

Project for Consulting Engineering Services
to the Government of East Pakistan
in Public Health Engineering

PROGRESS REPORT NO. 3
FOR QUARTER ENDING MARCH 31, 1971
(U.S.A.I.D. LOAN NO. 391-H-142)

APRIL, 1971

BEST AVAILABLE

Camp Dresser & McKee International Inc.
D.I.T. Building, Dacca

CAMP, DRESSER & MCKEE
CONSULTING ENGINEERS

GENERAL ADVISORS IN PUBLIC HEALTH ENGINEERING
TO THE
GOVERNMENT OF EAST PAKISTAN

Principal Office :
ONE CENTER PLAZA
BOSTON, MASS, 02108
U. S. A.

DIT BUILDING
DACCA, EAST PAKISTAN
Phone : 245164, 245165, 245166
Cable : CAMDRES

Please reply to :
P. O. BOX 502
DACCA, EAST PAKISTAN

22 April, 1971

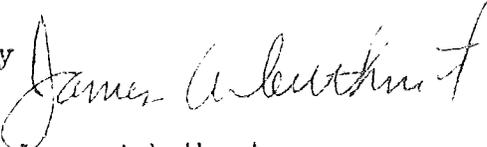
Mr. M. B. Rahman, Chief Engineer
Directorate of Public Health Engineering
Government of East Pakistan
4th Floor
Food Directorate Building
Abdul Ghani Road
Dacca

Dear Mr. Rahman:

In accordance with Article II, Paragraph 2, of the Contract between the Government of East Pakistan and Camp Dresser & McKee International Inc. for Consulting Engineering Services in Public Health Engineering, we have prepared Progress Report No. 3. This report covers the quarter ending 31 March, 1971. The work has been done under U.S. AID Loan No. 391-H-142. Presented herewith are fifteen copies for your use and distribution.

Very truly yours,

CAMP DRESSER & MCKEE INTERNATIONAL INC.

By 
James Arbuthnot
Project Manager

JA/hdr
Enclosures:



TABLE OF CONTENTS

	<u>Page</u>
Description of Scope of Work to be Conducted by the Consulting Engineers.	2
Work Performed in Boston During the Quarter	4
Work Performed in East Pakistan During the Quarter	4
Work to be Performed During the Next Quarter	7

APPENDIX

Statement of Rupee Expenditure for January, February and
March, 1971.

7. Description of the Scope of Work to be Conducted
by the Consulting Engineers and the DPHE:

TASK A -- DEVELOP URBAN WATER & SEWERAGE FACILITIES

Develop a plan for providing water and sewerage facilities to the urban population of East Pakistan; continuously revise this plan and advise and assist the DPHE and municipal government officers in the execution of this plan. This task implies that the ENGINEERS will advise and assist the DPHE as required with planning, development of design criteria, specification of materials, specification of construction practices and supervision of construction development of local sources of materials and equipment, and establishment and operation of efficient municipal and town water and sewerage utilities.

TASK B -- DEVELOP THE DPHE

Assist the DPHE in acquiring additional capabilities for the proper execution of its functions. Make recommendations for improvements in overall management and organizational structures which will increase the capacity of the DPHE to implement the recommended long-range plan more efficiently. In recommending changes, take into account the responsibilities to and relationships with other organizations; particularly the municipal authorities.

TASK C -- TRAIN LOCAL CONSULTANTS

Train one or more local firms of consulting engineers in sanitary engineering with the goal of providing capacity in local consulting firms for planning, designing and constructing urban water supply, sewerage and drainage facilities. Perform this training while supervising the local firms in the provision of engineering services for the DPHE and for the government's development program for urban water supply, sewerage and drainage facilities.

TASK D -- REVIEW STUDIES AND REPORTS BY OTHERS

Assist the DPHE to review studies and reports concerning water and sewage works in East Pakistan prepared and submitted to the Government by other consulting engineers.

TASK E -- TRAINING

Assist the DPHE in training staff for the planning design, construction, management, operation, and maintenance of public health engineering works. Where considered desirable, and as requested by DPHE, make available the facilities of the Engineers' home office for training DPHE engineers.

