,11 KV	No.	25 934	5 778 613,88	42 000
C-11	INSULATOR,SUSPENSION,10 INCH,33 KV	No.	2 500	1 050 450,00	6 000
C-12	INSULATOR, POST TYPE, TIE TOP, 11KV	No.	30	13 508,70	
C-2	INSULATOR, SPOOL, 3 INCH GROVE DIAMETER.	No.	6 197	323 979,16	4 000
C-3	INSULATOR, SPOOL, 1-3/4 INCH GROVE DIAMETER.	No.	52 104	2 291 012,88	37 000
C-4	INSULATOR, SPOOL, 1-1/2 INCH GROVE DIAMETER.	No.	1 500	34 005,00	3 000
C-5	INSULATOR, PIN TYPE, 33 KV 1-3/8" LEAD THREAD.	No.	3 063	1 381 964,34	4 000
D-1	CONDUCTOR, #3, ACSR (6/1, SWALLOW)	KM	3 570	63 158,02	6 200
D-11	CONDUCTOR, #6 DUPLEX	KM	833	19 818,76	3 700
D-12	CONDUCTOR, #3 DUPLEX	KM	499	20 509,56	1 500
D-14	CONDUCTOR, #3 QUARDRUPLEX.	KM	27	2 362,57	100
D-15	CONDUCTOR, #1/0 QUARDRUPLEX.	KM	22	1 443,89	50
D-16	CONDUCTOR,#3 COPPER,INSULATED 3-STRAND.	KM	10	823,18	25
D-17	CONDUCTOR, #1/0 COPPER, INSULATED 7 STRAND.	KM	10	1 734,40	25
D-18	CONDUCTOR, #4/0 COPPER, INSULATED 7 STRAND.	KM	0	19,72	
D-2	CONDUCTOR, #1/0, (6/1), ACSR	KM	258	9 829,14	
D-25	CONDUCTOR, #6 QUARDRUPLEX.	KM	26	1 464,45	100
D-28		KM			100
D-29	CONDUCTOR,# 77.47 KCMIL, AAAC, (2 AWG)	KM	449	7 058,55	300
D-3	CONDUCTOR, #4/0, (6/1), ACSR	KM	531	32 427,65	1 400
D-30	CONDUCTOR,# 123.3 KCMIL, AAAC, (1/0 AWG)	KM	248	8 034,76	
D-31	CONDUCTOR (AAAC) 7/4.77MM (# 4/0 AWG)	KM	100	6 869,89	
D-4	CONDUCTOR, GROUND, #4 ALUMINIUM	KM	75	714,04	400
D-5	CONDUCTOR, TIE, #4 ALUMINIUM	KM	151	2 929,82	400
D-6	CONDUCTOR, #6 COPPER, BARE	KM	34	800,52	100
D-63	CONDUCTOR, #6 DUPLEX, PVC.	KM	250	4 549,93	
D-7	CONDUCTOR, #3 COPPER, BARE	KM	0	3,62	100
D-8	CONDUCTOR, #1/0 COPPER, BARE	KM	1	55,78	100
D-9	CONDUCTOR, #4/0 COPPER, SOLID	KM	0	17,38	
E-10	LINE GUARD PREFORMED TYPE FOR #3 ACSR.	Set	27 797	1 866 846,52	28 010
E-11	LINE GUARD, PREFORMED TYPE FOR #1/0 ACSR	Set	8 994	1 029 093,48	4 000
E-12	LINE GUARD, PREFORMED TYPE FOR #4/0 ACSR	Set	14 100	1 817 772,00	14 000
E-17	GRIP, PREFORMED SERVICE (#6 ACSR)	Set	77 654	1 219 944,34	110 000
E-18	GRIP, PREFORMED SERVICE (#3 ACSR)	Set	9 100	24 388,00	24 000

ITEM NO	DESCRIPTION OF THE ITEM	UNIT	Qty Issued to Bhola PBS	Cost Charged PBS	Quantity Purchased
E-21	GRIP, PREFORMED GUY, FOR 1/4" H.S. WIRE	Set	36 234	2 109 543,48	42 000
E-22	GRIP, PREFORMED GUY, FOR 3/8" H.S. WIRE	Set	12 400	1 712 564,00	18 000
E-23	GRIP,PREFORMED GUY, FOR 7/16" H.S. WIRE	Set	4 494	823705,26	3 000
E-24		km			1 500
E-25	LINE GUARD, PREFORMED TYPE FOR #2, 7 STR. AAA	Set	12 497	446142,9	1 000
E-26	DISTRIBUTION GRIP D.E # 3 ACSR	Set.	14 000	915 460,00	
E-27	DISTRIBUTION GRIP D.E # 1/0 ACSR	Set	5 000	473 650,00	
E-28	DISTRIBUTION GRIP D.E # 4/0 ACSR	Set	2 950	668 234,00	
G-12		No.			120
G-13					1 200
G-14					1 000
G-15		No.			240
G-16	TRANSFORMER, 25 KVA	No.	124	7 243 249,20	
G-17	TRANSFORMER, 37.5 KVA	No.	99	7 676 693,64	
G-21	TRANSFORMER 5 KVA CONVENTIONAL.	No.	1 918	47 916 550,08	800
G-3	TRANSFORMER, 25 KVA CSP.	No.			
G-4	TRANSFORMER, 10 KVA,CONVENTIONAL.	No.	1 718	60 681 529,54	2 450
G-5	TRANSFORMER, 25 KVA	No.	500	19 876 900,00	600
G-16	TRANSFORMER, 15 KVA,CONVENTIONAL.	No.			350
G-6	TRANSFORMER, 50 KVA, CONVENTIONAL.	No.	12	278 277,72	100
G-7	TRANSFORMER, 75 KVA,CONVENTIONAL.	No.	12	1 465 263,24	75
G-8					50
G-17					100
GS-1		No.			6
GS-3		No.			6
GS 42		No.			4
GS-43					4
H-1.100	CUTOUT, FUSED, 7.8/13.5 KV, 15 KV CLASS	No.	6 509	8 833 298,81	12 400
H-1.002		No.			600
H-18.600	SWITCH DISCONNECT 11KV,600AMP	No.	40	509 886,40	90
H-19.600		No			20
H-1660		No.			60
H-2.9	ARRESTER, SURGE, DISTRIBUTION TYPE, 9KV	No.	5 314	4 338 721,58	8 000
H-3.33	ARRESTER, SURGE, INTERMEDIATE TYPE, 33 KV	No.	50	318 479,50	
H-6.1	FUSE LINK, TYPE "T", 1 AMP	No	4 400	210 408,00	
H-6.10	FUSE LINK, TYPE "T", 10 AMP	No	1 180	55 483,60	
H-6.15	FUSE LINK, TYPE "T", 15 AMP	No	330	15 213,00	
H-6.2	FUSE LINK, TYPE "T", 2 AMP	No	2 800	129 136,00	
H-6.20	FUSE LINK, TYPE "T", 20 AMP	No	137	6 484,21	
H-6.25	FUSE LINK, TYPE "T", 25 AMP	No	215	12 719,40	
H-6.3	FUSE LINK, TYPE "T", 3 AMP	No	2 240	109 737,60	
H-6.30	FUSE LINK, TYPE "T", 30 AMP	No	270	18 235,80	
H-6.40	FUSE LINK, TYPE "T", 40 AMP	No	150	5 838,00	
H-6.5	FUSE LINK, TYPE "T", 5 AMP	No	1 030	48 688,10	
H-6.50	FUSE LINK, TYPE "T", 50 AMP	No	150	7 311,00	
H-6.6	FUSE LINK, TYPE "T", 6 AMP	No	400	18 600,00	
H-8.100		No			15
H-9.25	RECLOSER, 1PHASE 25 AMP CONT 1000AMP INTRPATIN	No	44	2 591 064,96	
H-9.35	RECLOSER, 1 PHASE, 35 AMP CONT 2000 AMP INTERP	No	29	1 731 401,21	
H-9.50	RECLOSER, 1PHASE 50 AMP 2000 CONT.INTERPATING	No	27	153 212,85	
HS-6.100		No			30
HS-6.175		No			20
HS-5.120		No			6
HS-13.600		No			60
HS 6.002		No			50
I-1	CONNECTOR, H TYPE, 4/0 x 4/0	No.	1 650	62 584,50	2 000

