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BANGLADESH DIESEL PLANT LIMITED
JOYDEBPUR : GAZIPUR

15P.

table
diagram

FINAL REPORT ON THE PERFORMANCE OF BDP IN
REPAIRING DIESEL ENGINE DRIVEN PUMPSETS
UNDER "EMERGENCY REHABILITATION PROGRAMME"
UNDP PROJECT NO. UNIDO/DP/BGD/88/051

DATED: 10TH MARCH, 1991

130 m. H. Said

G L O S S A R Y

- BADC - Bangladesh Agricultural Development Corporation.
- BORO - A dry season rice, planted in December and harvested in April/May.
- BRDB - Bangladesh Rural Development Board.
- BKB - Bangladesh Krishi Bank.
- BDP - Bangladesh Diesel Plant Ltd.
- DTW - Deep Tube-well
- KHD - Klockner-Humboldt-Deutz AG
- LLP - Low Lift Pump
- STW - Shallow Tube-well
- UPAZILLA - Decentralised Administration Zone

BANGLADESH DIESEL PLANT LIMITED
JOYDEHPUR, GAZIPUR

FIFAL REPORT ON EMERGENCY REHABILITATION PROGRAMME

1. INTRODUCTION:

Bangladesh is a land of monsoon. Although excessive rainfall during the monsoon causes flood, yet irrigation for successful agriculture in dry season is a must. In general, farmers in Bangladesh are so poor that they hardly can afford to buy pumpsets in cash. Most of the farmers buy pumpsets through mortgage of their land to a bank at higher interest rate. As such any natural calamities affect their pumpsets bring disaster to their economy to such an extent that without an external financial and technical assistance it is almost impossible to regain their economy.

2. SHORT DESCRIPTION OF THE PROJECT:

During the months of August & September, 1966 exceptionally heavy rain in the upper catchment of the main rivers caused a devastating flood affecting an area of 122000 Sq. Km and ruining the economy of about 45 million people. A slow recession of flood water resulted in a large number of pumpsets being submerged for long period of time causing damage to a large number of pumpsets. After recession of flood water these pumpsets required repair before they could be used again for irrigation. The farmers being poor and unable to repair these pumpsets with their own resources, the Govt. of Bangladesh launched with the UNDP/CRIC assistance a project to rehabilitate the pumpsets by appropriate servicing, repairing and maintenance.

The main objective of the project was to provide all necessary facilities (spares and service) for repair of the pumpsets in the flood-affected areas of Bangladesh. The ultimate beneficiaries of this project were the farmers in the flood-affected areas who got their engines repaired free of cost and thus help revive the irrigational system and source of pure drinking water. The pumpsets as LLPs, STWs and DTWs are covered under this project.

3. THE ROLE OF BANGLADESH DIESEL PLANT LTD.

Bangladesh Diesel Plant Ltd.(BDP) is the only engine manufacturing factory in the Public Sector in Bangladesh having experience in the manufacture and repair of engines for last 20 years. BDP has an well-established service network with trained man-power. Based on the available expertise and facilities, BDP was engaged as a sub-contractor of UNDP/UNIDO to conduct repair works of the flood effected engine. The UNDP supplied necessary spare and technical assistance for the repair.

4. THE SET-UP OF THE PROJECT:

The project was designed to carry out the envisaged activities by the Project Monitor, International and National Experts and 25 Service Teams from BDP as sub-contractor.

Organisational set-up for implementation of the project was as follows:-

Personnel employed by UNIDO:

1. Project Monitor	...	1
2. Foreign Service Engineer	..	3
3. National Service Engineer	..	2
4. Administrative support personnel		5

The following personnel have been provided by the sub-contractor, Bangladesh Diesel Plant Ltd.

1. Engineer	...	(partly)
2. Sub-Assst. Engineer	...	5
3. Technicians	...	50
4. Drivers deputed by BDP	...	2

The Service Engineers: (3 Internationally and 2 Nationally recruited experts) supervised the work of the repair teams. All the recruited experts are qualified to undertake complicated repair work, provide guidance and give advice to their teams. The national experts have long time experience in locally produced KHD diesel engines.