TASK F -- OTHER SERVICES

Provide general advisory services to the DPHE in fields related to water supply, sewerage and other sanitary engineering works not specifically mentioned in the previous items. Assist the DPHE in the establishment and supervision of laboratory facilities as required for the proper execution of the foregoing tasks. Provide special consultants for particular sanitary engineering or water supply problems upon request. Prepare reports on all important aspects of the work carried out by the Engineers in accordance with this project. Perform research and development studies upon water or sewerage or related problems as required.

8. Work Accomplished During the Quarter:

A. Work Performed in Boston, Massachusetts, U.S.A., from January 1, 1971 Through March 31, 1971:

(1) M.A. Qureshi, A.R. Mridha, M.Q. Islam, K.A.W. Asghar, A.M. Shamsul Hoque are continuing their studies for Master's Degrees at New Mexico State University. They had not completed their studies in time to attend the Groundwater course conducted by U.S. Geological survey.

(2) Technical assistance and general administration to the project continued.

B. Work Performed in East Pakistan, January 1, 1971 thru March 31, 1971:

General:

The contract between the Government of East Pakistan and Camp Dresser & McKee International Inc. for this project was signed in Dacca in January 14, 1971. The PC-I for the project was also approved in the early part of January. The government had therefore met the request of the letter of December 31, from U.S. AID Dacca.

The contract requires that the engineers provide to the government a total of 180 man-months of service over a three years period. It was originally planned that this 180 man-months would be furnished by a staff of seven men for the first year of the contract, five men in the second and three men in the third year.

DPH^F spent considerable time during the period in planning a large hand pump tubewell program for the areas affected by the cyclone and tidal bore of November 12, 1970. It has been decided that import materials for this program will be provided by UNICEF.

The DPHE's annual program of construction works was carried on with some difficulty during January and February. The difficulties were due to shortage of good cement and the pre-occupation of the staff with the cyclone relief work. Practical no effective work was performed in March. On 2 March the non-cooperation and non-violent movement started in East Pakistan. Thus unsettled condition prevailed, and construction works and field trips were not possible. During most of the non-cooperation period, the expatriate engineers attempted to complete design and plans working at home when they could not attend the office.

TASK A - DEVELOP URBAN WATER & SEWERAGE FACILITIES

Water Works Planning & Construction

Field trips were made by CDM engineers to the following towns:

Bogra	Gopalganj	Rajbari
Brahmanbaria	Kaptai	Rangamati
Chandpur	Khulna	Rangpur
Chittagong	Maijdi	Saidpur
Dinajpur	Narayanganj	Sylhet
Faridour	Pirojpur	Tangail

Principal work accomplished included the following:

Narayanganj: Installation of 3000 ft. of 16" pipeline

Chandpur : Completed casting walls of the elevated tank; completed plans for the plant and yard piping.

Gopalganj : Investigations of water sources

Rangpur : Further casting of iron removal works.

Tangail : Further casting slow sand filter and high lift pumping station.

Rangamati : Plans and specification for water works enlarged.

The survey crews completed surveys of the water works site in Comilla division including those in the towns of:

Sylhet	Sirajganj	Feni
Satkhira	Habiganj	Maijdi
Moulvi Bazar	Comilla	Chandpur

Survey began on water works sites in Dacca division.

As previously reported, the apparent poor quality of available cement has markedly delayed construction of public water systems. During this quarter CDM engineers spent considerable time attempting to find good cement in the province and prove its quality. CDM engineers collected samples of cement in the field themselves, prepared standard cubes, and submitted replicate samples simultaneously to several laboratories, as laboratory results were themselves suspect. These efforts were successful. Quantities of fairly good cement were obtained and concrete construction was done at Sirajganj, Rangpur, and Tangail.

TASK B -- DPHE DEVELOPMENT

The reorganization and expansion of DPHE which was described in Progress Report No. 1 was approved in January. However, none of the new posts have been filled.

It is regretted that two of the best DPHE engineers have discarded their 7 or 8 years seniority and prospects of immediate promotion as Executive Engineers in the new expansion, and have resigned from Government service.

TASK C -- TRAIN LOCAL CONSULTANTS

A local associate has not been taken by CDM for this work. The associate could not be chosen until the contract was signed in mid-January, and with the political uncertainty now prevailing it was decided not to proceed with this task as yet.

TASK D -- REVIEW STUDIES AND REPORTS BY OTHERS

No reports were submitted for review during the quarter.