ITEM NO	DESCRIPTION OF THE ITEM	UNIT	Qty Issued to Bhola PBS	Cost Charged PBS	Quantity Purchased
I-14	SLEEVE, SERVICE, UN-INSULATED, RED #6 x BLUE #6	No.	4 000	100 920,00	16 000
I-2	CONNECTOR, H TYPE, 4/0 x 1/0	No.	1 572	89 651,16	2 000
I-24	CLAMP, HOT-LINE, 4/0 x #3 TAP & MAIN	No.	1 750	3 357 795,00	1 000
I-3	CONNECTOR, H TYPE, 4/0 x #3	No.	3 750	115 912,50	2 000
I-4	CONNECTOR, H TYPE, 1/0 x 1/0	No.	2 600	64 740,00	2 000
I-42	CONNECTOR, CURRENT TRANSFORMER	No.	24	13 598,40	
I-45		No.			1 000
I-48	CONNECTOR, P/G TYPE CLAMP, #3/0X336.4 MCM ACSR.	No.	10	98,60	
I-49	SLEEVE, SERVICE, INSULATED,ORANGE#3 X ORANGE#3.	No.	5 500	51 535,00	500
I-5	CONNECTOR, H TYPE, 1/0 x #3	No.	107 000	2 564 790,00	15 000
I-50	SLEEVE, SERVICE INSULATED, BLUE-BLUE #6 X#6.	No.	8 000	105 200,00	500
I-54	CLAMP, HOT LINE, ADAPTOR, WITHOUT CONNECTOR.	No.	1 330	127 573,60	1 000
I-57	SLEEVE, FULLTENSION, AUTOMATIC TYPE, 4/0ACSR	No.	1 780	2 571 619,40	800
I-58	SLEEVE, FULLTENSION, AUTOMATIC TYPE, 1/0ACSR	No.	1 500	637 425,00	800
I-59	SLEEVE, FULLTENSION, AUTOMATIC TYPE, #3 ACSR	No.	2 650	2 135 211,00	2 000
I-6	CONNECTOR, H TYPE, #3 x #3	No.	130 000	3 070 600,00	20 000
I-68		No.			500
I-70	COMPOUND,OXIDATION, INHIBITOR, 8 OZ PLASTIC BOLT	BTL	70	13 044,50	200
J-1	METER, WATTHOUR, SINGLE PHASE, 10(50) AMP, A-BASE	No.	29700	25 092 639,00	46 000
J-10	METER SEAL, PRESS AND DIE FOR WIRE/LEAD,	No.			
J-11	METER BASE REPLACEMENT POST (FOR-J-6).	No.			
J-12	METER BLANK COVER PLATE, GLAS FOR J-5, J-6 & J-17	No.			
J-13	METER P.T LAMP BULB, 24 VOLT,FOR USE WITH ITEM J-4	No.			
J-14	HUB,METER REPLEACEMENT, 2"DIA.	No.			
J-15	METER CLOSING PLATE, BLANK, 2" USE W/ITEM J-5 &J-6	No.			
J-16	METER, WATTHOUR, SINGLE PH, CLASS 200, SOCKET BASE	No.	200	1 372 006,00	
J-17	METER SOCKET, RINGLESS, FOR USE WITH ITEM J-16	No.			
J-18	METER SOCKET, 7 TERMINAL, FOR ITEM J-16 & J-17	No.			
J-2	METER, WATTHOUR, 3-PH. CLASS 100, SOCKET TYPE BASE	No.	250	4 755 770,00	
J-20	HUB, REDUCER (METERSEC) 2" TO 1-1/4"	No.			
J-23	PROGRAMABLE ELECTRONIC METER, (A BASE 3 WIRE)	No.			
J-24	PROGRAMABLE ELECTRONIC METER, (S BASE 4 WIRE)	No.			
J-25	TEST SWITCH COMP, FRONT CONNECTED 7 TERMINALS	No.	1	15 058,07	
J-26	GLASS, METER COVER REPLACEMENT FOR J-2	No.			
J-27	GLASS, METER COVER REPLACEMENT FOR J-3	No.			
J-28	GLASS, METER COVER REPLACEMENT FOR J-4	No.			
J-29B	METER SEAL, TRANSPARENT PLASTIC,PADLOCK TYPE,BLUE	No.	8000	213 360,00	
J-3	METER, WATTHOUR-DEMAND, 3-PH. CLASS 100, SOCKET	No.	108	2 149 897,68	3 000
J-30R	METER SEAL, TRANSPARENT PLASTIC, PADLOCK TYPE,RED	No.	1000	14 980,00	
J-31	METER SEAL TWIST TITE WIRE SEAL,BLUE/RED	No.	11500	209 760,00	
J-31B	METER SEAL TWIST TITE WIRE SEAL(BLUE)	No.			200 000
J-31R	METER SEAL TWIST TITE WIRE SEAL (RED)	No.			
J-33	THRE PH TOU WATTHOUR DEMAND METER.CL 20 3PH 4WY 3S	No.			
J-39	:TER, WATTHOUR, SINGLE PHASE, 10(40) AMP, A-BASE,ELECTRON	No.			
J-4	METER,WATTHOUR-DEMAND,3-PH. CLASS 20, SOCKET TYPE.	No.	29	61 883,68	600
J-5	METER SOCKET, 100 AMP, FOR ITEM J-2 & J-3	No.	100	380 008,00	50
J-6	METER SOCKET, 13 TERMINAL BASE, FOR ITEM J-4	No.	19	107 108,70	50
J-7B	METER SEAL, PLASTIC, PADLOCK TYPE, BLUE	No.			
J-7R	METER SEAL, PLASTIC, PADLOCK TYPE, RED	No.			
J-8	METER 60(150) AMP A-BASE,WATTHOUR,1 PHASE.	No.			
J-9	METER SEAL, WIRE/LEAD, DISC TYPE	No.	15000	242 100,00	
JS-23	QUNTUMMETER STAR CONNECTION	No.			
JS-24	QUNTUMMETER DELTA CONNECTION	No.			
JS-40	METERING CABINET,ALL ACCESSORIES W,CYCLOMETER TYPE	No.			
JS-41	METER CABINET,W, ALL ACCESSORIES W,QUNTUM METER	No.			