The 3 (three) international service engineers are recruited from the licensor M/s. KFD, Germany.

Each service team consists of two mechanics of BDP who have experience in different functions with the production process. The teams have been trained under ongoing project UNIDG/DP/EGD/34/337 and attained expertise to carry out the maintenance and most of the repair works.

The project office is located in Joydebpur at the premises of Bangladesh Diesel Plant who had provided the office accommodation as well as workshop and store facilities free of cost. In addition, the project team was in position to maintain a close contact with the sub-contractor.

The facilities of three regional Service Centres at Mymensingh, Jessore and Cox's Bazar were fully utilised under this project to effectively conduct repair of flood affected pumpsets.

5. STRUCTURE OF FIELD SERVICE GROUPS:

There were 5 groups each consisting of 1 expert (UNIDO), 1 Sub-Asstt. Engineer and 5 service teams consisting of 10 technicians deputied by BDP. Each service group was provided with vehicle and was equipped with necessary tools and spares to repair engines in the field. The structure of field service groups is shown in Annex.1.

6. DOCUMENTATION:

Each team was provided with the necessary documents such as Maps which have been specially prepared by the Project. As Bangladesh has not yet introduced a postal coding system, the maps were prepared in such a way that computer could be utilized to guide exact location of the repaired pumping sets.

An inspection form was introduced to control the condition of the pumping sets as well as billing by the sub-contractor.

There were job cards being maintained by BDP service centre against each job. The job cards were filled in by BDP engineers and verified by the project experts and the Project Monitor. Samples

of these two forms are shown in Annex.2.

7. LOCATION:

The field service groups moved with the vehicles to their areas of activities to repair and service the pumpsets. Locations, models and engine nos. were given in codes like A-11,C-13,etc. for use in computer. According to the said code no. one was able to find the locations from the map. The computer print of job card also provided necessary information about the owner and his postal address.

BDP as sub-contractor provided separate store facilities to store spares at BDP service centre/factory as well as in Regional Service Centre, Nymensingh and Jessore. Handling of spares had been controlled by the experts and BDP store officer.

8. CONTROL & UTILIZATION OF MAN POWER & SPARE PARTS:

(Spares provided by UNIDO and sub-contractor)

Each service team repaired the pumpsets at field level under the guidance of the experts. After successful completion of the repair work, they issued job cards which shown the quantity of spares as well as the utilized man hours. Damaged spares from repaired engines were collected by service team and returned to BDP. Those activities are verified on the job cards by BDP engineer and UNIDO experts.

9. PROJECT ACTIVITIES:

9.1 SELECTION OF AREA FOR REPAIR:

The project activities were carried out in the flood affected areas of Bangladesh where the pumpsets were damaged due to flood water.

Based on the prior information BDP selected the places on priority basis to start repair activities on the following criteria:

9 a) Areas which were affected by the flood water, (b) High concentration of locally produced diesel engine driven pumpsets. The following areas were selected:-

- | | |
|------------------------|--|
| (a) Sylhet/Habiganj | (b) Jessore |
| (c) Comilla, | (d) Hymensinga, |
| (e) Greater Dhaka area | (f) Greater Bogra, Rangpur & Dinajpur. |

9.2 START OF ACTIVITIES:

Although, LDP is the sub-contractor of the project signed the contract with UNDP/LSIDC on 1st of March, 1989 for a period of 6 months the project activities actually started in the 2nd week of April, 1989 due to reasons beyond the control of LDP and the Project Monitor. As such, LDP could provide only 2 months' services to the farmers upto 1000 Nos. engines by June/89 in the flood affected areas before the start of the rainy season.

First the service team had to look for the pumps for immediate repair which were not in running condition in order to save the standing crops. In general, the service engineers and their mechanics have been well guided by most of the BADC field officers who know the farmers and the exact location of pumps. The team found that the problems in the injection pumps attributed failure of engines in most cases. The injection pump is susceptible to damage due to influx of water as well as use of adulterated fuel and local made fuel filters used by the farmers.