TASK E -- TRAINING

Arrangements were made to send three DPHE engineers to the U.S.A. on Fellowships. An Executive Engineer has been admitted to the International Course on Sanitary Engineering and Design, held at the University of North Carolina. Applications have been submitted for two Assistant Engineers to the two year Masters Degree course at Northeastern University in Boston. The Northeastern course is a cooperative one, in which alternative periods will be spent on studies at school and at the engineering office of CDM. The International Course in Sanitary Engineering & Design also provides for supervised experience in the office of the consulting engineers, which in this case will be CDM.

TASK F -- OTHER SERVICES

Laboratory

The laboratories in Dacca and Chittagong continued to operate in January and February. However, no reports have yet been received from the Dacca and Chittagong laboratories on work performed during the quarter.

9. Works to be Performed 1 April, 1971 Through 30 June, 1971:

At the end of the second quarter of 1971, CDM expects to have three staff members in Dacca. Construction in the field will be performed whenever possible and design will be completed in the office.

10. Personnel Working on Program in East Pakistan
During Current Quarter:

A. U.S. Personnel in
Dacca

	<u>Position</u>	<u>Date of Arrival</u>	
(1)	James Arbuthnot	Project Manager	7 July, 1966
(2)	Owen C. Boyle	Deputy Project Manager	16 July, 1967
(3)	George K. Armes	Sanitary Engineer	5 August, 1968
(4)	Donald C. Bassett	Sanitary Engineer	14 July, 1970
(5)	Charles W. Drake	Sanitary Engineer	21 June, 1970
(6)	Arthur E. Geisler	Sanitary Engineer	1 July, 1970
(7)	Cordell E. Johnson	Sanitary Engineer	30 August, 1970

B. Pakistani Employees of CDM:*

<u>Position</u>	<u>Number</u>
Accountant	1
Office Manager	1
Secretary	1
Chemist and Assistant Chemist	3
Laboratory Technicians and Assistants	8
Diesel Mechanic	1
Sub-Assistant Engineer	1
Surveyors	3
Draftsmen	4
Stenographer	1
Typists	4
Clerks	7
Receptionist	1
Drivers	8
Watchmen and Miscellaneous	21
Total:	<u>65</u>

* At the end of March the CDM/DPHE office in Dacca was effectively closed. The staff given was that present before the disturbances of March.

11. Amounts of funds available as of 31 March, 1971

A. Dollar funds as of 31 March, 1971:

(1) Funds available:

Letter of Commitment not yet issued

Letters of Credit not yet opened.

(2) Funds expended as of 31 March, 1971:

	<u>From 1 January to 31 March, 1971</u>	<u>Total to 31 March, 1971</u>
Reimbursable	281.36	14,186.01
Overseas Personnel	60,848.66	174,202.93
Boston Personnel	707.00	4,581.50
Fixed Fee	9,000.00	27,000.00
	<u>70,837.02</u>	<u>219,970.44</u>

(3) Funds reimbursed as of 31 March, 1971: Nil

12. Total Time Consumed by CDM Personnel

A. Boston Personnel

Information as to the amount of time spent by Boston personnel on this project is not available.

B. U.S. Personnel in Dacca

	<u>Overseas Pay Period - Days</u>		
	<u>January</u>	<u>February</u>	<u>March</u>
Arbuthnot	19	30	30
Armes	30	30	30
Bassett	30	30	30
Boyle	30	30	30
Drake	30	30	30
Geisler	30	30	30
Johnson	30	30	30

(Note: The Overseas pay period includes earned leave time)

CAMP DRESSEH & MCKEE INTERNATIONAL INC.

By



James Arbuthnot
Project Manager

Distribution:

1. Mr. M.B. Rahman, Chief Engineer, DPHE (15 copies)
2. Home Office, Boston (6 copies)
3. Files

APPENDIX

STATEMENT OF RUPEE EXPENDITURES
FOR JANUARY, FEBRUARY AND MARCH, 1971

QUARTERLY PROGRESS REPORT NO. 3
Camp Dresser & McKee

CAMP, DRESSER & McKEE
 Consulting Engineers
 One Center Plaza, Boston, Mass. 02108
 &
 D.I.T. Building, P.O. Box 502, Dacca, East Pakistan

