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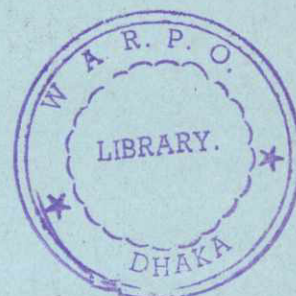
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MINISTRY OF WATER RESOURCES

BANGLADESH WATER DEVELOPMENT BOARD

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MEGHNA ESTUARY STUDY

QUARTERLY PROGRESS REPORT NO. 10

01 July 1998 - 30 September 1998

October 1998

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DHV CONSULTANTS BV

in association with

KAMPSAX INTERNATIONAL
DANISH HYDRAULIC INSTITUTE

DEVELOPMENT DESIGN CONSULTANTS
SURFACE WATER MODELLING CENTRE
AQUA CONSULTANTS AND ASS. LTD.

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SUMMARY

The Meghna Estuary Study is implemented under a co-operation programme between the Governments of Bangladesh, The Netherlands and Denmark. The executing agency is the Bangladesh Water Development Board (BWDB). MES is a component (FAP-5B) of the Flood Action Plan (FAP). The co-ordination with other projects under the Flood Action Plan is to be maintained by the Flood Plan Co-ordination Organisation (FPCO), now WARPO.

The Meghna Estuary Study can be considered as the follow-up of the "marine based" activities of the Land Reclamation Project. The main goals of the study are to retain and increase the operational knowledge of hydraulic and morphological processes in the Meghna Estuary and to develop appropriate approaches and techniques for efficient land reclamation as well as effective river bank protection measures. In the long term the physical safety and social security of the people living in the coastal areas and on the islands in the estuary should be improved.

The MES area covers the Lower Meghna river from Chandpur town (the downstream extent of FAP9B) to the Bay of Bengal.

The eastern boundary follows the left bank of Sandwip channel and the coast line to the mouth of the Karnafuli near Chittagong (the boundaries of FAP5 and FAP5C).

The western boundary follows the right banks of the Lower Meghna and Tetulia rivers and the coastline to the bay (partly the boundary of FAP4). This boundary may be extended further to the west if it is considered necessary for the complete coverage of the mathematical model.

The southern boundary, which covers the eastern area and the off shore islands, is not specifically defined. But on the eastern side it should cover the entrance to the Karnafuli river.

Although Bhola island is in the project area, its internal area development and water management are covered by FAP4 South West Regional Study, and will thus be outside the MES responsibility.

The area was surveyed and studied by the Land Reclamation Project (LRP) beginning 1978 by the assistance from the Government of The Netherlands and by the end of the Project in July 1991, the two Governments, in recognition of the two distinct approaches, divided LRP into Char Development and Settlement Project (CDSP) and Meghna Estuary Study. After the devastating cyclone in 1991, the Flood Action Plan gave priority to the area and thus the MES is designated as FAP5B.

The consultants have mobilised the project on 01 November 1995. Since commencement of the project, the consultants have produced Interim Inception and Inception reports in the second and the sixth months of project, respectively.

The objectives of the Quarterly Progress Reports are to report the progress and achievement of the Meghna Estuary Study for the reporting period as per operational work plan given in the Inception Report.

The Inception Report includes a Project Implementation Plan for the 35 months project period as well as confirmation of the approach and methodology to be followed. In the Inception Report, the progress of the project activities has been reflected from the commencement to 31 March 1996.

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This report (Quarterly Progress Report No. 10) presents the progress in the reporting period (1 July 1998 to 30 September 1998) in different activities and also the overall progress of the project in 7 different chapters.

In Chapter 1 and Chapter 2, a general introduction and organisation about the project are provided.

Chapter 3 of the report presents the physical progress so far done from the beginning and particularly achieved in this quarter.

The main physical progress reported are:

- hydrodynamics and morphology
- processing of survey data
- computer modelling of the estuary
- progress of civil engineering and reclamation
- water management and drainage
- economic aspects
- rural development
- agricultural aspects
- environmental aspects
- remote sensing
- institutional development
- livestock development
- fisheries development
- coastal forestry development.
- Draft Master Plan Report
- Draft Development Plan Report

In this quarter, the survey vessel "Anwasha" made few cruises for support services in the lower Meghna river and Shahbazpur river in connection with implementation of bank protection works at Haim Char of Chandpur and Khorki of Bhola. Overhauling of the main engines and generator engines and the tender boats has been completed.

During the period the survey unit Anwasha was rented out to SWMC for ADCP survey work at Gorai off take & Sirajgonj hard point sites to test the commercial operation of the Survey Unit Anwasha.

The staffing positions, expatriate and local professional staff, beginning of their assignments, man-months utilised, and man-months remaining etc. have been shown in Chapter 4, Table 4.1 and 4.2, respectively. Further information on local contract staff and project support staff are also given in Chapter 4.