The major overhauling and repairing work also carried out in various regional service centres of Bangladesh Diesel Plant. However, we had a large quantity of pumpsets which needed major overhauling at the various service centres. Further we initiated preventive measures in selected flood affected areas.

9.3 PROBLEMS FACED DURING IMPLEMENTATION OF THE PROJECT:

- (a) Late ^{start} of the project during the second week of April, 1989 allowed only two months of actual field work before the rainy season.
- (b) Widely scattered location of pumpsets specially in the Sylhet area demanded more time and energy to reach the same.

- (c) In-experienced local rural mechanics without appropriate tools caused much damage to the engines at field level.
- (d) Repair of engines by local mechanics without genuine parts and in their attempt to increase power by increasing fuel caused damaged to many engines.
- (e) Delay in arrival of imported spare parts and clearance there-to hampered progress although spare parts taken from EDP store partially helped the speed of the field work.
- (f) The factory remained closed for two Eid holidays in addition to two general one day strikes. During the month of Ramadan the progress of repair work slowed down considerably.
- (g) Heavy rainfall in June/July, 1989 made the road communication inaccessible to reach the pumpset.

9.4 EXTENSION OF THE PROJECT:

Due to the reasons mentioned above the project could not achieve the said goal within the 6 months period of the project ending in August, 1989. Therefore, UNDP was approached through Govt. of Bangladesh to extend the project upto 31st December, 1989, without additional fund from the UNDP side. The extension was approved and further service activities started from October and continued upto December, 1989.

To achieve the set target service facilities were further extended to engines located in Cox's Bazar, where about 325 nos. of engines were repaired under this programme. Area-wise temporary service centres were set up considering the location of adequate number of engines at different part of the country. Farmers volunteered to carry engines to these service centres and assisted the technicians in servicing jobs at their own interest. By the end of December, 1989, a total of 4350 nos. of engines were repaired/serviced.

Though the project could be treated as successfully completed at this stage but due to availability of sufficient quantity of spare in one hand and farmers utmost request to repair more number

of engines justifiably demanded further extension of the project upto June, 1990. As a result a total nos. of 5010 engines were repaired/ serviced upto June, 1990. Detail break-up of these engines group-wise and centre-wise is given in Annex.3.

10. FINANCIAL ASPECTS OF SUB-CONTRACT:

BDP Ltd. has submitted the following 5 (five) nos. bill to Project Monitor on various date in connection with service charge cost of spare parts etc.

Sl. No.	Bill No. & date	Particulars	Amount in BD Taka
1.	342 30-6-89	start up expenses	318,800.00
2.	234-03 14-5-1990	Service charges and Miscellaneous for the period from 1-4-89 to 30-12-89.	8,446,371.00
3.	234-04 19-6-1990	Spare parts used during the period from 1.4.89 to 31.12.89.	6,219,834.00
4.	234-05 20.6.90	Service charge for the period from 1.1.90 to 30.6.90.	531,933.00
5.	234-06 23.6.90	Spare parts used during the extension period from January, 90 to June, 90.	1,129,329.49
Total amount =			18,646,367.49 =====

Against the total amount of Tk. 18,646,367.49 BDP received a total advance of US \$ 130,000.00 equivalent to Tk. 5,438,400.00 in two instalments leaving the present payable balance at Tk. 12,907,967.49.

Apart from the spare parts supplied by BDP, BKP Project also directly imported spare parts for repair work and used in the job. Before import of spare parts BDP issued some essential spare parts to BKP Project on loan. After completion of the project some identical items of spare parts also returned to BDP. After returning

the identical parts the value of the stock of EAP project spare parts as per physical inventory as well as kardex record stands as under :-

1. Excess return of identical spare parts to EDP.	: Tk.5,721,705.99
2. Stock lying at EAP store	: <u>Tk.1,701,735.32</u>
Total=	Tk.7,423,441.31 =====

The above amount worked out at import price of EAP project. As we agreed earlier on principle to accept spare parts against EDP's dues the stock of EAP spare parts can be adjusted with EDP's one at an agreed price instead of import price. In the stock of spare parts, there are some items which could not be used at free of charge during EAP work in the field as these are not required at all for repair of engines while some other parts are very slow moving items. Under such a situation EDP is not in a position to accept the entire lot at import price which are not useful to EDP.