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JS-42	ENERGY METER TYPE M-50	No.			
JS-43	CARTIDGET TYPE FUSE	No.			
JS-45	TEST SWITCH,7 POLE FRONT CONNECTED	No.			
K-1	CAPACITOR 40 KVA R (LV).	No.	12	5 104 835,28	15
KS-2.656	Voltage regulator	No.			16
L-1	STREET LIGHT COMPLETE	Set	178	1 476 559,84	550
L-2	STREET LIGHT REFLACTOR	No.	30	33 386,40	100
L-3	STREET LIGHT LAMP (175 WATTS)	No.	16	19 699,04	120
L-4	STREET LIGHT PHOTO ELECTRIC CONTROL	No.	25	19 305,75	120
N-1	WIRE, GROUND, 5/16" DIAMETER	Mtr.	153	11 742,72	125
N-2	WIRE, GUY, 1/4" DIAMETER	Mtr.	498	21 844,64	400
N-3	WIRE, GUY, 3/8" DIAMETER	Mtr.	100	8 224,87	200
N-4	WIRE, GUY, 7/16" DIAMETER	Mtr.	101	11 844,50	120
N-6	WIRE,GUY,1/4" H.S.CLASS'B'	Mtr.	49	1 773,86	
N-7	WIRE,GUY,3/8" H.S.CLASS'B'	Mtr.	39	1 935,13	
N-8	WIRE,GUY, 7/16" H.S CLASS-B, 7 STRAND	Mtr.	30	2 185,89	
R-10	POLE, 35 FEET CLASS 5	No.	430	5 796 834,30	
R-11	POLE, 35 FEET CLASS 6	No.	1 182	17 187 804,78	
R-14	POLE, 40 FEET CLASS 4	No.	316	5 971 066,48	
R-15	POLE, 40 FEET CLASS 5	No.	631	15 222 755,11	
R-20	POLE, 45 FEET CLASS 4	No.	142	3 086 345,86	
R-21	POLE, 45 FEET CLASS 5	No.	20	295 097,20	
R-27	POLE, 50 FEET CLASS 4	No.	20	504 526,40	
R-3	POLE, 25 FEET CLASS 7	No.	2 555	9 931 566,05	
R-40	POLE,SPC, 7.6M, CLASS N7	No.	5 054	33 005 500,78	18 300
R-41	POLE,SPC,9M, CLASS N6	No.	4 962	30 817 741,50	10 000
R-42	POLE,SPC,9M, CLASS N5	No.	2 267	13 941 415,24	5 000
R-43	POLE,SPC, 10.6M, CLASS N6	No.	3 159	25 336 443,60	7 000
R-44	POLE,SPC.10.6M, CLASS N5	No.	1 883	16 242 061,29	4 000
R-45	POLE,SPC.12M, CLASS N5	No.	1 429	18 880 791,11	1 200
R-46	POLE,SPC,12M, CLASS N4	No.	757	11 897 292,09	1 000
R-47	POLE,SPC,13.7M, CLASS N4	No.	307	6 189 872,15	500
R-48	POLE,SPC,15.2M, CLASS N4	No.	5	144 982,25	
R-5	POLE, 30 FEET CLASS 5	No.	2 657	19 583 232,51	
R-6	POLE, 30 FEET CLASS 6	No.	2 100	21 026 019,00	
X-1	CROSSARM, WOOD, TREATED, 8'-0"	No.	12 823	12 881 088,19	17 000
X-2	CROSSARM, WOOD, TREATED, 10'-0"	No.	1 070	1 460 346,70	2 500
X-3	CROSSARM, WOOD, TREATED, 12'-0"	No.	340	679 629,40	200
Z-1	LOG, ANCHOR, WOOD, TREATED, 3'-6"	No.	22 117	10 826 713,84	407 500
Z-2	LOG, ANCHOR, WOOD, TREATED, 6'-0"	No.	2 486	7569870	2 000
Z-3	LOG, STABILIZER, WOOD, TREATED, 2 FEET	No.	231	801468,36	
Z-4	LOG, STABILIZER, WOOD, TREATED, 4 FEET	No.	53	205888,57	
	TOTAL Quantity and Cost Prices calculated as per 30-06-2005 Price List			588 893 024,25	

Material Supplied to Gaibandha charged NORAD compared to material bought of NORAD funds