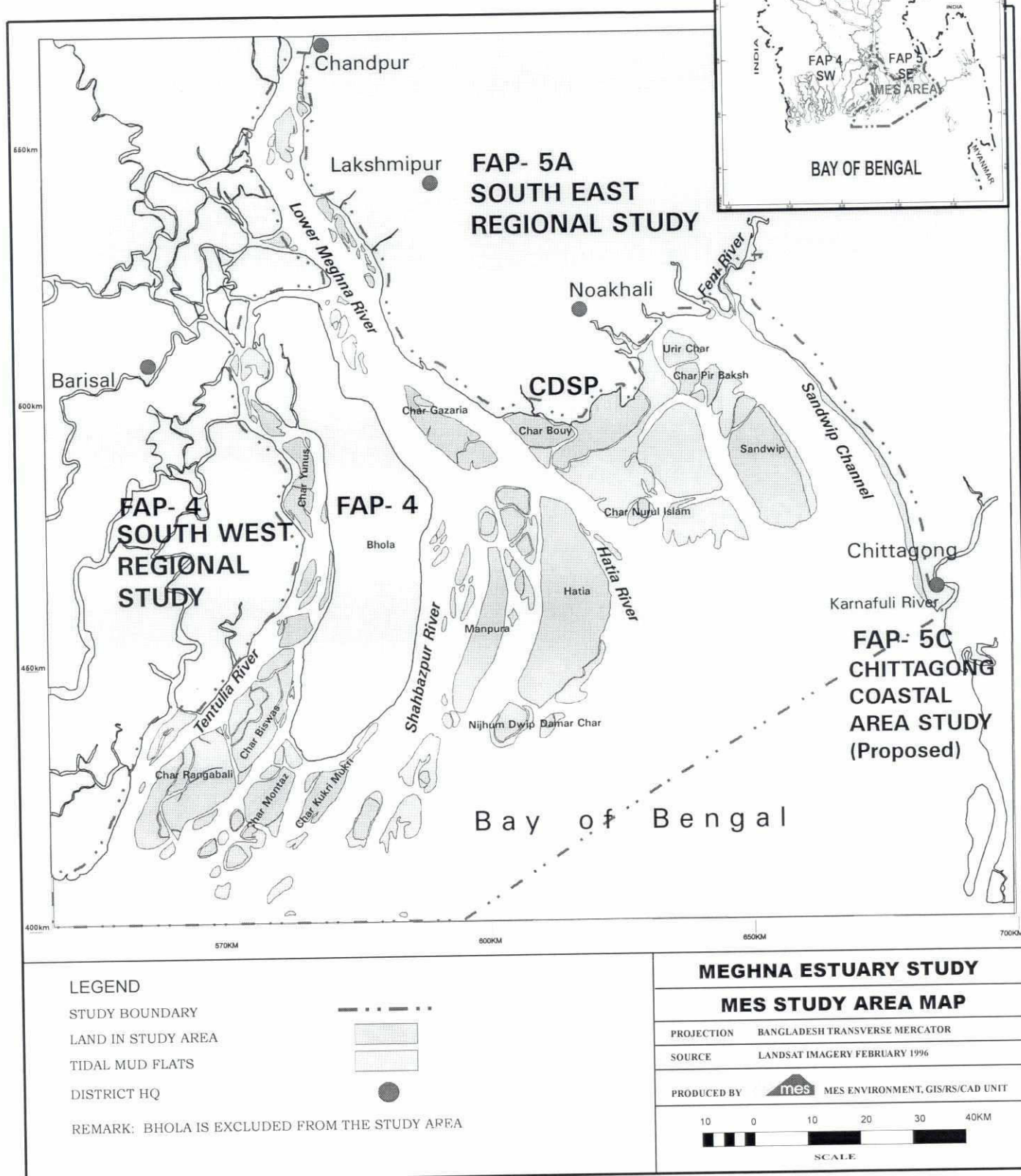
The progress on Technical assistance, financial assistance and contribution of GoB has been given in chapter 5.

The main issues/activities for the period and bottle necks in resolving issues have been discussed in Chapter 6.

The final Chapter 7 of the report presents miscellaneous events like meetings, field trips, workshop and visitors etc.

During the period no meeting of the National Steering Committee was held.

Figure 1: Location of the Meghna Estuary Study area



1. INTRODUCTION

The Meghna Estuary Study (FAP 5B) is a component of the Flood Action Plan (FAP) which was launched with the assistance from the international donor community for the Government of Bangladesh (GOB) and is co-ordinated by the World Bank.

Most of the 26 components and supporting activities of the Flood Action Plan, which started in 1990, have been completed by now.

The Meghna Estuary Study (MES) project is implemented under a co-operation programme between the Governments of Bangladesh, The Netherlands and Denmark.

The administrative Agreements between the three governments was signed on 7 December 1995. The executing agency on the Bangladeshi side is the Bangladesh Water Development Board (BWDB). According to the Terms of Reference the co-ordination with other projects under the Flood Action Plan (FAP) is to be done by the Flood Plan Co-ordination Organisation (FPCO). In the meantime FPCO has been merged with WARPO.

The MES project area covers the Lower Meghna river from Chandpur town (the downstream extent of FAP9B) to the Bay of Bengal, see the location map of MES.

The eastern boundary follows the left bank of Sandwip channel and the coast line to the mouth of the Karnafuli near Chittagong (the boundaries of FAP5 and FAP5C).

The western boundary follows the right banks of the Lower Meghna and Tentulia rivers and the coastline to the bay (partly the boundary of FAP4). The western boundary may be extended further to the west if it is considered necessary for the complete coverage of the mathematical model.

The southern boundary, which covers the eastern area and the off shore islands, is not specifically defined. On the eastern side the project area covers the entrance to the Karnafuli River.

Although Bhola island is in the project area, its internal area development and water management is covered by FAP4 South West regional Study, and will thus be outside the MES responsibility.

The area was surveyed and studied by the Land Reclamation Project (LRP) beginning 1978 by the assistance from the Government of The Netherlands and by the end of the Project in July 1991, the two Governments (GOB & GON), in recognition of the two distinct approaches to the involving problems & their studies, divided it into Char Development and Settlement Project (CDSP) and Meghna Estuary Study (MES).

After the devastating cyclone in 1991, the Flood Action Plan gave priority to the area and thus the MES is designated as FAP5B.

The Terms of Reference for the project have been revised several times over the last 4 years; the study as it eventually has been formulated is rather complex, covering a number of components that have some degree of coherence. In addition, it has connections with other projects being carried out or completed earlier in the same area. The project has also an important institutional component.

Ultimately the various components have to be brought together in a coherent manner for the working-out of overall plans, in the ToR referred to as the Master Plan for the total area and the Development Plan for the coastal islands lying in the project area.

This certainly is a complicated matter, which requires a well planned approach and the

timely inputs of various experts and supporting tools and equipment, in order to produce eventually the outputs that satisfy the expectations of all participants in the exercise.