However, EDP proposed to accept the entire lot of parts at 50% of its imported price amounting to Tk.5,054,075.78 considering the utility and saleability of the spare parts lot which thus resulted in an amount of Tk.7,353,891.71 to be remitted to EDP by UNDP since June, 1990. This proposal was submitted to the project Monitor on 25-05-1990 by EDP's letter No.EDP/Accts/234(E)/2352 reply to which is still awaited.

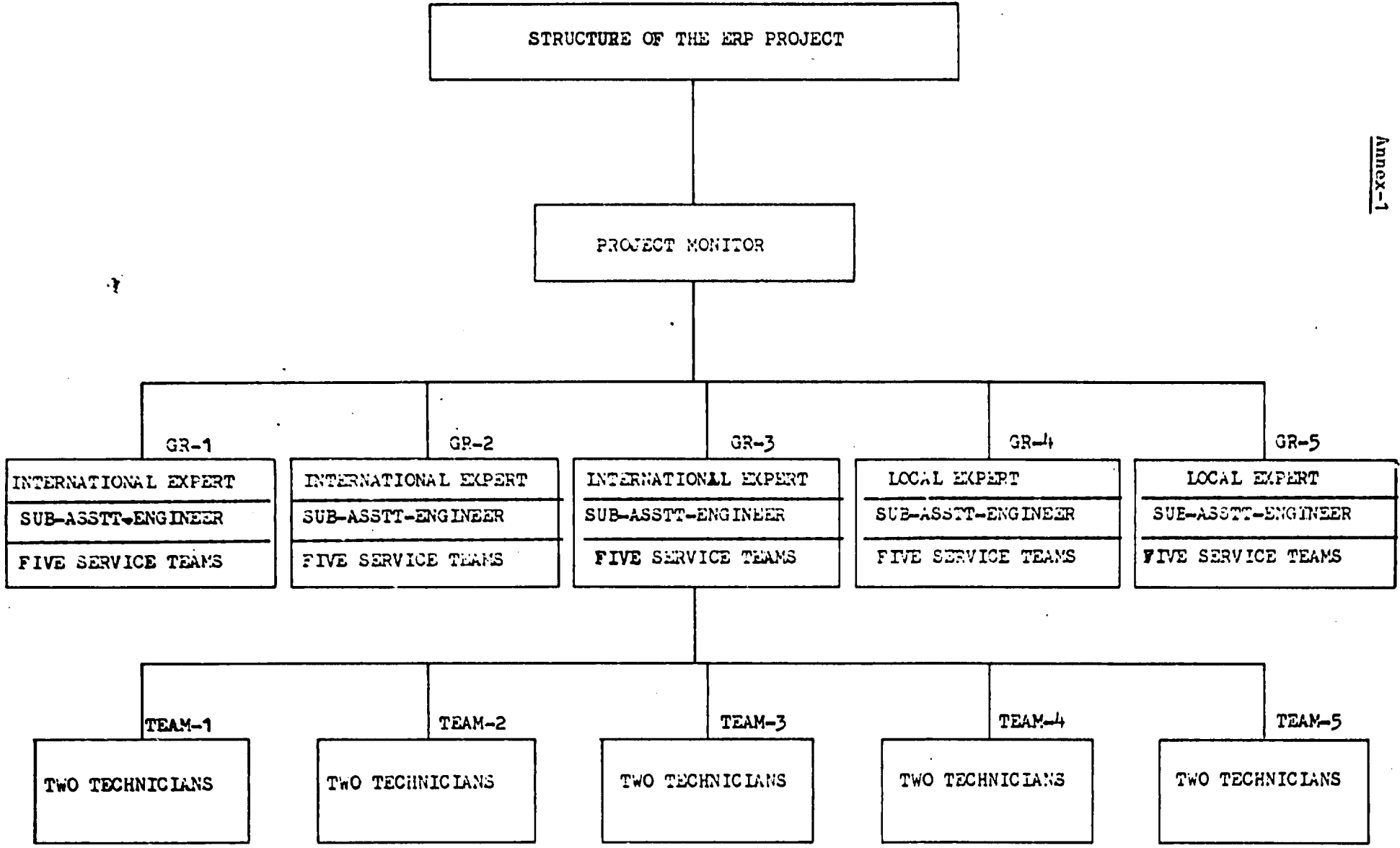
If adjustment of spares agreed by UNDP at Tk.5,054,075.78 for the entire lot of spare parts lying both in EDP store and ERP store, a net amount of Tk.7,353,891.71 to be remitted to EDP by UNDP. Alternatively UNDP may dispose off the stock at their arrangement and an outstanding amount Tk.12,907,957.49 may be remitted to EDP.