RUPEE DISBURSEMENT

January, 1971

		<u>Cumulative Totals</u>
Bank Balance as per Check Register, Jan. 1,	85,502.32	
Cash in hand Jan. 1,	7,224.30	
Advance Control Jan. 1,	9,403.25	
Security Deposit Jan. 1,	16,250.00	
Suspense Jan. 1,	<u>43,504.83</u>	
Total Opening Balance	1,61,886.70	
Received from DPHE, January 29	3,67,753.00	1,07,23,858.00
Received from WASA	-	2,71,500.00
Total Funds:	<u>5,29,639.70</u>	<u>1,09,95,358.00</u>
Expenditures:		
1. Salaries	23,056.02	12,26,370.08
2. Pakistani Insurance	10,509.82	1,22,731.05
3. Living Allowance for U.S. Personnel	3,500.00	3,25,879.54
4. Furnishing and Closing Office	350.00	1,93,725.15
5. International Travel for CDM Personnel	-	11,76,839.26
6. Shipping to and from Pakistan	1,299.76	3,87,389.52
6A. Duties and Taxes for Shipment	-	14,54,246.49
7. Office Rent, Utilities and Maintenance	14,627.76	6,50,229.76
8. House Rent, Utilities and Maintenance	14,000.00	15,35,999.05
9. Furnishing of Houses and Apartment	150.00	3,91,687.23
10. Office Supplies	4,682.18	3,00,859.69
11. Purchase of Automobiles	-	1,35,082.00
12. Vehicle Operation and Maintenance	9,665.21	5,09,947.92
13. Internal Travel and Travel Expenses in Pakistan	6,525.58	3,86,545.10
14. International Travel of DPHE Trainees	-	24,035.00
15. Hotel Expenses or Per Diem Start and End of Job	-	4,725.00
16. Boring, Survey, Pilot Studies etc.	161.00	15,422.15
17. Miscellaneous and Contingencies	1,224.45	1,31,927.76
18. Training of Water Works Superintendents	-	2,39,152.48
30. Income Tax of Expatriates and CDM	2,67,753.00	11,90,907.00
Advances to CDM	<u>5,845.61</u>	<u>* 4,25,367.46</u>
Total Expenditure	<u>3,63,350.39</u>	<u>1,08,29,068.69</u>
Total Closing Balance, January 31, 1971	<u>1,66,289.31</u>	

Bank Balance as per Check Register, Jan. 31,	92,317.69
Cash in hand Jan. 31,	2,703.07
Advance Control Jan. 31,	6,460.25
Security Deposit Jan. 31,	16,250.00
Suspense Jan. 31,	<u>48,558.30</u>

1,66,289.31
=====

* Includes Rs.2,80,082.54 repaid to DPHE
via Dollar Credit in CDM monthly billings.

CAMP DRESSER & MCKEE
 Consulting Engineers
 One Center Plaza, Boston, Mass. 02108
 &
 D.I.T. Building, P.O. Box 502, Dacca, East Pakistan