The objectives of the Quarterly Progress Reports are to produce the progress and achievement of the Meghna Estuary Study during the every foregoing quarter as per operational work plan given in the Inception Report. The Inception Report includes a firm Project Implementation Plan for the 35 months project period as well as confirmation of the approach and methodology to be followed. In the Inception Report, the progress of the project activities has been reflected from the commencement to 31 March 1996.

The ninth Quarterly Progress Reports, prepared so far, covered the period from 01 April 1996 to 30 June 1998.

2. ORGANIZATION

2.1 Government of Bangladesh

The project is implemented under a co-operation programme between the Governments of Bangladesh, The Netherlands and Denmark. The administrative agreements between the three governments was signed on 7 December 1995.

The executing agency on the Bangladeshi side is the Bangladesh Water Development Board (BWDB). According to the Terms of Reference (TOR) the co-ordination with the other projects under the Flood Action Plan (FAP) is done by the Water Resources Planning Organisation (WARPO).

2.2 Consultants

The tender of consultancy services for the Meghna Estuary Study in Bangladesh was issued by the Directorate General (DGIS) of the Netherlands' Ministry of Foreign Affairs in April 1995.

The consultancy services have been awarded to the following group of consultants:

DHV Consultants BV,	Amersfoort, the Netherlands (lead consultant)
Kampsax International S/A,	Copenhagen, Denmark
Danish Hydraulic Institute,	Copenhagen, Denmark
Development Design Consultants Ltd.,	Dhaka
Surface Water Modelling Centre,	Dhaka
Aqua Consultants and Associates Ltd.,	Dhaka

The Main Agreement was signed on 10 December 1995, the starting date of the services was agreed to be 1 November 1995.

The organogram for the Meghna Estuary Study project is shown in Figure 2.1

ORGANOGRAM FOR MES PROJECT

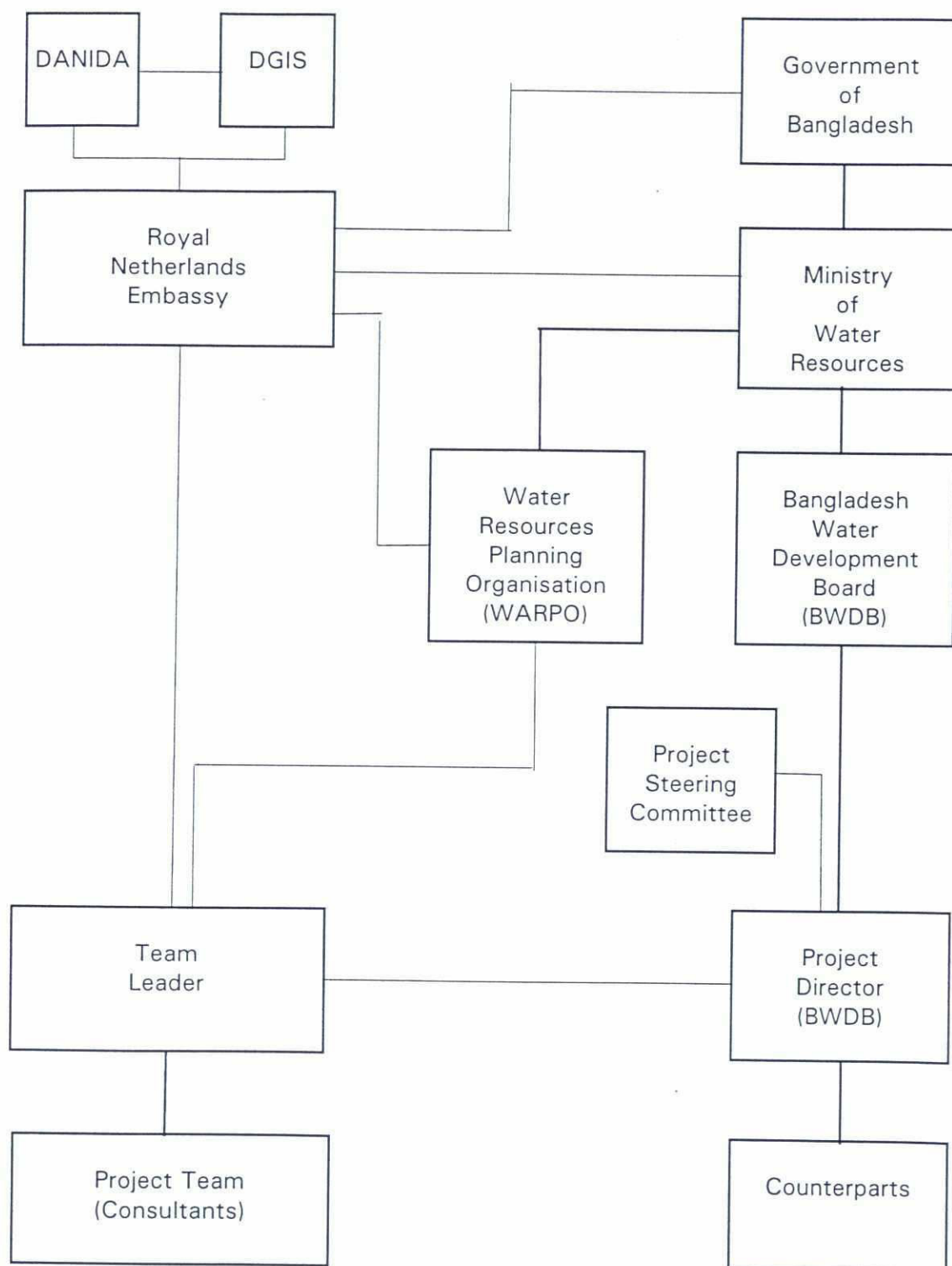


Figure 2.1 : Organogram Meghna Estuary Study

3. PHYSICAL PROGRESS

3.1 Estuary hydro-dynamics, modelling and morphology

Analysis of water level data, wind data, suspended samples (1550 nos.) and bed samples (452 nos.) are completed and computerised. Grain size distribution of bed and suspended bulk samples are plotted. Summary sheets showing D16, D35, D50, D65, D84 of bed and bulk samples are prepared. Sediment rating curve is prepared by fitting discharge with sediment transport rate.