CONCLUSION:

LDP would like to express its gratitude to UNDP for their assistance to such an important field which directly helped the poor farmers of the country to recover from the losses suffered from the aftermath of the devastating floods.

At the moment LDP is passing through extreme financial difficulties, even running its normal operation for want of required funds. As such UNDP's immediate attention on the issue for settlement of dues would be highly appreciated.

The benefits went to the poor farmers through implementation of this project is tremendous without which the farmers would have been in distress. LDP also has gained excellent experience in repair and maintenance of large quantity of pumping sets in emergency in disastrous situation and is more confident to tackle such situation in the future. The beneficiary farmers were taught and advised to properly store their engines whilst not in use and proper maintenance and care during operation period of the pumping sets.



স্বাক্ষরী নুসখায়ান অর্থাৎ
গাউন বর্ণমাণ্ডে ইঞ্জিনেৰ বিবৰণ

ইঞ্জিনেৰ বিবৰণ	ইঞ্জিনেৰ গাৰ্মেণ্টেৰ বিবৰণ
ইঞ্জিন নং-	নাম:
গাউন	হিমানা:
ইন্ডুস্ত্ৰিয়েল নাম নং	গাৰ্মিং ইঞ্জিনিয়াৰ
ফৰ্ম নাম্বাৰ	টেকনিচিয়ান
নাম, মি, এম	ফাৰ্মাৰ:
ইঞ্জিনেৰ কাৰ্ভাৰেণ্ডেৰ ডাটাম	

টেকনিচিয়ানেৰ এম গাউন:

এমিট নং- ডাটাম	ইঞ্জিন নং- ১০ নম্বাৰেৰ গাৰ্মেণ্টেৰ অংক	নাম	নাম
১। ইঞ্জিনেৰ গাৰ্মেণ্টেৰ অংক			
১.১ চানু	০১ এম্বাৰেণ্ডেৰ		
১.২ গাৰ্মেণ্টেৰ ডিগ্ৰে	০২ স্বেণ্ট নাম		
১.৩ গাৰ্মেণ্টেৰ গাৰ্মেণ্টেৰ ডিগ্ৰে	০৩ এম্বাৰেণ্ডেৰ ট্ৰাউজ		
	০৪ স্বেণ্ট		
২। ইঞ্জিনেৰ গাৰ্মেণ্টেৰ ডিগ্ৰে	০৫ স্বেণ্ট ট্ৰাউজ		
২.১ জাম, মি, এম, (গা)	০৬ স্বেণ্ট ট্ৰাউজ গাউন		
২.২ জাম, মি, এম, (বেলী)	০৭ ইন্ডুস্ত্ৰিয়েল নাম		
২.৩ এম্বাৰেণ্ডেৰ ট্ৰাউজ	০৮ নুৰ স্বেণ্ট চিটাম		
২.৪ নুৰ স্বেণ্ট ট্ৰাউজ	০৯ স্বেণ্ট চিটাম		
২.৫ নুৰ স্বেণ্ট এম গাৰ্মেণ্টেৰ ডাটাম	১০		
২.৬	১১		
২.৭	১২		

টেকনিচিয়ানেৰ এম্বাৰেণ্ডেৰ গাৰ্মেণ্টেৰ ইঞ্জিনেৰ নাম গাৰ্মেণ্টেৰ বিবৰণ

হা	না
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সুবর্ণ সুযোগ !