ITEM NO	DESCRIPTION OF THE ITEM	UNIT	Qty Issued to Gaibandha PBS	Cost Charged PBS	Quantity Purchased
B-1	PIN, INSULATOR, X-ARM, 1" LEAD THRD, 5/8"x10-3/4"	No.	22 610	1 640 355,50	
B-10	BOLT, MACHINE, 5/8"x16",ROLLED THREADS, GALVANIZED	No.	750	32 227,50	
B-100	BOLT, CLEVIS, 5/8"x10", DROP-FORGED, GALVANIZED	No.	60	4 608,00	
B-101	BOLT, CLEVIS, 5/8"x12", DROP-FORGED, GALVANIZED	No.	50	5 268,50	
B-11	BOLT, MACHINE, 5/8"x18", ROLLED THREADS, GALVANIZD	No	150	4 909,50	
B-110	WASHER, FERROUS, GALV. 4" SQR CURVED, 13/16" HOLE	No.	9 440	726 880,00	
B-111	GUY ATTACHMENT, TWO BOLT, HOOK TYPE, GALVANIZED	No.	2 300	269 514,00	
B-118	WASHER 2-1/4" SQURE, FLATE,13/16" HOLE.	No.	1 250	49 837,50	
B-119	LOCKNUT, M F 3/4".	No.	300	2 403,00	
B-12	BOLT, MACHINE, 5/8"x20", ROLLED THREADS, GALVANIZD	No.	765	35 113,50	
B-122	PIN, INSULATOR, X-ARM, 1-3/8" LEAD THREAD 3/4"x17"	No.	5 439	1 494 582,81	
B-132	CLAMP, DEAD-END, STRAIGHT, #6 THRU 266.8 MCM ACSR	No.	9 700	1 901 879,00	
B-133	CLAMP,CONDCTR DEAD-END,STGHT,266.8"1192.5 MCM ACSR	No.	300	94 506,00	
B-134	CLAMP,SUSPENSION, 2-BOLT, FOR 477MCM ACSR	No.	130	51 672,40	
B-136	NUT, MACHINE BOLT (3/8 INCH)	No.	10 830	35 955,60	
B-137	NUT, MACHINE BOLT (1/2 INCH)	No.	2 710	13 766,80	
B-138	NUT, MACHINE BOLT (5/8 INCH)	No.	14 000	87 780,00	
B-140	THIMBLE CLEVISE	No.	996	41 443,56	
B-141	GROUNDING CLAMP	No.	13 950	267 421,50	
B-15	BOLT, MACHINE, 3/4"x12"	No.	325	17 023,50	
B-18	BOLT, OVAL EYE, 5/8"x8", DROP-FORGED ROLLED THREAD	No.	9 465	513 854,85	
B-19	BOLT, OVAL EYE, 5/8"x10", DROP-FORGED ROLLED THRED	No.	22 700	1 640 302,00	
B-2	PIN, INSULATOR, X-ARM, POLE TOP, 1" LEAD THRD, 20"	No.	10 400	1 392 664,00	
B-20	BOLT, OVAL EYE, 5/8"x12", DROP-FORGED ROLLED THRED	No.	2 250	162 585,00	
B-22	BOLT, EYE OVAL 5/8"x18" DROP-FORGED,ROLLED THREAD.	No.	1 940	129 747,20	
B-24	BOLT, THIMBLE-EYE, STRAIGHT, DROP-FORGED, 5/8"x10"	No.	600	29 652,00	
B-27	BOLT, DOUBLE ARMING, ROLLED THREADS 5/8"x18"	No.	4 450	345 453,50	
B-28	BOLT, DOUBLE ARMING, ROLLED THREADS 5/8"x20"	No.	4 755	416 918,40	
B-29	BOLT, DOUBLE ARMING, ROLLED THREADS 5/8"x22"	No.	1 270	121 589,80	
B-30	BOLT, DOUBLE ARMING, ROLLED THREADS 5/8"x24"	No.	380	30 639,40	
B-32	BOLT, CARRIAGE, ROLLED THREADS, GALV., 3/8"x4-1/2"	No.	20 600	1 481 552,00	
B-33	BOLT, SINGLE UPSET, ROLLED THREADS, GALV. 5/8"x8"	No.	2 960	150 752,80	
B-34	BOLT, SINGLE UPSET, ROLLED THREADS, GALV. 5/8"x10"	No.	7 150	419 347,50	
B-35	BOLT, SINGLE UPSET, ROLLED THREADS, GALV. 5/8"x12"	No.	1 200	92 412,00	
B-4	BOLT, MACHINE, 1/2"x6", ROLLED THREADS, GALVANIZED	No.	3 000	55 320,00	
B-4.1	BOLT, MACHINE, 1/2"x8",	No.	2 200	54 406,00	
B-4.2	BOLT, MACHINE, 1/2"x10",	No.	4 200	118 860,00	
B-4.3	BOLT, MACHINE, 1/2"x12",	No.	1 800	64 116,00	
B-40	SCREW, LAG, PILOT POINT, HOT DIPPED, GALV, 1/2"x4"	No.	2 300	28 497,00	
B-41	BRACE, CROSSARM, 28" STEEL	No.	23 500	1 650 875,00	
B-42	BRACE, CROSSARM, 60" SPAN (V BRACE)	No.	3 291	946 985,25	
B-46	WASHER, FERROUS, GALV. 2-1/4" SQR. 11/16" HOLE	No.	108 115	545 980,75	
B-48	WASHER, FERROUS, GALV. ROUND, FLAT, 9/16" HOLE	No.	5 180	16 368,80	
B-49	WASHER, FERROUS, GALV 3" SQR CURVED, 11/16" HOLE	No.	1 630	27 253,60	
B-53	NUT, OVAL-EYE, DROP-FROGED, GALV., FOR 5/8" BOLT	No.	18 350	749 597,50	
B-54	NUT, THIMBLE-EYE, DROP-FROGED, GALV. FOR 5/8" BOLT	No.	650	42 854,50	
B-55	SHACLE, ANCHOR, DROP-FROGED, HOT DIPPED GALVANIZED	No.	4 205	239 600,90	
B-56	GUY ATTACHMENT, FORMED STARP, HOT DIPPED GALVANIZD	No.	13 934	480 165,64	
B-6	BOLT, MACHINE, 5/8"x8", ROLLED THREADS, GALVANIZED	No.	2 585	69 795,00	
B-62	ROD, ANCHOR, TWIN-EYE, DROP-FORGED, GALV. 5/8"x8'	No.	14 710	382 607,10	
B-63	ROD, ANCHOR, TWIN-EYE, DROP-FORGED, GALV. 3/4"x10'	No.	1 700	638 112,00	
B-65	ROD, GROUND, HOT DIPPED GALVANIZED, 5/8"x8'	No.	5 600	163 632,00	
B-66	PLATE GROUND,GALVANIZED, 7.5"X7.5"	No.	242	22 912,56	
B-67	STAPLE, GROUND WIRE, HOT-DIPPED GALV. 1-1/2"x1/4"	No.	70 000	204 400,00	

ITEM NO	DESCRIPTION OF THE ITEM	UNIT	Qty Issued to Gaibandha PBS	Cost Charged PBS	Quantity Purchased
B-7	BOLT, MACHINE, 5/8"x10", ROLLED THREADS, GALVANIZD	No.	24 842	797 428,20	
B-71	BRACKET, TRANSFORMER, SECONDARY LEAD TRAINER	No.	1 350	57 739,50	
B-72	CLEVIS, BRACKET, SECONDARY, HOT DIPPED GALVANIZED	No.	2 635	160 155,30	
B-73	CLEVIS, SWINGING, SECONDARY, HOT DIPPED GALVANIZED	No.	16 298	831 035,02	
B-8	BOLT, MACHINE, 5/8"x12", ROLLED THREADS, GALVANIZD	No.	13 249	609 454,00	
B-80	CLAMP, GROUND ROD, 5/8", HOT-DIPPED GALVANIZED	No.	6 900	229 977,00	
B-83	CLAMP, CLEVIS, SUSPENSION, TWO BOLT, FOR 1/0 ACSR	No.	1 250	233 375,00	
B-84	CLAMP, CLEVIS, SUSPENSION, TWO BOLT, FOR 4/0 ACSR	No.	1 800	504 342,00	
B-85	CLAMP, LOOP, DEAD-END, FOR #3 ACSR THRU #1/0 ACSR	No.	34 250	1 326 502,50	
B-86	CLAMP, LOOP,DEAD-END, FOR #1/0 ACSR THRU #4/0 ACSR	No.	1 400	89 894,00	
B-87	CLUSTER MOUNT, TRANSFORMER, FOR 5 KVA THRU 50 KVA	No.	1 100	2 367 442,00	
B-88	CLUSTER MOUNT, TRANSFORMR, FOR 75 KVA THRU 167 KVA	No.	10	22 786,80	
B-9	BOLT, MACHINE, 5/8"x14", ROLLED THREADS, GALVANIZD	No.	4 200	190 386,00	
B-90	BRACKET, CUTOUT & ARRESTER, POLE MOUNTING, GALV.	No.	1 400	289 310,00	
B-97	PIN CROSSARM, 1"LEAD THREAD, SADDLE TYPE.	No.	285	71 965,35	
B-98	BRACKET ANGLE SUSPENSION	No.	9	712,62	
C-1	INSULATOR, PIN TYPE, 11 KV 1" THREAD	No.	24 813	2 043 102,42	
C-10	INSULATOR,SUSPENSION,6 INCH,11 KV	No.	19 640	4 953 208,00	
C-11	INSULATOR,SUSPENSION,10 INCH,33 KV	No.	1 311	548 102,88	
C-2	INSULATOR, SPOOL, 3 INCH GROVE DIAMETER.	No.	1 600	97 056,00	
C-3	INSULATOR, SPOOL, 1-3/4 INCH GROVE DIAMETER.	No.	20 660	881 355,60	
C-4	INSULATOR, SPOOL, 1-1/2 INCH GROVE DIAMETER.	No.	800	17 232,00	
C-5	INSULATOR, PIN TYPE, 33 KV 1-3/8" LEAD THREAD.	No.	1 940	882 040,40	
CE-1		No.			15
CE-1.1		No.			15
CE-1.2		No.			15
CE-3		No.			8
CE-4		No.			1
		No.			
D-1	CONDUCTOR, #3, ACSR (6/1, SWALLOW)	KM	1 743	28 252,57	2 600
D-11	CONDUCTOR, #6 DUPLEX	KM	538	12 488,33	500
D-12	CONDUCTOR, #3 DUPLEX	KM	286	11 109,69	700
D-14	CONDUCTOR, #3 QUARDRUPLEX.	KM	42	3 152,26	
D-15	CONDUCTOR, #1/0 QUARDRUPLEX.	KM	0	11,14	
D-16	CONDUCTOR,#3 COPPER,INSULATED 3-STRAND.	KM	9	919,67	
D-2	CONDUCTOR, #1/0, (6/1), ACSR	KM	51	1 922,11	
D-25	CONDUCTOR, #6 QUARDRUPLEX.	KM	45	2 090,14	
D-28	CONDUCTOR, 477 MCM, (26/7), ACSR	KM	159	19 592,48	100
D-29	CONDUCTOR,# 77.47 KCMIL, AAAC, (2 AWG)	KM	191	3 755,99	
D-3	CONDUCTOR, #4/0, (6/1), ACSR	KM	591	26 672,24	900
D-30	CONDUCTOR,# 123.3 KCMIL, AAAC, (1/0 AWG)	KM	239	7 711,07	
D-31	CONDUCTOR (AAAC) 7/4.77MM (# 4/0 AWG)	KM	10	666,45	
D-4	CONDUCTOR, GROUND, #4 ALUMINIUM	KM	99	593,76	
D-5	CONDUCTOR, TIE, #4 ALUMINIUM	KM	120	2 138,93	100
D-6	CONDUCTOR, #6 COPPER, BARE	KM	18	489,25	
D-63	CONDUCTOR, #6 DUPLEX, PVC.	KM	50	907,67	
D-7	CONDUCTOR, #3 COPPER, BARE	KM	15	504,58	
D-8	CONDUCTOR, #1/0 COPPER, BARE	KM	0	2,45	
D-9	CONDUCTOR, #4/0 COPPER, SOLID	KM	1	152,24	
E-10	LINE GUARD PREFORMED TYPE FOR #3 ACSR.	Set	15 000	1 227 300,00	30 000
E-11	LINE GUARD, PREFORMED TYPE FOR #1/0 ACSR	Set	4 550	63 154,00	3 500
E-12	LINE GUARD, PREFORMED TYPE FOR #4/0 ACSR	Set	6 100	715 652,00	7 500
E-17	GRIP, PREFORMED SERVICE (#6 ACSR)	Set	55 750	1 049 772,50	50 000
E-18	GRIP, PREFORMED SERVICE (#3 ACSR)	Set	10 647	258 083,28	10 000
E-21	GRIP, PREFORMED GUY, FOR 1/4" H.S. WIRE	Set	15 140	726 871,40	22 000
E-22	GRIP, PREFORMED GUY, FOR 3/8" H.S. WIRE	Set	6 685	929 682,95	10 000

