

5. Questionnaires

(提出先：MOPSIWT 及び BIWTA)

QUESTIONNAIRES (1)

July 1985

Japanese Mission.

In connection with formulation of the Scope of Work for the Feasibility Study on the Development Project of Dhaka and Narayanganj Ports, we would like to discuss basic matters listed below and also obtain relevant information/documents during our stay in Dhaka.

Main Points for Discussion	Requested Information/Documents
1. Functions and Organization of Ministry of Ports, Shipping and IWT and BIWTA	<ul style="list-style-type: none"> • Organization chart with number of personels • Annual Budget • Financial status of BIWTA • Laws
2. Outline of inland waterways in Bangladesh	<ul style="list-style-type: none"> • National topographic map • Route map • Basic statistics of inland waterways
3. Outline of sea/river ports in Bangladesh	<ul style="list-style-type: none"> • Location map • Basic statistics of ports (facilities, traffic)
4. Major development projects in the field of ports and inland waterways	<ul style="list-style-type: none"> • List of major projects recently excuted and under consideration
5. Present status and major problems of Dhaka and Narayanganj Ports eg. congestion, Buriganga bridge and containerization	
6. Envisaged major components of the future development of Dhaka and Narayanganj Ports	

In connection with formulation of the Scope of Work for the Feasibility Study on the Development Project of Dhaka and Narayanganj Ports, we would like to discuss basic matters listed below and also obtain relevant information/documents during our stay in Dhaka

Main Points for Discussion	Requested Information/Documents
<p>For both ports of Dhaka and Narayanganj</p> <p>1. Facilities (mooring facilities, storage facilities, cargo handling equipment, access roads, etc.)</p> <p>① Present status</p> <p>② Public/Private facilities</p> <p>③ Construction works</p> <p>④ Maintenance works (repair, dredging, etc.)</p> <p>2. Ship, cargo and passenger traffic</p> <p>① Recent trend and forecast, if any</p> <p>② Traffic statistics</p> <p>-Content of port statistics</p> <p>-period of data availability</p> <p>-Statistics compilation system</p> <p>③ Origin-destination: hinterland</p> <p>3. Natural conditions</p> <p>① General</p> <p>② Data availability, observation period and method of survey and analysis for</p> <p>(1) Hydrographic conditions</p> <p>(2) Topographic conditions</p> <p>(3) Geotechnical conditions</p> <p>(4) Water level and tide</p> <p>(5) Water velocity and discharge</p> <p>(6) Siltation</p> <p>(7) Earthquake</p>	<p>• Layout map of each port</p> <p>• List of facilities (type, dimension, year built)</p> <p>• Statistics report</p> <p>• Study report prepared by shipping Research Services of Norway</p> <p>• Geological map</p> <p>• Marine chart</p> <p>• Latest sounding map</p> <p>• Topographic map with its bench mark</p> <p>• Location map of past boring point</p> <p>• Soil data</p> <p>• Summary report</p> <p>• Standard level with its point</p> <p>• Summary report</p> <p>• Study report, if any</p> <p>• Summary report</p>

(提出先 : PC)

QUESTIONNAIRE (3)

July 1985

Japanese Mission

In connection with formulation of the Scope of Work for the Feasibility Study on the Development Project of Dhaka and Narayanganj Ports, we would like to discuss basic matters listed below and also obtain relevant information/documents during our stay in Dhaka

Main Points for Discussion	Requested Information/Documents
<p>1. Function of Planning Commission</p> <p>2. Outline of national development plan</p> <p>3. Transportation sector development</p> <p>① Transportation system.</p> <p>② Main development/improvement projects (trunk road, port, railway, etc)</p> <p>4. Suggestions/Comments on</p> <p>① Development of inland waterways</p> <p>② Development of Dhaka and Narayanganj Ports</p> <p>③ Impacts of containerization on inland waterways in general and both ports in particular</p>	<ul style="list-style-type: none">• Organization chart• Long term plan (1980-2000)• Five-year plan (2nd, 3rd)• Statistics of economic indicators• Annual budget • Network map of major modes• Traffic flow data of cargo and passenger by mode• Updated BTS• List of transportation projects recently executed and under consideration

(提出先：DIT)

注) 先方の都合により会見できなかった。

QUESTIONNAIRE (4)

July 1985

Japanese Mission

In connection with formulation of the Scope of Work for the Feasibility Study on the Development Project of Dhaka and Narayanganj Ports, we would like to discuss basic matters listed below and also obtain relevant information/documents during our stay in Dhaka.

Main Points for Discussion	Requested Information/Documents
<p>1. Outline of Dhaka City development</p> <p>2. Transportation system</p> <ul style="list-style-type: none">① Roads② Railways③ Inland waterways <p>3. Major development projects</p> <p>4. Suggestions/Comments on</p> <ul style="list-style-type: none">① Development of Dhaka and Narayanganj Ports	<ul style="list-style-type: none">• Map (present, future)• Land use plan• Basic statistics <ul style="list-style-type: none">• Net work map• Basic statistics• Study report <ul style="list-style-type: none">• List of major projects recently executed and under consideration

(提出先 : CPA)

QUESTIONNAIRE (5)

July 1985

Japanese Mission

In connection with formulation of the Scope of Work for the Feasibility Study on the Development Project of Dhaka and Narayanganj Ports, we would like to discuss basic matters listed below and also obtain relevant information/documents during our stay in Chittagong.