RUPEE DISBURSEMENT

February, 1971

		<u>Cumulative Totals</u>
Bank Balance as per Check Register, Feb. 1,	92,317.69	
Cash in hand Feb. 1,	2,703.07	
Advance Control Feb. 1,	6,460.25	
Security Deposit Feb. 1,	16,250.00	
Suspense Feb. 1,	<u>48,558.30</u>	
Total Opening Balance	1,66,289.31	
Received from DPHE, February 23	2,00,000.00	1,09,23,858.00
Received from WASA	-	<u>2,71,500.00</u>
Total Funds:	<u>3,66,289.31</u>	<u>1,11,95,358.00</u>
Expenditures:		
1. Salaries	24,128.55	12,50,498.63
2. Pakistani Insurance	-	1,22,731.05
3. Living Allowance for U.S. Personnel	3,500.00	3,29,379.54
4. Furnishing and Closing Office	1,801.00	1,95,526.15
5. International Travel for CDM Personnel	1,256.18	11,78,095.44
6. Shipping to and from Pakistan	3,028.10	3,90,417.62
6A. Duties and Taxes for Shipment	24,696.41	14,78,942.90
7. Office Rent, Utilities and Maintenance	5,727.48	6,55,957.24
8. House Rent, Utilities and Maintenance	14,096.53	15,50,095.58
9. Furnishing of Houses and Apartment	1,997.85	3,93,685.08
10. Office Supplies	2,429.10	3,03,288.79
11. Purchase of Automobiles	15,000.00	1,50,082.00
12. Vehicle Operation and Maintenance	7,413.34	5,17,361.26
13. Internal Travel and Travel Expenses in Pakistan	4,465.35	3,91,010.45
14. International Travel of DPHE Trainees	-	24,035.00
15. Hotel Expenses or Per Diem Start and End of Job	-	4,725.00
16. Boring, Survey, Pilot Studies etc.	1,832.06	17,254.21
17. Miscellaneous and Contingencies	319.70	1,32,247.46
18. Training of Water Works Superintendents	-	2,39,152.48
30. Income Tax of CDM Expatriates and CDM Advances to CDM (Cr)	3,000.00 <u>16,364.14</u>	11,93,907.00 * 4,09,003.32
Total Expenditure	98,327.51	<u>1,09,27,396.20</u>
Total Closing Balance, February 28, 1971	<u>2,67,961.80</u>	<u>=====</u>
Bank Balance as per Check Register, Feb. 28,	2,19,466.75	
Cash in hand Feb. 28,	5,279.24	
Advance Control Feb. 28,	6,660.91	
Security Deposit Feb. 28,	16,250.00	
Suspense Feb. 28,	<u>20,304.90</u>	
	2,67,961.80	<u>=====</u>

* Includes Rs.2,80,082.54 repaid to DPHE
via Dollar Credit in CDM monthly billings.

CAMP DRESSER & MCKEE
Consulting Engineers
One Center Plaza, Boston, Mass. 02108
&

D.I.T. Building, P.O. Box 502, Dacca, East Pakistan

RUPEE DISBURSEMENT

March, 1971

		Cumulative <u>Totals</u>
Bank Balance as per Check Register, March 1,	2,19,466.75	
Cash in hand March 1,	5,279.24	
Advance Control March 1,	6,660.91	
Security Deposit March 1,	16,250.00	
Suspense March 1,	<u>20,304.90</u>	
Total Opening Balance		2,67,961.80
Received from DPHE	-	1,09,23,858.00
Received from WASA	-	2,71,500.00
		<u>2,67,961.80</u>
		<u>1,11,95,358.00</u>
 Expenditures:		
1. Salaries	312.81	12,50,811.44
2. Pakistani Insurance		1,22,731.05
3. Living Allowance for U.S. Personnel	3,500.00	3,32,879.54
4. Furnishing and Closing Office	-	1,95,526.15
5. International Travel for CDM Personnel	-	11,78,095.44
6. Shipping to and from Pakistan	-	3,90,417.62
6A. Duties and Taxes for Shipment	-	14,78,942.90
7. Office Rent, Utilities and Maintenance	10,580.23	6,75,537.94
8. House Rent, Utilities and Maintenance	11,000.37	17,64,095.58
9. Furnishing of Houses and apartment	-	3,93,685.08
10. Office Supplies	1,264.91	3,04,557.76
11. Purchase of Automobiles	-	1,50,082.00
12. Vehicle Operation and Maintenance	4,230.27	5,21,591.53
13. Internal Travel and Travel Expenses in Pakistan	1,211.28	3,82,365.73
14. International Travel of DPHE Trainees	-	24,035.00
15. Hotel Expenses or Per Diem Start and End of Job	-	3,725.00
16. Boring, Survey, Pilot Studies etc.	-	17,254.21
17. Miscellaneous and Contingencies	179.24	1,32,842.50
18. Training of Water Works Superintendents	-	2,39,152.48
30. Income Tax of CDM Expatriates and CDM Advances to CDM	13,427.30	11,93,907.00
Total Expenditure		<u>58,290.37</u>
Total Closing Balance, March 31, 1971		<u>2,09,671.43</u>

Bank Balance as per Check Register, March 31,	1,57,604.98
Cash in hand March 31,	5,860.62
Advance Control March 31,	6,625.25
Security Deposit March 31,	16,250.00
Suspense March 31,	<u>23,330.58</u>

2,09,671.43
=====

* Includes Rs.2,80,082.54 repaid to DPHE
via Dollar Credit in CDM monthly billings.

BEST AVAILABLE