ITEM NO	DESCRIPTION OF THE ITEM	UNIT	Qty Issued to Gaibandha PBS	Cost Charged PBS	Quantity Purchased
E-23	GRIP,PREFORMED GUY, FOR 7/16" H.S. WIRE	Set	2 000	291 380,00	1 600
E-24	LINE GUARD, PREFORMED TYPE FOR 477MCM 26/7 AC	Set	2 200	640 552,00	1 000
E-25	LINE GUARD, PREFORMED TYPE FOR #2, 7 STR. AAA	Set	3 200	242 048,00	
G-12	TRANSFORMER, POTENTIAL, 15/.240 KV	No.	6	218 842,56	50
G-13	TRANSFORMER, CURRENT, 600 VOLT 400:5 RATIO	No.	42	351 682,80	50
G-15	TRANSFORMER, CURRENT 15 KV 50:5 RATIO	No.	41	1 484 162,69	
G-16	TRANSFORMER, 25 KVA	No.	127	6 893 165,03	
G-17	TRANSFORMER, 37.5 KVA	No.	52	4 749 515,68	
G-21	TRANSFORMER 5 KVA CONVENTIONAL.	No.	1 611	3 443 528,61	900
G-4	TRANSFORMER, 10 KVA,CONVENTIONAL.	No.	1 460	46 919 815,60	1 650
G-5	TRANSFORMER, 25 KVA,CONVENTIONAL.	No.	334	14 501 591,96	300
	TRANSFORMER, 15 KVA,CONVENTIONAL.	No.			75
G-6	TRANSFORMER, 50 KVA, CONVENTIONAL.	No.	6	580 297,98	50
GS-1		No.			10
GS-3		No.			10
GS-42		No.			20
H-1.002	FUSE BARREL REPLACEMENT FOR ITEM H-2	No.	150	162 273,00	
H-1.100	CUTOUT, FUSED, 7.8/13.5 KV, 15 KV CLASS	No.	4 698	9 234 294,84	6 000
H-18.600		No.			150
H-19.600	SWITCH,DISCONNECT 33KV,600AMPS	No.	43	305 648,98	30
H-2.9	ARRESTER, SURGE	No.	4 523	4 179 252,00	5 000
H-2.01	ARRESTER, SURGE, DISTRIBUTION TYPE, 9KV	No			50
H-3.33	ARRESTER, SURGE, INTERMEDIATE TYPE, 33 KV	No.	64	407 653,76	30
H-6.1	FUSE LINK, TYPE "T", 1 AMP	No	3 050	137 006,00	
H-6.10	FUSE LINK, TYPE "T", 10 AMP	No	1 020	15 473,40	
H-6.15	FUSE LINK, TYPE "T", 15 AMP	No	425	21 921,50	
H-6.2	FUSE LINK, TYPE "T", 2 AMP	No	2 790	130 823,10	
H-6.25	FUSE LINK, TYPE "T", 25 AMP	No	300	18 708,00	
H-6.3	FUSE LINK, TYPE "T", 3 AMP	No	2 500	126 600,00	
H-6.30	FUSE LINK, TYPE "T", 30 AMP	No	100	6 862,00	
H-6.40	FUSE LINK, TYPE "T", 40 AMP	No	100	4 537,00	
H-6.5	FUSE LINK, TYPE "T", 5 AMP	No	450	25 920,00	
H-6.50	FUSE LINK, TYPE "T", 50 AMP	No	100	10 434,00	
H-6.6	FUSE LINK, TYPE "T", 6 AMP	No	400	14 072,00	
H-6.65	FUSE LINK, TYPE "T", 65 AMP	No	157	17 640,52	
H-6.80	FUSE LINK, TYPE "T", 80 AMP	No	1 100	131 846,00	
H-9.25	RECLOSER, 1PHASE 25 AMP CONT 1000AMP INTRPATIN	No	6	320 683,80	
H-9.35	RECLOSER, 1 PHASE, 35 AMP CONT 2000 AMP INTERP	No	9	627 757,65	
H-9.50	RECLOSER, 1PHASE 50 AMP 2000 CONT.INTERPATING	No	12	882 888,36	
HS-13.600	SWITCH AIRBREAK 3-POLE 600A, 34,5KV, 50 HZ	No	3	1 380 009,84	10
HS-16.600	SWITCH RECLOSER BY PASS DIS 1POLE 15 KV 600AMPS	No	26	1 445 598,44	
HS-2.010	ARRESTER,SURGE,STATION TYPE 9KV	No	15	122 283,75	
HS-3.036	SURGE ARRESTER,36KV STATION CLASS	No	15	220 899,00	
HS-6.100	Switches	NO			30
HS-6.175	Switches	NO			30
HS-5.1200	Switches	NO			10
H-7.800	Switches	NO			4
H8-200	Switches	NO			18
I-1	CONNECTOR, H TYPE, 4/0 x 4/0	No.	2 050	71 565,50	
I-14	SLEEVE, SERVICE, UN-INSULATED, RED #6 x BLUE #6	No.	2 050	55 452,50	
I-2	CONNECTOR, H TYPE, 4/0 x 1/0	No.	1 850	48 433,00	
I-24	CLAMP, HOT-LINE, 4/0 x #3 TAP & MAIN	No.	1 060	2 033 864,40	
I-3	CONNECTOR, H TYPE, 4/0 x #3	No.	3 500	92 470,00	
I-34	CONNECTOR, ADAPTOR, XFORMER, 4 HOLE, 3-850/1000MCM	No.	50	9 965,00	
I-4	CONNECTOR, H TYPE, 1/0 x 1/0	No.	3 020	38 172,80	
I-49	SLEEVE, SERVICE, INSULATED,ORANGE#3 X ORANGE#3.	No.	550	7 243,50	