Main Points for Discussion	Requested Information/Documents
<p>1. Outline of the Port</p> <ul style="list-style-type: none">① Facilities② Activities <p>2. Future development of Chittagong Port</p> <p>eg. impact of containerization and bulk handling</p> <p>3. Present status and problems, if any, of transshipment to/ from inland waterway transport at Chittagong Port</p> <p>4. Suggestions/Comments on development of Dhaka and Narayanganj Ports from a point of view of Chittagong Port Authority</p>	<ul style="list-style-type: none">• Layout map• Basic statistics• Development plan

(提出先 : BIWTC)

QUESTIONNAIRE (6)

July 1985
Japanese Mission

In connection with formulation of the Scope of Work for the Feasibility Study on the Development Project of Dhaka and Narayanganj Ports, we would like to discuss basic matters listed below and also obtain relevant information/documents during our stay in Dhaka.

Main Points for Discussion	Requested Information/Documents
<ul style="list-style-type: none">1. Functions and Organization of BIWTC2. Present status and future expansion of fleet<ul style="list-style-type: none">① Number, type, size, year built② Capability of carrying containers③ Maintenance works3. Transport operations<ul style="list-style-type: none">① Service route, frequency② Cargo (volume, flow, commodity, etc.)③ Passenger (number, flow, etc.)4. Present usage and related problems, if any, at Dhaka and Narayanganj Ports5. Transshipment activities at Chittagong/Chalna Ports<ul style="list-style-type: none">① Facilities and operations② Main problems	<p>Organization Chart</p> <p>Basic statistics on transport activities</p>

(提出先: ESCAP海運・港湾・内陸水路部)

25th June, 1985

Mr. Ebni-Ali
Chief,
Division for Shipping, Ports
and Inland Waterways,
ESCAP
United Nations Building,
Rajdamnern Avenue, Bangkok,
10200, THAILAND

Dear Mr. Ebi-Ali,

In connection with a technical assistance project for the development of Dhaka Port in Bangladesh, a Preliminary Study Team will be sent shortly to the field by the Japanese Government.

Having respect for a wide range of activities of your Division in the field of shipping, ports and inland waterways in Bangladesh, the Team would like to visit your office on its way to Dhaka and discuss various matters relating to this project.

I would very much appreciate if your staff could spare their time with us and also provide latest information together with relevant publications of ESCAP.

Following are main issues which we would like to discuss;

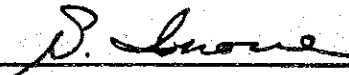
- (1) Present status and problems of inland waterways and sea/river ports in Bangladesh;
- (2) Government policies and development programs for inland waterways and ports (If possible, kindly list major technical and financial assistance projects recently executed/under consideration for this sector.);
- (3) Future perspectives of containerization and its impacts on inland water transport in Bangladesh (Please provide a copy of ESCAP report entitled 'Impact of Containerization on the Transport Systems of Developing Countries in the ESCAP Region -- A Bangladesh Case Study'); and
- (4) Any specific comments and/or suggestions on the development of Dhaka and Narayanganj Ports.

We are arriving in Bangkok late in the evening of July 14. Thus we like to have a meeting at the ESCAP Headquarters on the following day. We will send our detailed itinerary through Mr. Y. Suzuki of your Division.

Sheet-2

We would appreciate your kind cooperation and arrangements.
We look forward to seeing you and your staff in Bangkok shortly.

Sincerely yours,



Satoshi Inoue
Leader of Preliminary Study
Team for Development of
Dhaka Port
Japan International Cooperation
Agency

cc: Yasumasa Suzuki
Staff
Division for Shipping, Ports and Inland Waterways
ESCAP

6. Scope of Work

SCOPE OF WORK
FOR
THE FEASIBILITY STUDY
ON
THE DEVELOPMENT PROJECT OF DHAKA AND NARAYANGANJ PORTS
IN
THE PEOPLE'S REPUBLIC OF BANGLADESH

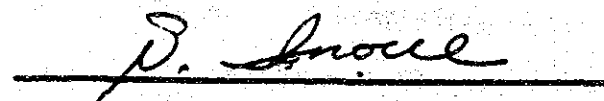
AGREED UPON BETWEEN
BANGLADESH INLAND WATER TRANSPORT AUTHORITY
AND
JAPAN INTERNATIONAL COOPERATION AGENCY

JULY 24, 1985
DHAKA, BANGLADESH



Capt. MOHAMMED SHAMSUL HUDA B.N.
CHAIRMAN

BANGLADESH INLAND WATER
TRANSPORT AUTHORITY



MR. SATOSHI INOUE
LEADER OF THE JAPANESE
PRELIMINARY STUDY TEAM
JAPAN INTERNATIONAL
COOPERATION AGENCY

I. INTRODUCTION

In response to the request of the Government of the People's Republic of Bangladesh (hereinafter referred to as "the Government of Bangladesh"), the Government of Japan decided to conduct a study on the Development Project of Dhaka and Narayanganj Ports (hereinafter referred to as "the Study"), in accordance with the relevant laws and regulations in force in Japan.

Accordingly, the Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of the technical cooperation programs of the Government of Japan, will undertake the Study, in close cooperation with the Government of Bangladesh.

The present document sets forth the scope of work with regard to the Study.

II. OBJECTIVES OF THE STUDY

The objectives of the Study are to prepare Master Plans, for Dhaka and Narayanganj Ports for the period up to the year 2005 and further to determine technical, economic and financial feasibility of Short Term Plans to be formulated for the Ports within the framework of Master Plans.

III. SCOPE OF THE STUDY

In order to achieve the objectives mentioned above, the Study shall cover the following :

1. Review and Field Survey.

- (1) review of available information relevant to the Study.

(2) field surveys to the extent necessary for the Study.

2. Master Plans.

(1) establishment of main objectives of the port development.

(2) forecast of the port traffic for the period up to the year 2005.

(3) preparation of land /water area plan.

(4) lay-out of major port facilities.

(5) lay-out of relevant infrastructure such as access roads.

(6) preparation of preliminary cost estimates.

3. Short Term Plan.

Short Term Plan shall be prepared for the period up to the year 1995 or such other year which may be considered more appropriate.

(1) detailed forecast of port traffic.