The Technical note on Morphological Dynamics of Meghna Estuary is completed. Morphological Impact Assessment of development projects at feasibility & pre-feasibility levels are produced. Inventory of data surveyed by MES is completed. Bathymetric data upto last cruise have been processed & computerised.

During this quarter SWMC delivered different model plots and model result analysis to Meghna Estuary Study to incorporate in the final report.

A net flow calculation was made on the basis of model result to find the overall flow distribution in the rivers of the Meghna Estuary area based on model simulation of February 1996 and September 1997. It was found from the calculation that about 65-70 percent of the flow of the lower Meghna is passing through the Shahbazpur channel in both the seasons.

An analysis on the water level differences for without intervention and with intervention condition was made. The intervention condition includes the cross dam between Nijhum Dwip and Hatia, between Sandwip, Urir Char and Noakhali mainland and between Bhola and Char Montaz. Up to the end of this quarter the numerical hydraulic modelling, which was carried out as a part of the study by Surface Water Modelling Centre (SWMC) and Danish Hydraulic Institute (DHI) is completed.

The 2-D mike 21 hydrodynamic model has been set-up. Also a local hydraulic model for the Nijhum Dwip area is also set-up. In addition to the hydrodynamic models a salinity model, a wind-wave model and a sediment transport model for the study area are set-up.

3.2 Civil engineering and reclamation

The engineers prepared a development strategy containing zoning, coding and prioritisation of the civil engineering interventions in relation to the Draft Master Plan and Development Plan. During this quarter they have completed the feasibility of 3 Nos. projects and pre-feasibility of 3 Nos. project.

Implementation of erosion control pilot projects at Haimchar and Khorki at Bhola are completed in the last quarter. Monitoring and evaluation of the implemented pilot schemes are done during this quarter.

Preparatory works (design, estimating, preparation of tenders etc.) for the pilot schemes in MES II (bridging phase) are almost completed during this quarter.



3.3 Water management and drainage

The water management and drainage specialist has made the required revision and modification in the Draft Master Plan and Development Plan in respect of water management & drainage. They have completed the report.

3.4 Economic aspects

During the reporting period, the economist in MES were mainly involved in the finalisation of economic reports of all priority projects to be incorporated in the Draft Master Plan & Development Plan. All economic analysis for feasibility study & pre-feasibility study and priority projects have been completed and incorporated in Draft Master Plan & Development Plan.

3.5 Rural development and socio-economic aspects

In the reporting quarter the compilation & re-production of the collected data are completed by the expatriate and incorporated the same in the Draft Master Plan and Development Plan.

3.6 Agriculture and livestock aspects

The baseline information for the draft Master Plan on soils, agriculture, extension service, plant protection, research centres and mechanisation prospect in the coastal areas collected in the previous quarter were analysed. Further agricultural information, collected from different farmers households in Sandwip, Char Montaz, Char Biswas and Rangabali as suggested by the expatriate Agronomist have been analysed and added to complete the draft Master Plan.

Haimchar feasibility study for bank protection near Chandpur irrigation project of BWDB has been completed. Additional data analyses for the draft development plan as suggested by the expatriate Agronomist have been completed. All responsibilities assigned to the local agronomist have been completed.

The local livestock specialist prepared livestock component of draft master plan and draft development plan for further refinement and inclusion in the proposed documents. The assignments given to the local livestock specialist were fulfilled in this quarter.

3.7 Fisheries aspects

During the period further studies on the marine fisheries, in particular of the hilsa spawning grounds within the Meghna Estuary, have been done. The contributions to the Draft Master Plan and Draft Development Plan have been made. Some refinements of the previous studies for the development projects have been done.

3.8 Forestry aspects

During the reporting period, the consultants attended the office part time and completed writings of the draft Master Plan (Forestry Component), as well as the feasibility study report relating to Haim Char Erosion Control Project and Char Montaz - Kukri Mukri Development Project.

Also partially wrote the pre-feasibility study report relating to Rangabali - Char Biswas,

Urir Char - Char Pir-Baksh and Hatia North - Manpura projects. Made some revisions and refinements of the previous draft reports. Completed all assignments and reporting for the forestry aspects.

3.9 Environmental aspects

The self standing EIA reports for the Nijhum Dwip Integrated Development Project and IEE report for the Haimchar Erosion Control Project have been completed during this period. The EIA report for the Char Montaz-Kukri Mukri Development Project is being partly drafted.

The environmental component write up for the first two feasibility studies has also been completed. The third is in preparation. The environmental annex which comprises a baseline description of the whole of MES area and an assessment of the 20 possible types of Intervention has been completed.

Using the work of the environmental annex the environmental contributions for the Draft Master Plan have also been completed.

For the three pre-feasibility studies an environmental scoping exercise has been carried out for inclusion in the Draft Master Plan and Draft Development Plan.

3.10 Institutional development

No activities during the reporting period.

3.11 Remote sensing and GIS

The GIS/RS unit is supporting the MES team as well as CDSP, CERP, Muhuri Project by supplying series of Maps, Drawing, Design, Satellite Imagery mosaics of different interest area and data analysis by the aid of GIS/RS software, AutoCad and Corel Draw software in this period.

Maps were prepared (fresh and by editing from existing ones), as required on 10 different aspects/themes and supplied to different specialists.

Area calculations for different options/ scenario were revised for Nijhum Dwip Integrated Development Project, Char Montaz Kukri Mukri Development Project and Haim Char Project after having meetings with consultants concerned.

Four scenes of satellite data for November 1997 and March 1998, obtained through EGIS, were downloaded, imported to ILWIS formats and false colour composite maps were prepared to be used for different analysis.