ITEM NO	DESCRIPTION OF THE ITEM	UNIT	Qty Issued to Gaibandha PBS	Cost Charged PBS	Quantity Purchased
I-5	CONNECTOR, H TYPE, 1/0 x #3	No.	37 500	590 250,00	
I-50	SLEEVE, SERVICE INSULATED, BLUE-BLUE #6 X#6.	No.	1 580	20 808,60	
I-54	CLAMP, HOT LINE, ADAPTOR, WITHOUT CONNECTOR.	No.	1 060	101 728,20	
I-57	SLEEVE, FULLTENSION, AUTOMATIC TYPE, 4/0ACSR	No.	1 100	1 415 513,00	3 000
I-58	SLEEVE, FULLTENSION, AUTOMATIC TYPE, 1/0ACSR	No.	665	254 734,90	1 300
I-59	SLEEVE, FULLTENSION, AUTOMATIC TYPE, #3 ACSR	No.	998	690 146,94	2 000
I-6	CONNECTOR, H TYPE, #3 x #3	No.	70 653	1 494 310,95	
I-68	CONNECTOR,H-TYPE, 477 MCM ACSR x 4/0 ACSR.	No.	200	81 922,00	
I-70	COMPOUND, OXIDATION, INHIBITOR, 8 OZ PLASTIC BOTTL	Btl.	52	9 946,04	
I-71	INHIBITOR,COMPOUND 16 WAGE CART	Gln.	263	3 156,00	
J-1	METER, WATTHOUR, SINGLE PHASE, 10(50) AMP, A-BASE	No.	30 300	31 531 998,00	
J-16	METER, WATTHOUR, SINGLE PH, CLASS 200, SOCKET BASE	No.	25	249 257,25	
J-17	METER SOCKET, RINGLESS, FOR USE WITH ITEM J-16	No.	27	74 738,16	
J-18	METER SOCKET, 7 TERMINAL, FOR ITEM J-16 & J-17	No.	50	14 229,00	
J-2	METER, WATTHOUR, 3-PH. CLASS 100, SOCKET TYPE BASE	No.	1 013	16 012 207,36	1 000
J-23	PROGRAMABLE ELECTRONIC METER, (A BASE 3 WIRE)	No.	4	1 157 093,96	
J-25	TEST SWITCH COMP, FRONT CONNECTED 7 TERMINALS	No.	4	60 232,28	
J-29B	METER SEAL, TRANSPARENT PLASTIC,PADLOCK TYPE,BLUE	No.	25 000	457 750,00	
J-3	METER, WATTHOUR-DEMAND, 3-PH. CLASS 100, SOCKET	No.	30	556 914,60	
J-30R	METER SEAL, TRANSPARENT PLASTIC, PADLOCK TYPE,RED	No.	10 100	145 642,00	
J-31	METER SEAL TWIST TITE WIRE SEAL,BLUE/RED	No.	103 850	1 937 841,00	
J-31B	METER SEAL TWIST TITE WIRE SEAL(BLUE)	No.	10 418	194 399,88	
J-31R	METER SEAL TWIST TITE WIRE SEAL (RED)	No.	1 038	19 369,08	
J-4	METER,WATTHOUR-DEMAND,3-PH. CLASS 20, SOCKET TYPE.	No.	26	546 881,92	
J-5	METER SOCKET, 100 AMP, FOR ITEM J-2 & J-3	No.	309	1 372 791,21	150
J-6	METER SOCKET, 13 TERMINAL BASE, FOR ITEM J-4	No.	5	31 249,70	100
J-9	METER SEAL, WIRE/LEAD, DISC TYPE	No.	12 107	195 406,98	
K-1	VOLTAGE REGULATOR, SINGLE PHASE,LINE 100AMPS	No.	6	2 664 918,84	
KS-2.328	VOLTAGE REGULATOR, SINGLE PHASE,AUTOMATIC STEP	No.	6	4 069 317,90	12
K-11	CAPACITOR, 50 KVAR (HV)	No.	6	68 097,00	
N-1	WIRE, GROUND, 5/16" DIAMETER	KM	31	2 237,06	
N-2	WIRE, GUY, 1/4" DIAMETER	KM	157	7 561,06	
N-3	WIRE, GUY, 3/8" DIAMETER	KM	44	4 454,73	
N-4	WIRE, GUY, 7/16" DIAMETER	KM	16	1 812,89	
N-6	WIRE,GUY,1/4" H.S.CLASS'B'	KM	9	352,78	
N-7	WIRE,GUY,3/8" H.S.CLASS'B'	KM	15	794,15	
R-10	POLE, 35 FEET CLASS 5	No.	106	1 398 231,16	
R-11	POLE, 35 FEET CLASS 6	No.	435	6 273 648,30	
R-14	POLE, 40 FEET CLASS 4	No.	100	1 632 352,00	
R-15	POLE, 40 FEET CLASS 5	No.	398	9 601 674,38	
R-3	POLE, 25 FEET CLASS 7	No.	998	3 366 553,40	
R-40	POLE,SPC, 7.6M, CLASS N7	No.	4 372	17 071 741,88	6 200
R-41	POLE,SPC,9M, CLASS N6	No.	3 874	22 745 726,12	3 000
R-42	POLE,SPC,9M, CLASS N5	No.	2 041	12 806 315,73	4 000
R-43	POLE,SPC, 10.6M, CLASS N6	No.	2 529	19 986 535,26	2 000
R-44	POLE,SPC.10.6M, CLASS N5	No.	1 897	16 504 582,92	1 000
R-45	POLE,SPC.12M, CLASS N5	No.	482	6 344 609,38	1 600
R-46	POLE,SPC,12M, CLASS N4	No.	515	7 991 095,35	300
R-47	POLE,SPC,13.7M, CLASS N4	No.	175	4 089 519,00	450
R-5	POLE, 30 FEET CLASS 5	No.	50	368 521,50	
R-6	POLE, 30 FEET CLASS 6	No.	925	8 382 248,25	
X-1	CROSSARM, WOOD, TREATED, 8'-0"	No.	9 568	10 643 251,84	9 000
X-2	CROSSARM, WOOD, TREATED, 10'-0"	No.	1 974	2 470 658,40	2 000
X-3	CROSSARM, WOOD, TREATED, 12'-0"	No.	210	295 260,00	
Z-1	LOG, ANCHOR, WOOD, TREATED, 3'-6"	No.	10 395	5 941 885,95	12 000
Z-2	LOG, ANCHOR, WOOD, TREATED, 6'-0"	No.	1 840	5 404 926,40	1 200