(2) formulation of Short Term Plan.

(3) preparation of preliminary design.

(4) preparation of cost estimates.

(5) preparation of implementation schedule.

(6) recommendation on management, operation and maintenance systems.

(7) economic analysis.

(8) financial analysis.

✓ 4. The terms of reference proposed in the Technical Assistance Project Proposal by the Bangladesh Inland Water Transport Authority (hereinafter referred to as "BIWTA") shall be covered in the Study (Appendix - I).

IV. WORK SCHEDULE

The whole work shall be carried out in accordance with a schedule as shown in Appendix - II, unless otherwise any cause of delay.

V. REPORTS

JICA shall prepare the following reports in English and submit them to the Government of Bangladesh.

1. Inception Report (20 copies)

This report is to describe the overall approach and implementation program of the Study and to be submitted at the beginning of the field survey.

2. Progress Report (20 copies)

This report is to describe provisional outcomes of the field survey as well as basic concept of the long term port development and to be submitted at the end of the first field survey.

3. Interim Report (20 copies)

This report is to describe Master Plans and also the outline of Short Term Plan and to be submitted within four (4) months after the end of the first field survey.

4. Draft Final Report (20 copies)

This report is to describe all the essential results of the Study and to be submitted within four (4) months after the submission of the Interim Report.

The Government of Bangladesh shall provide JICA with its comments within one (1) month after the receipt of the Draft Final Report.

5. Final Report (75 copies)

This report is to be finalized taking into consideration the Bangladesh Government's comments on the Draft Final Report and to be submitted within three (3) months after receipt of the above mentioned comments.

VI. UNDERTAKINGS OF THE GOVERNMENT OF BANGLADESH

1. To facilitate smooth conduct of the Study, the Government of Bangladesh shall take necessary measures;

- (1) To secure the safety of the Japanese Team for the Study (hereinafter referred to as "the Team").
- (2) To permit the members of the Team to enter, leave and stay in Bangladesh for the duration of their assignment therein, and exempt them from alien registration requirements and consular fees.
- (3) To exempt the members of the Team from taxes, duties and other charges on equipment, machinery and other materials brought into Bangladesh for the conduct of the Study and to be re-exported subsequently. This commitment shall be governed by the conditions as stipulated at Appendix - III.
- (4) To exempt the members of the Team from income tax and other charges of any kind of imposed on or in connection with any emoluments or allowances paid to the members of the Team for their services in connection with the implementation of the Study.
- (5) To provide necessary facilities to the Team for remittances as well as utilization of the funds introduced into Bangladesh from Japan in connection with the implementation of the Study.

J. K. S.

JK

- (6) To secure permission for entry into private properties or restricted areas for the conduct of the Study.
- (7) To secure permission for the Team to take all data and documents (including photographs) related to the Study out of Bangladesh to Japan.
- (8) To provide the medical services as needed. Its expenses will be chargeable on the members of the Team.

2. The Government of Bangladesh shall bear claims, if any arises against the members of the Team resulting from, occurring in the course of, or otherwise connected with the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or wilful misconduct on the part of the members of the Team.

3. BIWTA shall act as counterpart agency to the Team and also as coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.

4. BIWTA shall, at its own expense, provide the Team with the following, in cooperation with other related organizations:

- (1) available data and information related to the Study.
- (2) counterpart personnel.
- (3) suitable office space with necessary equipment.
- (4) credentials or identification cards.

5. The undertakings of the Government of Bangladesh in respect of the Team shall be governed by the existing laws, standing orders, etc. of the Government of Bangladesh applicable to the expatriate members of the Team.

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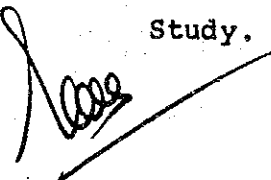
VII. UNDERTAKINGS OF JICA

For the implementation of the Study, JICA shall take the following measures;

1. To dispatch, at its own expense, the Team to Bangladesh.
2. To provide the Team, at its own expense, with equipment and machinery required for the implementation of the Study.
3. To bear costs of accommodation and transportation and living expenses for the members of the Team.
4. To pursue technology transfer to the Bangladesh counterpart personnel in the course of the Study.

VIII. OTHERS

JICA and BIWTA shall consult with each other in respect of any matter that may arise from or in connection with the Study.



APPENDIX - I.

TERMS OF REFERENCE OF TAPP (Technical Assistance Project Proposal) PREPARED BY BIWTA.

BACKGROUND :

Dhaka and Narayanganj are two important river ports among the existing major inland river ports of Bangladesh. The development of these two Ports could not keep pace with the development of the capital city of Dhaka and its adjacent town Narayanganj. The traffic of Dhaka Port had increased from 0.167 million tons in 1963/64 to 2.06 million in 1983-84. The urban population of Dhaka city increased from 0.56 million in 1961 to 3.46 million in 1981. The congestion of both cargo and passenger traffic are however, relatively more at Dhaka than at Narayanganj. For planned and integrated future development of these two inland river ports, preparation of a Master Plan is urgently needed and hence BIWTA has proposed for this study.

OBJECTIVE OF THE STUDY:

The main objective of the study will be to carry out technical, financial and economic feasibility studies.

(a) To identify the required facilities to be developed at a suitable location/locations at Dhaka and Narayanganj or any other place in between them.

(b) To prepare a Master plan for the development of inland port facilities in Dhaka/Narayanganj stretching from Badamtali on the Buriganga river and N. Ganj to Highways bridge on the Sitalakhya river. The facilities will cater the need for traffic upto 2005 A.D. The development under the proposed Master Plan is to be phased out.