সুবর্ণ সুযোগ !!

ডয়েটস্

ডয়েটস্

ডয়েটস্

ডয়েটস ডিজেল ইঞ্জিন চালিত সেচ যন্ত্র ব্যবহারকারী
কৃষক ডাইদের জন্য সুখবর

বাংলাদেশ ডিজেল প্লান্ট লিঃ ইউ এন ডি পি এর সহায়তায় জরুরী বন্যা পুনর্বাসন কর্মসূচীর আওতায় ১১২ ও ২১০ হিঃ মডেল ডয়েটস্ ডিজেল ইঞ্জিন সমূহ যথাসম্ভব বিনামূল্যে মেরামত করার একটি কর্মসূচী গ্রহণ করেছে। ইতিমধ্যে দেশের বিভিন্ন জেলায় ও উপজেলায় বাংলাদেশ ডিজেল প্লান্টের সার্ভিস টিম সমূহ মাঠ পর্যায়ে মেরামত কাজে নিয়োজিত রহিয়াছে।

যে সকল কৃষক ডাইদের সেচ যন্ত্রের ডয়েটস্ ডিজেল ইঞ্জিন বর্তমানে মেরামতের প্রয়োজন রহিয়াছে, তাহাদেরকে অবিলম্বে নিম্ন ঠিকানা সমূহে নিজ নিজ ইঞ্জিন সহ যোগাযোগ করার জন্য অনুরোধ করা যাইতেছে। যাহাদের পাশ্বে এই মুহূর্তে ইঞ্জিন নিয়ে আসা সম্ভব নাই তাহাদেরকে ইঞ্জিনের নম্বর ও যথাযথ কাগজ পত্রসহ ব্যাক্তিগত ডায়ে নিম্ন ঠিকানা সমূহে অতিসত্বর নাম রেজিষ্ট্রি ডুপ্লি করিয়া ইঞ্জিন মেরামতের সুযোগ গ্রহণ করার জন্য অনুরোধ করা জাইতেছে।

যোগাযোগের ঠিকানা :

১। বাংলাদেশ ডিজেল প্লান্ট লিমিটেড
সার্ভিস এন্ড ট্রেনিং সেন্টার
জয়দেবপুর, গাজীপুর।
ফোন : ২৫৪০৬৬, ০৬৮১-২০৬৬

২। বাংলাদেশ ডিজেল প্লান্ট লিঃ
আঞ্চলিক সার্ভিস এন্ড ট্রেনিং সেন্টার
১৯, সি, কে দোগ রোড, ময়মনসিংহ।

৩। বাংলাদেশ ডিজেল প্লান্ট লিঃ
আঞ্চলিক সার্ভিস এন্ড ট্রেনিং সেন্টার
ঢাকা রোড, (বি, আর, টি, সি বাস ডিপোর
বিলম্বিত দিকে) ময়মনসিংহ।
ফোন : ৬৯৮৩

৪। রাসেল টেকনিয়্যারিং সার্ভিস
৩০০/এ, বেদতি মোহন সাহা লেন,
ভাসপাড়া, চট্টগ্রাম, ফোন : ২০৫৫২৮

TOTAL NOS. OF ENGINES REPAIRED UNDER
EMERGENCY REHABILITATION PROGRAMME
UNIDO/BGD/88/051

(UPTO JUNE 1990)

<u>FIELD GROUP NO.</u>	<u>TYPE OF REPAIR</u>	<u>TOTAL QTY. (NOS.) (DIFFERENT MODEL)</u>
1	Service/Minor Repair	721
2.	- do -	704
3.	- do -	619
4.	- do -	809
5.	- do -	851
Sub Total		<u>3,704</u>

MAJOR OVERHAULING WORKS :

BDP Service Centre	(Gr-6)	275
RSC Mymensingh	(Gr-7)	324
RSC Jessore	(Gr-8)	112
RSC Cox's Bazar	(Gr-9)	326

During the last extended
period upto June 1990.

Engines repaired/overhauled - 269

Total = 5010 Nos.