ITEM NO	DESCRIPTION OF THE ITEM	UNIT	Qty Issued to Gaibandha PBS	Cost Charged PBS	Quantity Purchased
C-1	Insulators	No			24 000
C-2	Insulators	No			3 000
C-3	Insulators	No			24 000
C-5	Insulators	No			1 000
	TOTAL Quantity and Cost Prices calculated as per 30-06-2005 Price List			374 489 449,16	

END OF PROJECT REVIEW
BANGLADESH

APPENDIX 9
COMMENTS TO DRAFT REPORT

Norad

PR. NR.	
17 JAN. 2007	

Direktoratet for utviklingssamarbeid
Norwegian Agency for Development Cooperation

Postadresse/ *Postal address:* Pb. 8034 Dep, NO-0030 OSLO, Norway
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Telefon/ *Telephone:* +47 22 24 20 30 Faks/ *Fax:* +47 22 24 20 31
postmottak@norad.no, www.norad.no
Bankgiro/ *Bankaccount:* 6345.05.03012

Norplan AS
Post Boks 280 Holteveien 5
1401 SKI

Arkivkode/ File no:	Vår ref./ Our ref.:
842.3	0600846-6
Deres/Dykkar ref./ Your ref.:	Vår saksbeh./ Enquiries:
	Tor Morten Sneve

Dato/ Date:
14.12.2006

GLO-3543 BGD-06/019 Kommentarer til gjennomgang

Vi takker for mottatt utkast til "END PROJECT REVIEW BANGLADESH for AREA COVERAGE RURAL ELECTRIFICATION Phase VA, Bhola PBS Component og Phase VB Gaibandha PBS Component"

Rapporten er strukturert og grundig og svarer i all hovedsak på alle punkter angitt i oppdragsbeskrivelsen. Vi savner imidlertid en kommentar til nest siste kulepunkt, nemlig om alle forpliktelse gitt i avtalene er gjennomført. Det bes om at dette behandles i endelig rapport.

Tabell 5.1 i rapporten bidrag fra de forskjellige donorene, samt en sum rubrisert som "total." Vi kan ikke se at summene stemmer, og ber om at dette blir kommentert eller korrigert.

Vedlagt følger kommentarer fra ambassaden i Dacca samt fra REB. Vi ber om at dere vurderer i hvilken grad kommentarene vektlegges i endelig rapport. Innkomne kommentarer skal for øvrig vedlegges rapporten.

Øyvind Ström
Fung. avdelingsdirektør

Tor Morten Sneve
Seniorrådgiver

Vedlegg: Kommentarer fra ambassade og REB (dok nr 0600846-5)

842.3 GLO - 3543
BGD - 06/019
0600846-7
Krysing til:
BGD-0064 = 0304502
BGD-8000 = 0304503
MIE
9/1-07

ROYAL NORWEGIAN EMBASSY

Dhaka

Telefax

Priority:

Date: 7. January 2007

To: Norad, MIE
Attn.: Mr. Morten Sneve (Fax 00 47 22 24 20 31)

Your ref.:

Our ref.: 2004/02357 2004/02358

If any pages are missing, please call: 00 88 01711 52 14 35

Subject: BGD 0064 Bhola PBS and BGD 3000 Gaibandha PBS. Comments from REB on end review.

The comments from Bangladesh Rural Electrification Board (REB) on the end review of Bhola and Gaibandha PBSs are enclosed this telefax.

As the Embassy can see, the comments are both of editorial and explanatory nature. The explanatory comments mostly counter the report's observations about assumed managerial and financial weaknesses in REB's project administration. The Embassy considers some of REB's comments as valuable especially the comments explaining that the two projects are managed rather according to programme principles than project principles. This explains the procurement process followed by REB, by which every procurement cannot be traced directly to the two PBSs.

The Embassy is looking forward to receiving the final version of the end review, which we subsequently will forward to REB.

Yours sincerely,

Wilhelm Wiig

Encl.: Comments from REB in letter to the Embassy of 03.01.07

Postal address:	Office address:	Telephone:	Enquiries to:
G.P.O. Box 548	House 9	+880 2 881 6276	Wilhelm Andreas Wiig
Dhaka 1000	Road 111 Gulshan	Telefax:	emb.dhaka@mfa.no

"গাছ লাগান, গাছের পরিচর্যা করুন এবং পরিবেশ বাঁচান"- প্রধানমন্ত্রী

পল্লী বিদ্যুতায়ন বোর্ড
RURAL ELECTRIFICATION BOARD

Directorate of Programme Planning
Rural Electrification Board
Head Office (3rd floor)
Nikunja–2, Khilkhet
Dhaka–1229.

Memo No. REB/DPP/200.59(7)/2006/ 01 Date: 03 /01/2007

2006/01034-11
3 JAN 07
842.2
B6D-3000 B6D-06-010

Mr. Wilhelm Wiig
First Secretary
Royal Norwegian Embassy
House # 9, Road # 111
Gulshan, Dhaka.

Subject: Comments on the draft final review report of assistance to REB Projects Bhola (BGD 0064) and Gaibandha (BGD-3000) PBS.

Dear Sir,

Enclosed please find comments of Rural Electrification Board on the draft final review report of Bhola and Gaibandha PBSs for your kind information & necessary action.

Encl : Stated as above 5 Pages.

Yours Sincerely

30107

(Golam Mostafa Kamal)
Chairman (Additional Charge)
Rural Electrification Board
Dhaka, Bangladesh.

D:\Netherlands\Letter-E.doc

Rural Electrification Board's comments are enclosed concerning "End review of assistance to REB projects Bhola (BGD -0064) and Gaibandha (BGD -3000) PBS" issued by Royal Norwegian Embassy as follows:-

Sl. No./Page/ Para Reference	Subject / Points	Comments of REB
Page-i Para-7 1st line	Introduction	'Year' should be mentioned after the date (from 4-19 September)
Page-ii-iii	Executive summary	i) The contents/paragraphs are not in the line with the sequence of the main Report. To have a clear glimpse of the Report Executive Summary's contents should be in line with the sequence of the Report. ii) Though the Report contains section 1.2 Basic Challenges in RE, it is not addressed in Executive Summary. iii) The Executive Summary has outlined only load Shedding problem as 'Outside Impediments'. Other 'Outside Impediments' mentioned in the Report should be addressed in the Executive Summary. iv) The Executive Summary should spell out in brief the findings based on the Report. v) Financial management: Since most of the audit objections have been settled by this time, reporting date should be mentioned here. vi) Recommendations and Action Plan should be there in Executive Summery. vii) There are some spelling mistakes that can be corrected. Para: Load Shedding (last line) 'built' in place of 'build' 2nd Para Bhola (4th line) : 'and' in place of : 'ad'
Page 1 to 8 Section 1 to 3	The Report	i) We agree to the contents of these sections. The report has successfully focused on real scenario and highlighted the actual status of the PBS and RE Program as well respective. ii) There are some printing and spelling mistakes that can be corrected.
		a) Section 3 Achievement: Page-4 : Table-3-1 Key data Bhola "Consumer connections "line under Column" Achievement figure will be 31622, in place of 3622. b) Sec : 3.3 warning sign : page-8 (1st line) Perhaps it will be "Observations" in place of "Objections". c) Page-8 13th line (under 4th asterisk) 'Recruit' will be there in place of "Requite". d) Page-8 : 17th line (under last asterisk) 'is' will be replaced by 'are' . 5. Provision of funds page 10 to 14 Data used here regarding funding (Investment) and expenditure have been cheked and are found consistent with the record.