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SCOPE OF WORK

The consultant will carry out the following works :-

1) TECHNICAL AND ENGINEERING ASPECTS :

- a) Topographic survey and Soil Investigation of the proposed Port vicinities to the extent necessary for the study.
- b) Hydraulic and hydrologic investigations including tide discharge, water levels, currents, sediment etc.
- c) Assessment of Dredging quantities including spoil dumping areas etc.
- d) Development of channels including turning basins etc. if necessary.
- e) Review of Existing/proposed structures like bridges, jetties, etc. affecting hydraulic condition of the river in which the proposed facilities will be constructed.
- f) Studies for selection of suitable alternate site/sites for development of Port facilities to reduce existing congestion (Specially Badamtali, Wiseghat, Simpson ghat, Sadarghat & Mill Barrack) at Dhaka Port.
- g) Preparation of layout plan of port facilities, type, size and preliminary designs of the structures to be developed in the proposed river port/ports and estimates.
- h) Review of earlier studies related to inland Ports, and Waterways carried under the sponsorship of BIWTA since 1959.
- i) Examine the existing access roads to the Port facilities to ascertain extent of their improvement needed.

These are broad scope of works in general covering the engineering aspect of the studies. However, during the course of the study the consultant will investigate any other points pertinent to develop the best plan for the proposed facilities. The development plans may be programmed in phases.

II. SOCIO - ECONOMIC ASPECTS :

- a) Study of Socio-economic aspects of the Dhaka City including its suburban areas with a view to obtaining the basis for traffic projection over the period upto 2005 AD.
- b) Working out transport demand on different modes (waterways and roads and rail).
- c) Countings of existing traffic on waterways and roads (Mechanized and traditional).
- d) Information about urbanisation, industrial activities trade and commerce in the area, both present and planned, their demand for various transport facilities.

- e) Information on origin-destination of incoming and out-going traffic, transport costs and other factors influencing the relative competitiveness of water transport.
- f) Based on assessment of the above, savings on transport cost should be estimated together with the influence on other sector of the economy as labour market, balance of payments, local industrial development etc. .
- g) Economic justification for investment incorporating the calculation of benefit cost ratios and I.R.R. for investments especially for the specific port facilities to be worked out for each phase.

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TENTATIVE STUDY SCHEDULE

Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
REVIEW AND FIELD SURVEY		■	■	■	■	■	■	■	■	■						
MASTER PLAN		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
SHORT TERM PLAN		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
SUBMISSION OF REPORT																● F/R

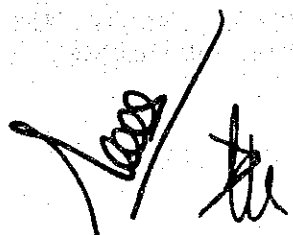
Remarks: ■ Work in Bangladesh □ Work in Japan
 IC/R...Inception Report P/R...Progress Report IT/R...Interim Report DF/R...Draft Final Report F/R...Final Report

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APPENDIX - III.

IMPORT OF EQUIPMENT AND MATERIALS.

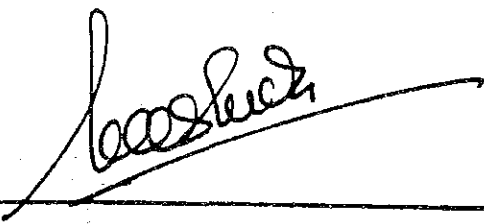
National Board of Revenue has been pleased to agree to allow temporary importation facility on equipments and materials (excluding expandable/consumable items) for a period of 6 (six) months imported by the JICA for the Project on condition that these equipments and materials will be re-exported out of Bangladesh within the specified period of time failing which the duties and taxes shall be payable by the JICA/BIWTA.

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7. Minutes of Meeting

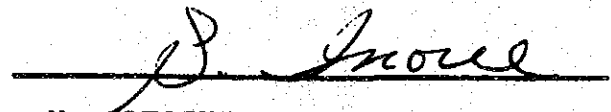
**MINUTES OF MEETING
ON
THE SCOPE OF WORK
FOR
THE FEASIBILITY STUDY
ON
THE DEVELOPMENT PROJECT
OF
DHAKA AND NARAYANGANJ PORTS
IN
THE PEOPLE'S REPUBLIC OF BANGLADESH**

**JULY 24, 1985
DHAKA, BANGLADESH**



**Capt. MOHAMMED SHAMSUL HUDA B.N.
CHAIRMAN**

**BANGLADESH INLAND WATER
TRANSPORT AUTHORITY**



**Mr. SATOSHI INOUE
LEADER OF THE JAPANESE
PRELIMINARY STUDY TEAM
JAPAN INTERNATIONAL
COOPERATION AGENCY**

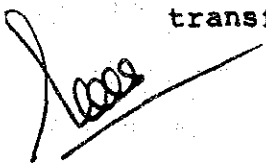
1. A Japanese Preliminary Study Team (the Team) organized by Japan International Cooperation Agency (JICA) and headed by Mr. S. INOUE, Manager, Machinery Division, Port and Harbour Research Institute, Ministry of Transport, visited the People's Republic of Bangladesh from July 16 to 25, 1985 in connection with the Feasibility Study on the Development Project of Dhaka and Narayanganj Ports. The Team made site visits to Ports of Dhaka, Narayanganj and Chittagong and held a series of discussions with Ministry of Ports, Shipping and Inland Water Transport, Bangladesh Inland Water Transport Authority (BIWTA), Bangladesh Inland Water Transport Corporation, External Resources Division of Ministry of Finance, Planning Commission and Chittagong Port Authority. A final meeting on the Scope of Work for the Project was held on July 24. Main issues discussed are summarized below and the attendants of the meeting are listed at Appendix.

2. In the light of findings of the Team and the Technical Assistance Project Proposal for the Project prepared by BIWTA, the Scope of Work for the Study was discussed and agreed upon between the Team and BIWTA.

3. With respect to III-1.(1) of the Scope of Work, the Team requested and BIWTA agreed to make available earlier study reports as well as those of forthcoming studies.^{1]} In addition, details of the proposed Buriganga Bridge Project will be provided to the full-fledged study team (the Study Team) by BIWTA as early as possible.