Different types of thematic maps on socio-economic and environmental aspects, year 2010 and 2025 coastline, administrative boundaries, project influenced areas, development areas after interventions with different options in different years etc. were digitized for Haim Char, Nijhum Dwip, Char Montaz-Kukri Mukri, Urir Char and area calculations were done for different MES disciplines. Project Area Base maps of those are complete.

False colour composite maps were prepared and colour printouts were supplied to different sections on Urir Char, Char Montaz, Haim Char, Nijhum Dwip etc. areas using satellite data of different years.

The section supplied all Maps, Satellite Imagery, Graphs, Drawing/Designs on MES activities for briefing sessions of the Water Resources Minister and the Prime Minister.

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Meetings were held with Muhuri Accretion Project officials, the Team Leader of CDSP and Personnel from CERP on the use of Satellite data for different purposes. We have supplied digital data on coastline shift of Ramgati from 1973 to 1998 to CERP to help design of new embankment and status of chronological change of Muhuri accretion to the Muhuri Accretion Study project.

Appropriate images for the 1997/1998 period were selected, procured, processed and analysed by EGIS specialist following the previously adopted techniques. The final results of the findings have been produced as a report entitled "June 1998 Addendum", MES has started reviewing this report in June 1998 and the works of updating, correction and incorporation are completed.

3.12 Hydrographic data processing

The bathymetry surveys performed so far cover 9576 square km. To produce bathymetry charts, the total surveyed area has been covered in 10 sheets with 1:120,000 scale.

ADCP discharge measurements have been done in Cruise 11 through Cruise No.16. Discharge computations including transect azimuth, cross sectional area and width of 17 surveyed cross sections also done. Computation of net volumes at all the surveyed locations also have been completed.

Bathymetry surveys have been done till Cruise 19. Detail processing regarding bathymetry is completed till Cruise 19.

Time series of velocity by S4 have been calculated for 14 sections from raw S4 velocity collected during cruise 11 through cruise 15.

Discharge time series have been established based on the respective measured S4 time series for the following 14 locations surveyed in cruise 11 through cruise 15:

1. C (Chandpur)
2. H-3 (Hatia to Noakhali coast)
3. H-1 East (Char Alexander to char Gazaria)
4. H-1 West (Bhola to char Gazaria)
5. H-2 East (Maulavirchar to Hatia)
6. H-2 West (Bhola to Maulavirchar)
7. H-2 New East (Manpura to Jahajmara)
8. H-2 New West (Bhola to Manpura)
9. T-1 East (Char Bishwas to Goshairhat, Bhola)
10. T-1 West (Dashmina to Gosairhat)
11. T-2 East (Char Bishwas to char Montaz)
12. T-2 West (Panpatti to char Bishwas)
13. T-3 East (Char Kukrimukri to Dhal char)
14. T-3 West (Char Kukrimukri to char Montaz)

Polynomial curves are established through the respective S4 and discharge time series for the 18 cross sections. Then inflow and outflow per tidal cycle have been integrated

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from the established curves whereas net volumes are calculated from the computed inflow and outflow.

A map with 1:500,000 scale is produced in A0 size which includes :

1. summary of inflow, outflow and netflow per tidal cycle
2. start and end position of the transects in 18 locations
3. showing the direction of netflow in 18 locations

The following maps with depth contours have been produced :

1. Haim Char - Spur no. 1 (surveyed on 15 Apr 98)
2. Haim Char - Spur no. 1 (surveyed on 19 Apr 98)
3. Haim Char - Spur no. 2 (surveyed on 14 Apr 98)
4. Haim Char - Spur no. 2 (surveyed on 21 Apr 98)
5. Haim Char - Spur no. 2 (surveyed on 24 Apr 98)
6. Khorki - Bathy (surveyed on 13 May 98)
7. Khorki - Spur no. 1, 2, & 3 (surveyed on 06 June to 08 June 98)
8. Haim Char - Spur no. 1 & 2 (surveyed on 03 July 98 to 04 July 98)
9. Haim Char - Spur no. 1 & 2 (surveyed on 08 July 98 to 10 July 98)
10. Haim Char - Bathy (surveyed on 10 July 98)
11. Khorki - Bathy (surveyed on 11 July 98 to 12 July 98)
12. Khorki - Spur no. 1, 2, & 3 (surveyed on 11 July to 13 July 98)
13. Khorki - Spur no. 1, 2, & 3 (surveyed on 23 July to 28 July 98)
14. Khorki - Spur no. 1, 2, & 3 (surveyed on 11 Aug to 12 Aug 98)
15. Haim Char - Bathy (surveyed on 29 Aug 98)



3.13 Bathymetric Surveys and allied activities

During the reporting period, hardly any bathymetric survey cruise could be made with Anwesha as extensive bathymetric survey in the shallow area like that of waters around Urirchar and Pir Baksh was not possible with Anwesha. MV Anwesha was working as a support vessel for monitoring the implementation of the Khorki pilot bank protection scheme at north Bhola and Haimchar erosion control pilot schemes at Chandpur.

3.14 Operation and Maintenance of Anwesha and Tender Boats

After a Cruise to Haimchar and Khorki in 8 July to 13 July 1998 M.V. Anwesha and its tender boats were located at Fatuallah for repair and maintenance from 14th July till 17th August 1998. On 28th August 1998 Anwesha has been used for a Cruise to Khorki with on board GoB Minister, the Chairman BWDB and other dignitaries. The vessel returned to Fatullah on 31 August 1998 after surveying Hanar Char area of Chandpur.

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In the 1st week of September the survey unit Anwasha was rented out to SWMC for ADCP survey work at Gorai off take and Sirajgonj hard point site to test the commercial operation. Anwasha & its tenders are now in High speed Dock yard at Fatullah, Narayangonj for necessary maintenance.