Sl. No./Page/ Para Reference	Subject / Points	Comments of REB
7.2.1 Page-15	**For the projects** It appears from the reports of the Foreign Aided Projects Audit Directorate (FAPAD) of the Govt. that financial management especially the internal control of ACRE Project Phase-VA and ACRE project Phase-VB was not satisfactory in view of the following:	
	(i) None of the two Projects had exclusively a project Director to shoulder the responsibilities of project administration and financial management. Project Director's responsibilities are stated to have been shared by different Directors at REB Headquarters.	**(i)** In the context of this para it is to mention here that there is no post of project director in the Project profarma (PP) against these 2(two) projects Phase-5A & 5B. As per existing system of REB all the Directors are responsible separately in different working sectors. Such as:- Director procurement is responsible for over all procurement of all the projects. Director CS&M is responsible for clearing, storage and movement of the procured materials etc. In this system the project works are executed smoothly and no difficulties are arisen rather projects runs effectively. So, for the greater interest of the rural electrification Programme, this system is adopted. But recently posts of Project Director have already been created and works are being executed accordingly.
	(ii) Internal financial control of the projects remained weak as evidenced by (a) non-maintenance of Cash Book or Bank Control Ledger, Receipts and Disbursement Ledgers, Advance Memorandum etc. essential books required under Project Accounting Manual of the GOB issued in consultation with the Comptroller and Auditor General.	**(ii)** **(a)** REB, as usual is implementing a good number of Projects funded by various Donor Agencies /Countries. Since its inception. REB maintains Cash books, Bank Control ledgers, advance memorandum etc cited in the Uniform Accounting System of REB. REB strictly follows the Uniform system of Accounting under which there is a Chart of Accounts, having separate 'Control Account Number' with the title for different heads concerned with all Receipts and Payments. Each Control Account number has subsidiary numbers marked for differentProjects. Apart from this. REB maintains both Control and Subsidiary ledgers. Through the journals prepared by different sections dealing with Receipts as well as Payments, Project-wise Receipts and Payments are recorded properly in the ledgers. Thus, the very Accounting System of REB is so designed and maintained that it is not at all difficult to trace Project wise Receipts and Payments. So, the individual Project cost including source of Fund

Sl. No./Page/ Para Reference	Subject / Points	Comments of REB
		can easily be determined through the existing accounting practice. Moreover, Project wise Financial Statements (F/S) are prepared at the end of each financial year on the basis of information recorded in the ledgers as well as from the supporting documents maintained for the purpose. It reflects the total receipts against the Project i.e. Source of Fund as well as the total expenditure for the PBSs under that Project.
	(b) non-deduction of taxes from suppliers,	**(b)** It is to state here that as per VAT rules and instruction (rule 31,1991) if any local suppliers participate against international tender, no VAT/ Income tax is applicable. Any materials or services are obtained by the foreign or local suppliers through foreign exchange, it is treated as exported materials as per sub clause - 2 of main clause of VAT rules 1991. The said materials have also been exported through international tender and payment has also been made through foreign exchange. More over, as per the clause No.17(J) of income tax rule, the deduction of income tax is not applicable.
	(c) unauthorized transfer of project fund,	**(c)** Project fund is a part and parcel regarding implementation of the project. So, In this context, it may be mentioned here that before receiving the fund against a particular project, works are executed initially from REB's own fund. Subsequently, after receiving the allocated fund, mentioned amount is refunded to that fund through proper adjustment. So it is not unauthorized transfer rather it helps to expedite the project works, which is done completely for interest of the project. In this system, a project is benefited for its program. If this procedure is not adopted, the program can be hampered. That is why, before receiving the fund against 5A & 5B project it was urgently needed to meet up the initial cost of that project.
	(d) non-observance of limit in making payments from Imprest Fund, etc.	**(d)** It is to state here that REB has the different Executive Engineers Offices under several Superintending Engineers, as per the demand of those Offices and amount is fixed up by the Board to meet up Imprest Expenses and there is of course a limit for the above. In this procedure Project works are executed smoothly and rural electrification programme is also

Sl. No./Page/ Para Reference	Subject / Points	Comments of REB
		benifited. So, this is not non-observance of limit in the real sense. The imprest of the different Directorates, S.E. offices, XEN offices and other related offices are allocated which is properly operated as per REB instruction No. 600-02. In order to operate those imprest funds, the delegation of financial power approved by the Board has been given to the concerned Head of different Directorate. The fund amount is fixed with a certain amount. The imprest fund is allocated as per the demand of the different directorate and section which is duly approved by the Board and the imprest bills are also reimbursed through the proper rules of the Board. So, there is no scope to incur any expenditure beyond specific rules.
	(iii) At each year end REB loan in kind to PBSs as per books not reconciled with that reflected by the books of account maintained by the concerned PBSs.	**(iii)** At the ending of every fiscal year REB reconciles all the loans given to different PBSs in the account head of other loan in kind properly and it reflects the books of account.
	(iv) Out of 81 audit observations raised by FAPAD on the accounts of ACRE Project Phase-VA for the period up to 30 june 2004 none could so far be got settled.	**(iv)** In view of this point it is to state for information that out of 53 audit observations, 24 Nos. have already been settled by FAPAD through arranging Try party and Bi-Lateral audit meeting by participation of Ministry, FAPAD & REB.
	(v) On the other hand, out of 37 audit observations raised by FAPAD on the accounts of ACRE Project Phase-VB for the period up to 30 June 2004, Only 2 items could so far be got settled.	**(v)** In the context of this point, out of 37 audit observation, 29 Nos. have already been settled in the same way.
	FAPAD Audit Report on ACRE Project Phase-VA and ACRE Project Phase-VB for the year ending 30 June 2005 (the closing of both the projects) are stated to have not so far been received by REB.	No Comments.

Sl. No./Page/ Para Reference	Subject / Points	Comments of REB
Annexure-G Procurement Status of June 2005 NR-59 (Current Status)	Appendix 2 End of Project Report Bhola.	"Completed" in Place of "Supply Not yet completed"

Overall comments:

REB was established in 1977 to accomplish the task of Rural Electrification on a area coverage basis. Under Area Coverage Rural Electrification (ACRE), 5A & 5B projects Bhola & Gaibandha PBSs respectively were established through NORAD assistance. With the goal of electrifying every household of Bangladesh by 2020, REB has to implement several projects at the same time. In its central warehouses equipment & materials of different projects are stored in the same premises maintaining different accounts. It is to be noted that, REB has the same standard specification for all the project materials. In reality it is not possible to procure all the materials (about 1200 items) at a time for a particular project. So, for completion of the projects within stipulated time period, it is a reality to borrow or lend materials from one project to another and adjust at the end of the projects by value. For completion of the projects in time it is a recognized and practiced methodology in REB. The World Bank have acknowledged this fact too in their Aide-Memoire. Normally it is observed whether the project target have been achieved in terms of civil construction, line and sub-station construction and consumer cnnection. As per end-project-review of NORAD Team the project goals have been achieved at the expense of slightly less money.

Moreover, the excess materials not used during the project period have been transferred to the project " More Intensification and Expansion of 67 PBSs" and are being used for additional service connections in the same NORAD project area. But at present Bhola PBS is suffering from 33 KV low voltage problem having huge system loss. It is recommended that the balance fund of NORAD be utilized for its development.

It may be concluded that REB is a program oriented organization rather than a paarticular project oriented.