^{1]} These include UNDP/IBRD Container Study and Dutch Inland Waterway Master Plan Study.

4. After examining existing data and information, necessary field surveys will be carried out in the Study. Main items to be surveyed on natural conditions are (1) soil conditions, (2) current and (3) sediment transport. Basic information on port traffic flow will be collected mainly through interviews. BIWTA will assist the Study Team engage, if necessary, local consultants for the above mentioned field surveys.
5. In connection with economic analysis of the Short Term Plan, impacts on other sector will be qualitatively examined.
6. With respect to VI-1.(3) of the Scope of Work, JICA will send in advance to BIWTA a list of equipment, machinery and other materials to be brought into Bangladesh for the conduct of the Study. BIWTA will then make necessary arrangements, before the arrival of the Study Team, for tax-free importation of the listed goods and advise to JICA accordingly.
7. BIWTA will assign as counterparts its staff of the following fields:
 - (1) planning, (2) engineering, (3) hydrography, (4) port traffic and (5) finance and economics.
8. The Team agreed to convey to the Government of Japan the BIWTA's request that qualified BIWTA officials be sent for the Counterpart Training in Japan in pursuit of further technology transfer.



List of AttendantsBIWTA

- | | |
|-------------------------|--------------------------------------|
| 1. Capt. M.S. Huda B.N. | Chairman |
| 2. Al.H.S.Zaman | Member Finance |
| 3. Md. Salehuddin | Chief Engineer |
| 4. Mr. M. Sanaulah | Director Planning |
| 5. Md. A. Hossain | Director Ports and Traffic |
| 6. Mr. A. Hena | Chief Hydrographer |
| 7. Mr. M.H. Choudhury | Director Conservancy and
Pilotage |
| 8. Mr. M.S. Ali | Senior Deputy Director
Planning |
| 9. Md. R. Alam | Assistant Director Planning |

JICA

- | | |
|-------------------|---|
| 1. Mr. S. Inoue | Team Leader |
| 2. Mr. T. Nomura | Specialist (Port Economics/
Finance) |
| 3. Mr. N. Egawa | Specialist (Port Planning) |
| 4. Mr. T. Yashita | Specialist (Natural Condition) |
| 5. Mr. T. Oiwa | Coordinator.. |

8. Technical Assistance Project Proposal. BIWTA

PROFORMA FOR SUBMISSION OF T.A. PROJECT PROPOSAL (TAPP).

COMPREHENSIVE FEASIBILITY STUDY FOR PREPARATION
OF A MASTER PLAN FOR PROVIDING INLAND PORT FACI-
LITIES IN DHAKA - NARAYANGANJ AREAS.

PREPARED BY
BANGLADESH INLAND WATER TRANSPORT AUTHORITY
DHAKA.

JUNE, 1965.

Form for Submission of TA Project Proposal (TAPP).

TAPP-1

1. Project Title : Comprehensive feasibility study for preparation of a Master Plan for providing inland port facilities in Dhaka-Narayanganj Areas.
2. i) Sponsoring Organisation. : Bangladesh Inland Water Transport Authority.
- ii) Administrative Ministry. : Ministry of Ports, Shipping & IWT.
- iii) Executing Agency. : B.I.W.T.A.
3. Estimated Cost (in lakh) with annual phasing. :
- | | Total | 1985/86 | 1986/87 |
|----------------------|------------|---------|---------|
| i) Total | Tk. 274.18 | 150.00 | 124.18 |
| ii) Foreign Exchange | Tk. 132.60 | 75.00 | 62.60 |
| iii) Project Aid | Tk. 274.18 | 150.00 | 124.18 |
| iv) RFA | Tk. 135.58 | 80.00 | 55.58 |
| v) ODF | - Nil - | | |
4. Implementation period :
- i) Commencement : July, 1985
- ii) Completion. : Sept. 1986.

Remarks:

P.A.R.T.I

5. Existing Objectives and Justifications :

5.1

The Dhaka river port is one of the oldest river ports in Bangladesh dating back to the early 17th Century A.D. when the capital for the eastern provinces of the Mughal Empire was established on the river Buriganga. The Buriganga is known to be one of the most stable rivers in Bangladesh and the port flourished on this river bank. The population of Dhaka grew continuously and since 1947 when Dhaka became the capital of the then East Pakistan the population started growing rapidly. The population of Dhaka grew from 0.34 million in 1951 to 0.56 million in 1961 to 1.68 million in 1974 and 3.46 million in 1981. The rate of urban growth of Dhaka is also very rapid as will be evidenced by the tremendous increase of Municipal urban area of Dhaka from 8 squares in 1961 to 125 squares in 1981. The inland river port of Narayanganj is also one of the very old and important river ports in Bangladesh. The port started developing in the 19th century on the river Lakhsya when ~~compute~~ and cotton industries started coming up along the river Lakhsya during the British regime. But Narayanganj shaped as a major river port after partition of India in 1947. The Jute and other industries developed quickly since 1947 on the Lakhsya river and became famous for jute industries. The urban growth of Narayanganj also has been significant and its population increased from 0.068 million in 1951 to 0.126 million in 1961 to 0.300 million in 1974 to 0.271 million in 1981. The port caters to the industrial and commercial traffic along the river Lakhsya. Although Dhaka and Narayanganj are two separate major river ports, but the two together cater to the import traffic from the two sea ports as well as the important inter-district traffic flow destined for the capital and the central zone of Bangladesh. Considerable IWT traffic arriving at Dhaka and Narayanganj Ports are re-directed/trans-shipped to rail and road for northern and north eastern districts of Bangladesh.