3.15 Implementation of pilot schemes

Implementation of Haim Char erosion control pilot scheme and Khorki bank protection pilot scheme have been completed in the previous quarter. Monitoring and maintenance works in these places are done during this quarter.

3.16 Repair of jetty and pontoon at Chittagong

All sorts of repairs of jetty and pontoon at Chittagong have been completed in the previous quarters.

3.17 Installation of equipment at sediment laboratory SSD/BWDB and others

No more installation of equipment at the sediment laboratory in SSD/BWDB, Chittagong was required in this quarter. However, some filter papers were supplied to the laboratory as requisitioned by the laboratory officer from the office of the consultants of MES, Dhaka and all tests of samples completed.

3.18 Sediment analysis in the sediment laboratory SSD/BWDB

The laboratory officer, MES and the laboratory assistants of SSD /BWDB, Chittagong have been continuing their works of analysing the different types of samples collected from the field in this quarter. A total of 452 bed samples and 1550 suspended sediment samples were collected.

In this reporting period as per progress report of the laboratory officer at SSD/BWDB, Chittagong, all analyses have been completed.

3.19 Miscellaneous surveys and monitoring works

Field surveys on socio-economics, agriculture and fisheries have been completed. The data have been processed and used in the studies.

3.20 Feasibility Studies

The feasibility study reports have been completed. The draft pre-feasibility study reports have been further elaborated.

3.21 Draft Master Plan

The Draft Master Plan for the Meghna Estuary has been completed. Drafting & reproduction is progressing.

3.22 Draft Development Plan

The Draft Development Plan has been completed. Drafting & reproduction is progressing.

4. STAFFING

4.1 Expatriate professional staff

The list of the expatriate professional staff, name, total man-months as per contract and man-months utilisation etc. are shown in the table below.

Sl. No.	Position	Name	Man month			
			As per P.I.P.	Upto period	During period	Balance
01	Team leader	Oosterman	29.40	27.08	1.94	0.38
02	Hydr. Eng. (Estuary)	Nielsen	9.00	5.31	0.56	3.13
03	Hydr. Eng. (Reclam.)	Ris	0.82	0.82	0.00	0.00
04	Morphologist	Louters	9.80	7.48	0.53	1.79
05	Chief Hydrographer	Andersen	10.00	6.64	0.00	3.36
06	Economist	Vestgaard	3.80	2.93	0.00	0.87
06a	Economist	Mawson	4.00	2.07	1.28	0.65
07	Water Man. & Dr. Sp.	Wijdeveld	10.60	9.81	0.30	0.49
08	Civil Engineer	Burger	2.04	2.04	0.00	0.00
08a	Civil Engineer	Ris	6.96	7.67	1.48	-2.21
09	Rural Dev. Specialist	Madsen	2.76	2.76	0.59	-0.59
09a	Rural Dev. Specialist	Tyson-Taylor	6.24	4.73	1.35	0.16
10	Environmentalist	Bird	8.00	7.53	0.53	-0.06
11	Agronomist	Andreasen	4.28	2.34	1.48	0.46
11a	Agronomist	Lund	0.72	0.72	0.00	0.00
11b	Fisheries Specialist	de Graaf	3.00	2.00	1.09	-0.09
11c	Forestry Specialist	Thurland	5.00	2.34	0.79	1.87
12	Modelling Specialist	Rugbjerg	5.00	4.21	1.91	-1.11
13	Institutional Specialist	van Ommen	5.40	2.31	0.33	2.76
14	Remote S. Specialist	van Deursen	2.50	0.82	0.00	1.68
15	Special Adviser	v.Ellen	0.95	0.95	0.00	0.00
15a	Special Adviser	v.d. Hidde	0.00	0.43	0.00	-0.43
16	Instrument Specialist	Mikkelsen	3.20	1.88	0.00	1.32
17	Special Adviser	Odgaard	0.50	0.69	0.00	-0.19
18	Surveyor	Haubirk	1.00	6.79	1.05	-6.85
18a	Surveyor	Jepsen	0.00	0.82	0.00	-0.82
19	Software Specialist	Jonsson	0.63	0.63	0.00	0.00

Table 4.1: MES expatriate consultants staff input - as on 30 September 1998

4.2 Local professional staff

The list of the local professional staff, names, total man-months as per contract and man-months utilisation etc. are shown in the below.

Sl. No.	Position	Name	Man-month			
			As per P.I.P.	Until period	During period	Balance
01	Co-Team Leader	M. A. Rahman	31.10	31.59	0.07	-0.56
02	Hydr. Eng. (Est.)	M. Hossain	27.70	26.00	0.00	1.70
03	Hydr. Eng. (Rec.)	T. Hossain	9.30	9.30	0.00	0.00
03a	Hydr. Eng. (Rec.)	A.K.M. Hoque	18.00	21.99	1.97	-5.96
04	Morphologist	S. Ahmed	27.30	25.48	3.03	-1.21
05	Hydrographer	M. Choudhury	30.40	28.33	0.00	2.07
06	Economist	G. Mustafa	1.48	1.48	0.00	0.00
06a	Economist	N.A. Gazi	18.62	13.06	2.99	2.57
07	W. Mgt. & Dr. Sp.	M. S. Bhuiyan	28.00	27.82	0.49	-0.31
08	Civil Engineer	M. Shahidullah	30.00	26.00	0.59	3.41
09	Rural Dev. Spec.	S. A. Naqi	14.84	14.84	0.00	0.00
09a	Rural Dev. Spec.	Bahnni/Islam	12.56	7.11	0.23	5.22
09b	Forestry Spec	N.I. Howlader	12.00	12.93	1.41	-2.35
09c	Fisheries Exp.	G.N. Alam	12.00	13.00	0.00	-1.00
09d	Livestock Spec.	Mohammad Ali	6.00	4.97	0.07	0.96
10	Environmentalist	KBS Rasheed	0.62	0.62	0.00	0.00
10a	Environmentalist	S.M. Latif	12.78	16.94	1.12	-5.28
11	Agronomist	H. U. Fakir	0.72	0.72	0.00	0.00
11a	Agronomist	Md. Sattar	19.78	13.13	0.02	6.63
12	Modelling Spec.	Abdur Rahman	28.00	21.25	5.99	0.76
13	Institutional Spec.	K. Husain	12.00	11.42	0.00	0.58
14	Remote S. Spec.	M. A. Jabbar	11.90	12.08	0.13	-0.31
15	Special Adviser	M. Hossain	5.00	0.00	0.00	5.00
16	Junior Eng./Spec.		150.00	133.44	5.20	11.36