5.2

The MWTA established Class-I river ports at Dhaka and Narayanganj in 1966/67. Subsequently, the Authority executed several development projects to provide additional specific port facilities.

for Dhaka and Narayanganj ports upto now. A list of port facilities developed by HIWTA at Dhaka and Narayanganj is placed at Annexure-III.

5.3

The main centre of cargo handling activities within the Dhaka Port area are at old Dhaka city i.e. Badamtali, Wisaghat, Simsonghat, Sadarghat (Terminal building) and Mill Barrack. A road along the river bank from terminal building (Sadarghat) to Badamtali/Wisaghat/Simsonghat is serving as a loading/discharging place for truck. The area is not fenced off and the road is the only area for all traffic to and from the landing points at Badamtali/Wisaghat/Simsonghat/Terminal building. The traffic in and out of port area is often blocked completely in the narrow and crowded streets of old Dhaka. So the movement of cargo around old Dhaka is much hampered. Mill Barrack is a central storage Depot for the Food Dept., only a bad & narrow road connects the jetties with the godown (distance 100-300 yards). Trucks are used for transportation from the jetties to the godown. Accordingly, the movement of cargo is hampered by the bad road connection to the godowns. The facilities so far developed are in the congested areas of the Dhaka river port resulting inconveniences and delay in clearing traffic from the port. Also the facilities provided so far at Dhaka port considerably fall short of the traffic demand resulting in delay in loading and unloading of cargo and ship detention. A brief survey of Dhaka port conditions by Shipping Research Services(SRS) of Norway in 1979 indicated that 20% of all cargo vessels had to stay less than 3 days, 33% 3 to 5 days, 33% from 5 to 10 days and 9% more than 10 days. The vessels staying more than 3 days in the port, most of the time was spent waiting for a berth. Narrow and congested city roads/streets through which the traffic had to pass was also a factor. In case of Narayanganj port, traffic congestion at present is much less than at Dhaka Port. During 1960 Narayanganj was a much bigger port

in terms of traffic. But more and more import traffic is coming to Dhaka to cater to the tremendous demand of commercial and industrial traffic of rapidly growing population of Dhaka City and the fast growing industrial belt at Tezga, Savar and also traffic destined to other districts from Dhaka.

5.4

The traffic volume and the increase in traffic at Dhaka and Narayanganj can be seen from the data placed at Appendix-II, over the period since 1978-79. In view of the lack of regular system of producing IVT traffic data, efforts were made to collect traffic data at Dhaka recently through traffic count over a period of one month (5.11.84 to 4.12.84). The report is enclosed with TAPP vide Appendix-I. It is found from Appendix-I and Appendix-II that the cargo and passenger traffic of Dhaka port increased tremendously over the period 1978-79 to 1983/84. The cargo and passenger traffic of Narayanganj port also increased considerably over the same period.

5.5

The estimated capacity of the jetties provided by RIVTA at Dhaka & Narayanganj Port is given in Annexure-IV. Summary of the estimated total cargo handling capacity of the RIVTA jetties and the estimated total traffic at Dhaka and Narayanganj is given below :

Estimated Cargo Handling Capacity at RIVTA Jetties at Dhaka and Narayanganj Port	
Dhaka Port (estimated maximum yearly capacity of the jetties)	Narayanganj Port (estimated maximum yearly capacity of the jetties)
6,30,000 Long tons	10,30,000 Long tons

Contd.:::...../

Estimated cargo handled at Dhaka & Narayanganj Port.

Year	Dhaka Port			Narayanganj Port		
	IWTA jetties	Impervised IWTA facilities	Private jetties	IWTA jetties	Impervised IWTA facilities	Private jetties
	1	2	3	4	5	6
1983-84	6.30 lac ton.	8.30 lac ton.	6.00 lac ton.	4.45 lac ton.	-	7.00 lac ton.

Note : (a) Private jetties handled 6.00 lac ton cargo (including 3 lac ton POL & 1 lac ton mill product) at Dhaka port and 7 lac ton cargo (including 4 lac ton POL & 3 lac ton mill product) at Narayanganj Port.

(b) Impervised IWTA facilities means landing points where IWTA jetties are not developed.

The capacity of the IWTA facilities at Dhaka Port is not sufficient for handling the normal cargo volume today even after making allowance for traffic (6.00 lac ton) at private jetties and the situation will aggravate with the expected increase in the cargo flow. Accordingly immediate step will have to be taken to remedy the serious situation. First of all, all the existing jetties must be improved to reach the normal capacity. Then the next step will be to build up new facilities at upstream or downstream of the proposed road bridge on the Buriganga river and examine existing access roads to the port facilities to ascertain extent of their input improvement needed. Therefore, a study is needed for preparation of plans for development of new facilities within the Dhaka port areas. The capacity of the IWTA facilities at Narayanganj is sufficient today but for the period upto year 2000 A.D. they are to be improved and augmented somewhat to manage normal traffic, provided the yearly increase is not exceeding 5% and that the cargo flow is evenly divided over all months of the year.

Contd.....2/

5.6

The recent decision of the Government to construct Bariganga road bridge at Postagola may have serious repercussions on the operation and utilization of many existing river port facilities as the proposed bridge will have only 40' vertical clearance from high water level preventing most of the coasters from utilizing the existing R.C.C. Jetty facilities at Dhaka Port up-stream of the proposed bridge. A list of RIVERA facilities at Dhaka Port the utilization of which are likely to be affected by the Bariganga road bridge is also shown at Annexure-III (facilities from Sl. No. 1 to 6). It is estimated that about 8.00 to 10.00 lac tons of cargo traffic to be handled by coasters at the facilities up stream of the proposed bridge will be disrupted. At present coasters handle over 50,000 tons per month at these R.C.C. jetty facilities.

5.7

The justification for carrying out the proposed study lies in the existing aggravated situation, specially at Dadatali, Wiseghat, Sinsenghat, Sadarghat and Mill Barrack within Dhaka Port which has been described above. Therefore, a technical and economic study is needed for the improvement of existing jetties to reach the normal cargo handling capacity and plans for development of new facilities. The study is also expected to carry out origin and destination study of the incoming and outgoing traffic at Dhaka & Narayanganj Ports and on that basis select suitable locations for development of various type of inland port facilities in and around port areas with minimum cost and maximum benefits.

5.8

Bariganga bridge has added to the urgency for carrying out the proposed study which may identify and examine the problems to be created by the bridge and to suggest solutions by selecting suitable sites for port facilities to be developed henceforth and/or suggesting designs for more suitable vessels and modern methods of vessel operations through tug-barge combinations requiring smaller vertical clearance.

5.9

Based on the existing situation at Badamtali, Wisaghat, Simeonghat, Sadarghat & Mill Barrack in respect of the heavy congestion, haphazard movement of traffic especially cargo, increasing industrial and commercial transport demand, channel excavation/dredging needs vis-a-vis future development of the port areas, the proposed study will produce specific and detailed recommendations for the solution of the overall problem with preparation of sound investment plans for the Dhaka and the Narayanganj port areas in the framework of a Master Plan in phases upto the period 2005 AD.

5.10

Compliance of the decisions of SPSC meeting held on 4.11.84 is enclosed vide Annexure-I and draft TOR is also enclosed vide Annexure-II.

5.11

SCOPE OF WORK :

The consultant will carry out the following works :-

1) TECHNICAL AND ENGINEERING ASPECTS :

- a) Topographic survey and Soil Investigation of the proposed major port vicinities.
- b) Hydraulic and hydrologic investigations including tide discharge, water levels, currents, sediment and pollution by affluents etc.
- c) Assessment of Dredging quantities including spoil dumping areas etc.
- d) Development of channels including turning basins etc., if necessary.
- e) Investigation of Existing proposed structures like bridges, jetties, etc., affecting hydraulic condition of the river in which the proposed facilities will be constructed.
- f) Studies for selection of suitable alternate site/sites for development of Port facilities to reduce existing congestion (Specially Badamtali, Wisaghat, Simeonghat, Sadarghat & Mill Barrack) at Dhaka Port.

Contd.....2/

- g) Preparation of layout plan of port facilities, type, size, preliminary designs of the structures to be developed in the proposed river port/Ports and estimates;
- h) Review of earlier studies related to inland ports, and Waterways carried under the sponsorship of BIWTA since 1959.
- i) Examine the existing access roads to the port facilities to ascertain extent of their improvement needed.

These are broad scope of works in general covering the engineering aspect of the studies. However, during the course of the study the consultant will investigate any other points pertinent to development the best plan for the proposed facilities. The develop^{ment} plans may be programmed in phases.

II. SOCIO-ECONOMIC ASPECTS:

- a) Study of Socio-economic aspects of the Dhaka City including its suburban areas with a view to obtaining the basis for traffic projection over the period upto 2005 AD.
- b) Working out trans-port demand on different modes (water ways and roads and rail).
- c) Countings (Primary) of existing traffic on waterways and roads (Mechanized and traditional).
- d) Information about urbanisation, industrial activities trade and commerce in the area, both present and planned, and their demand for various transport at wharf facilities.
- e) Information on origin-destination of incoming and out going traffic, transport costs and other factors influencing the relative competitiveness of water transport.
- f) Based on assessment of the above, savings on transport cost should be estimated together with the influence on other sector of the economy as labour market, balance of payments, local industrial development etc.
- g) Economic justification for investment incorporating the calculation of benefit cost ratios and I.R.R. for investments especially for the specific port facilities to be worked out for each phase.

Contd.....

6. Provision in :

- (1) Five Year Plan : Tk. 274.18 lacs proposed in 3rd Plan.
- (11) ADP : It will be included in RADP 1985-86.

7. Financing Arrangement :

- a) Local Cost : Amount & source (In Lakh) : Total cost of the project is expected to be financed by technical assistance grant of Japan Govt.
- b) Foreign Exchange " " " " " " " " " " " "

8. Project components :

Project components of the sub-project/ programme indicating estimated cost thereof.

Name of the components	Estimated costs (in lakh Taka/US dollar)		
	Taka	Taka	Total
a) Consultancy services (Salary of expatriate & Local consultant).	Tk. 1,30,60,000 (\$ 5,04,000)	Tk. 6,30,000	Tk. 1,44,90,000
b) Office accommodation, office furniture and office stationeries (vide Annexure-V).	-	Tk. 2,60,000	Tk. 2,60,000
c) Purchase of land transport (Vide Annexure-VI)	-	Tk. 10,00,000	Tk. 10,00,000
d) Hire charge for motor transport (vide Annexure-VI).	-	Tk. 72,00,000	Tk. 72,00,000
e) Fuel cost for land transport (vide Annexure-VI).	-	Tk. 2,62,621	Tk. 2,62,621
f) Exploration, Survey, Field Investigation, Data Collection (Vide Annexure-VII).	-	Tk. 29,00,000	Tk. 29,00,000
Sub-Total :	Tk. 1,38,60,000 (\$ 5,04,000)	Tk. 1,22,52,621	Tk. 2,61,12,621
g) Contingency @ 5% on above.	-	13,05,631	13,05,631
Total :	Tk. 1,38,60,000 (\$ 5,04,000)	1,35,58,252	2,74,18,252

Conversion rate Tk. 27.90 = 1 U.S. Dollar.