Table 4.2: MES local consultants staff input - as on 30 September 1998

4.3 Local contract staff

Local contracts of MES Project		
Sl. No.	Description	Number
1	GIS specialist	1
2	GIS assistant	
3	CAD operator	1
4	Skipper "Anwesha"	
5	Marine Engineer	1
6	Laboratory Officer	
7	Software Engineer	1
8	Assistant Software Engineer	
9	Diver	1
10	Speed boat driver	2
11	Survey crews	
12	EGIS (elaboration of existing map/satellite data)	
Total		7

Table 4.3 Staffing Local Contracts of MES Project

4.4 Project support staff

The office of the Consultants is established at "AFROZA" House No.34, Road No. 25, Gulshan, Dhaka 1212. The office will be selfsufficient and properly staffed. Table 5.10 shows the staff that has been recruited for the operation and maintenance of the office.

Project staff of MES Project		
Sl. No.	Description	Number
1	Office Manager/Administrative Officer	1
2	Accountant	1
3	Secretary	1
4	Typist/Word Processor	1
5	Librarian/Word processor	1
6	Driver	3
7	Messenger/peon	2
8	Photocopy operator	
9	Kitchen Assistant	1
10	Guard	3
11	Gardener	1
12	Sweeper	1
Total		16

Table 4.4 Staffing Office of MES Project

5. FINANCIAL PROGRESS

5.1 Technical Assistance

Table 5.1 shows the input in terms of funding by the donor agencies for Technical Assistance. Details about staffing, purchase of equipment, O & M and training are provided in Chapter 4.

Sl. No.	Description	Cost in Lakh Taka			
		As per consultant's contract	Until Period	During period	Balance
1	Contract staff	1550.6	1666.1	72.4	-187.9
2	Purchase/Investments	213.3	400.7	0.0	-187.4
3	Operational costs	231.2	265.3	9.4	-43.5
4	Training and courses	52.7	41.9	19.9	-9.1
5	Contingencies	487.5	0.0	0.0	487.5
Total		2535.3	2374.0	101.7	59.6

Note: Additional budget allocation of NGL 1,800,000 included in contingencies

Table 5.1 Technical Assistance Input

5.2 Financial Assistance

Table 5.2 shows the input in terms of funding by the donor agencies for Financial Assistance. Details about the small scale interventions to be financed from this budget are provided in Chapter 4 and Annex 04 of the Inception Report.

Sl. No	Description	Cost in Lakh Taka			
		As per P.I.P	Until period	During period	Balance
1	Accretion trial	0.0	0.0	0.0	0.0
2	Bank protection scheme	230.0	230.0	0.0	0.0
3	Small cross dams	0.0	0.0	0.0	0.0
Total		230.0	184.0	36.0	0.0

Table 5.2 Financial Assistance Input

5.3 Government of Bangladesh

Table 5.3 shows the input in terms of funding by the Government of Bangladesh. Details about Government of Bangladesh staffing and purchase of equipment are provided in Chapter 5 of the Inception Report.

Sl. No	Description	Cost in Lakh Taka			
		As per revised TAPP	Until period	During period	Balance
1	Project personnel GOB	325.25	131.51	10.00	183.74
2	CDST & VAT	205.00	210.23	0.00	-5.23
Total		530.25	341.74	10.00	178.51

Table 5.3 Government of Bangladesh Input

Note : 1 Lakh Taka = NGL 4,400

1 Lakh Taka = DKK 14,000

1 Lakh Taka = US\$ 2,200

6. ISSUES AND BOTTLE NECKS

Issues are defined as:

The major works or activities which have already been executed or are to be executed during the next quarter. This type of activities may have been planned and conceived in the inception phase or may emerge during implementation of regular works.

Bottlenecks are defined as:

The constraints that are either encountered in implementing the works or are expected to be encountered in the future.

6.1 Reporting period

Issues and bottlenecks have been discussed by different disciplines in their physical progress in section 3 of this report. However, main issues and or programmes for the project for this period are discussed in the following sections:

- bathymetric survey - monsoon survey by M.V. Anwesha may not be required
- bank survey - survey of banks at Khorki completed and no more required
- socio-economic - evaluation of priority projects at Haim Char and Khorki are completed
- civil engineering & reclamation - Haim Char completed, Khorki completed and Char Montaz up-coming in bridging period
- agro-economic survey - Rangabali, Char Montaz etc. & farming system study completed
- forestry programme - for Patuakhali, Char Montaz and Rangabali & Haim Char completed
- fisheries - survey and evaluation for Nijhum Dwip and Rangabali, Haim Char etc. completed
- pilot schemes - Haim Char and Khorki completed
- GIS and RS works around Char Montaz and Haim Char completed
- water management and drainage studies - Haim Char, north Hatia, Bhola & Patuakhali completed
- environmental studies - monitoring survey at Noakhali, Hatia & Nijhumdwip & Haim Char completed
- procurement of hovercraft & construction of TH Pontoon completed
- preparation of the Technical Assistance Project Proforma, the Plan of Operations and Terms of Reference for the bridging phase of the Meghna Estuary Study, MES II. are completed.
- processing and analysis of hydro-morphological data completed
- morphological modelling works completed
- feasibility and pre-feasibility reports completed
- monitoring of bank protection pilot schemes at Haim Char and Khorki completed

The bottle necks and or constraints in achieving the targets were as follows:

- use of the hovercraft for survey of the shallow areas in the estuary had to be postponed because of inclement weather conditions in the bay area from the end of March.
- the hovercraft has been out of operation since it was damaged during a collision with a country boat. Repair work will be done locally, if possible.
- the late start of the erosion control pilot schemes resulted in delays and increased construction cost due to unfavourable weather conditions

6.2 Coming period

The following issues and or programmes may be expected in the next quarter from 01 October to 31 December 1998:

- O completion of maintenance of Anwesha and tender boats, repair of hovercraft
- O finalising of draft Master Plan report
- O finalising of draft Development Plan
- O preparation of tender and award of contract for pilot schemes MES II.

The expected bottle necks could be as follows:

- O absence of a skipper in charge of MV Anwesha which will hamper the work of MES-II (bridging phase).

6.3 Remedial measures

Not applicable

7. MISCELLANEOUS

7.1 Meetings

The consultants held meetings with the Project Director, Directorate of LAED, BWDB to discuss about reorganization of MES during the bridging period. Also arranged progress, review meetings and internal progress evaluation meeting of the project activities.

The consultants held joint internal meetings of all groups for coordinating their works.

The consultants held meetings with PD/LAED and SE/Chandpur on erosion control in Haimchar at Dhaka & Chandpur on 28.07.98 & 31.07.98 respectively. Minutes of meeting are given at Annex "A".

7.2 Visitors

MES had the opportunity to receive a few distinguished visitors in its ship M.V. Anwasha on 28.08.98. The list of the visitors is furnished below.

1. Mr. Md. Tofael Ahmed, Honourable Minister for Commerce and Industries, Government of the People's Republic of Bangladesh.
2. Mr. A.K.M. Shamsul Haque, Chairman, Bangladesh Water Development Board.
3. Mr. Md. Ataul Haque, Member Planning, BWDB.

7.3 Field Trips

Several field trips were under-taken by the consultants during this quarter. A list of the field visits which were approved by the Team Leader is provided in the following paragraph. The details of the field visit notes are available to the Team Leader and Co-Team Leader, MES, project.

Sl. No.	Name/Names	Place	From	To
1.	Mr. J Oosterman	Haimchar	09/07/98	10/07/98
	Mr. Anisur Rahman Mr. Emdadul Hoque	Khorki	10/07/98	11/07/98
2.	Mr. Anisur Rahman Mr. Emdadul Hoque	Haimchar	31/07/98	31/07/98
3.	Mr. J Oosterman	Khorki	27/08/98	28/08/98
	Mr. Anisur Rahman	Haimchar	29/08/98	30/08/98

7.4 Study Tour

The second group of participants in the study tour to the Netherlands and Denmark successfully completed this component of the Project Input Training. A total of 8 Nos. GoB high officials had participated in the study tour in two groups.

7.5 Staff Training

The staff training programme has been continuing from the 5th and 6th quarters. Staff of SSD/ BWDB Chittagong attached with the ship M.V. Anwasha have received on-the-job bathymetry training during the cruises made (20 and 21) in this quarter and also have received computer processing of data at the MES upto 28 May 1998.

Mr. A.K.M. Shamsul Alam, Subdivisional Engineer, BWDB, Dhaka has been deputed to MES(FAP-5B) since 24 March 1997 as counterpart staff for planning to gain experience in macro planning and has continued his training works with the consultants till 30 June 1998.

Mr. M.A. Sabur, executive engineer, BWDB joined MES on 16 June 1997 as senior counterpart training staff and has continued with the consultants at the MES office till afternoon 30 September 1998.

7.6 Workshop

The proceedings of the workshop on the Interim Master Plan and Interim Development Plan held on 23 March 1998 at the Banquet Hall of Hotel Abakash was published and circulated like other reports of MES in the previous quarter.

PROJECT DATA SHEET

Project Name : Meghna Estuary Study (FAP-5B)

Location : Meghna estuary, Southeast Bangladesh

Objectives :

- ☐ To increase the physical safety of the population living in the south-eastern coastal areas of Bangladesh
- ☐ To promote sustainable development in these areas.
- ☐ To increase the social security for the population in the coastal areas and on the islands.
- ☐ To enhance the operational knowledge of dealing with hydraulic and morphological processes in the Meghna Estuary
- ☐ To establish and strengthen the institutional capacity to maintain and update the same knowledge
- ☐ To identify suitable land reclamation and bank protection methods and to increase the capacity of BWDB to reclaim new land and to install river bank protection works.
- ☐ To develop a plan with priority project and programmes for flood protection, agricultural and socio-economic development for early implementation.

Activities :

- ☐ Institutional development
- ☐ Surveys
 - marine surveys
 - land based surveys
 - socio-economic surveys
- ☐ Studies
 - hydrodynamics studies
 - morphological studies
 - socio-economic studies
 - environmental studies
- ☐ Development of Reference Scenarios and Plans
- ☐ Preparation of Master Plan
- ☐ Preparation of Land and Water Development Plan
- ☐ Preparation of Priority Projects and Programmes
- ☐ Preparation of Small Scale Interventions, Design and Monitoring

Client : Ministry of Water Resources,
Bangladesh Water Development Board (Supervision of Execution)
WARPO/FPCO (Supervision of Planning and Project Preparation, Monitoring)

Consultants : DHV Consultants BV, the Netherlands, in association with:

- ☐ Danish Hydraulic Institute, Denmark
- ☐ Kampsax International, Denmark
- ☐ Resource Analysis, the Netherlands
- ☐ Development Design Consultants, Bangladesh
- ☐ Surface Water Modelling Centre, Bangladesh
- ☐ Aqua Consultants and Associates Ltd, Bangladesh

Financiers :

Government of Bangladesh	600.0 lakh Taka
Government of the Netherlands	1,378.5 lakh Taka
Government of Denmark	1,378.5 lakh Taka