9. (1) Consultancy Elements:

Field	No. of Consultants each field	Months	Rate per consultant in thousand Rupees/dollar US	Total cost lakh Rupees
a) Expatriate Consultants:				
i) Project Manager.	1 No.	15	\$ 12000	\$ 1,80,000
ii) Hydraulic Engineer.	1 No.	9	\$ 12000	\$ 1,08,000
iii) Port Planning Engineer.	1 No.	6	\$ 12000	\$ 72,000
iv) Transport Economist.	1 No.	12	\$ 12000	\$ 1,44,000
Sub-Total (a)				\$ 5,04,000
Conversion rate Tk. 27.50 = \$ 1				= Tk. 1,38,60,000
b) Local Consultants:				
i) Hydraulic Engineer.	1 No.	12	Tk. 15,000/-	Tk. 1,80,000/-
ii) Soil Engineer.	1 No.	6	Tk. 15,000/-	Tk. 90,000/-
iii) Economist.	1 No.	12	Tk. 15,000/-	Tk. 1,80,000/-
iv) Port Planning Engineer.	1 No.	12	Tk. 15,000/-	Tk. 1,80,000/-
Sub-Total (b)				Tk. 6,30,000/-
Total of (a+b)				Tk. 1,44,90,000/-

Local consultant will provide counterpart personnel. IITA will only maintain liaison with the consultants. IITA personnel will not be asked to work for full time, so local consultants will be needed to support/help expatriate in the respective field for preparing or master plan for providing inland port facilities in Dhaka and Khayrabad areas. Local consultant will be financed from project aid.

Note: Salary for foreign experts includes air fares and all other cost of the expatriate experts.

PART-G

10. Outcome of the project : Result of the feasibility study will be helpful to determine the future development programme, integrated development of port facilities for Bhaku-Narayanganj areas to avoid haphazard conditions

11. (a) What other preliminary work on T.A. programmes in the same subject area had been implemented in the past. - Nil.-

(b) If T.A. preliminary work on programme already implemented in the past, give justification for the present project. - Nil.-

12. How the outcome (report, design etc) of the project is to be translated into future action/Plan.

* On the basis of the recommendation of the feasibility study future development programme for providing inland port facilities will be taken in hand during the 3rd Five Year Plan and subsequent Plan.

Heads of Budgeting for annual technical assistance programme.

(In lakh taka)

Sector	Name of the project	Total cost	Total allocation	Taka allocation	GDST	Taka		Source
						PA	RFA	
I.W.T.	Comprehensive feasibility study for preparation of a Master Plan for providing inland port facilities in Bhaku-Narayanganj.	274.18	"	"	"	274.18	135.58	T.A. grant of Japan Government

ANNEXURE - I.

Decisions of SPEC meeting and actions taken by BIWTA/Ministry.

According to minutes of the meeting of the Special Project Evaluation Committee (SPEC) held on 4.11.1984 the project proposal was approved subject to the following conditions :

- | <u>Decision :</u> | <u>Action taken by BIWTA.</u> |
|---|---|
| (a) The scope of the proposed study would be from Badamtali to Narayanganj instead of Fatullah to Mirpur on the river Buriganga and Narayanganj to Sitalakhya bridge on the river Sitalakhya. | Done as per SPEC decision such as the scope of the proposed study has covered in TAPP from Badamtali to Narayanganj instead of Fatullah to Mirpur on the Buriganga and Narayanganj to Sitalakhya bridge on the river Sitalakhya. |
| (b) The TOR for the study would be established by the Ministry in consultation with the sector division of Planning Commission. | Terms of Reference (TOR) has been finalized of Planning Commission in consultation with Railway Transport wing of Planning Commission and enclosed vide Annexure-II in TAPP. |
| (c) Statistical discrepancies in the TAPP vis-a-vis the report of the Japanese survey team would be corrected by IWTA/Ministry. | Statistical discrepancies have been corrected and figures have been quoted from traffic figures of BIWTA. Also a short survey of 30 days was done to estimate the figures for 83-84. Survey report is enclosed vide Appendix-I of the TAPP. |
| (d) Honorarium cases would be processed as per existing rules of Government. | Honorarium may be admissible as per existing Government rules. A tentative list of BIWTA personnel who may be associated with the study is placed at Annexure-VIII. |
| (e) In accordance with the discussions and decision of the meeting Ministry of ports, Shipping and IWT would prepare a revised TAPP and submit the same to the Planning Commission and TACC for clearance sanction duly signed by an authorized officer of the Ministry. | In compliance of SPEC decisions TAPP has been recast and submitted to the Planning Commission and ERD. |

ANNEXURE - II.

Feasibility Study for Preparation of a Master Plan
for providing Inland Port Facilities in Dhaka and
Narayanganj Areas.

DRAFT TERMS OF REFERENCE (JUNE, 1985).

BACKGROUND :

Dhaka and Narayanganj are two important river ports among the existing major inland river ports of Bangladesh. The development of these two Ports could not keep pace with the development of the capital city of Dhaka and its adjacent town Narayanganj. The traffic of Dhaka Port had increased from 0.167 million tons in 1963/64 to 2.06 million in 1983-84. The urban population of Dhaka city increased from 0.56 million in 1961 to 3.46 million in 1981. The congestion of both cargo and passenger traffic are however, relatively more at Dhaka than at Narayanganj. For planned and integrated future development of these two inland river ports, preparation of a Master Plan is urgently needed and hence BIWTA has proposed for this study.

OBJECTIVE OF THE STUDY :

The main objective of the study will be to carry out technical, financial and economic feasibility studies.

(a) To identify the required facilities to be developed at a suitable location/locations at Dhaka and Narayanganj or any other place in between them.

(b) To prepare a Master plan for the development of inland port facilities in Dhaka/Narayanganj stretching from Badamtali on the Buriganga river and N.Ganj to Highways bridge on the Sitakhya river. The facilities will cater the need for traffic upto 2005 A.D. The development under the proposed Master Plan is to be phased out and should be included in the 3rd and subsequent five year plans of the Bangladesh Government.

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SCOPE OF WORK :

The consultant will carry out the following works :-

1) TECHNICAL AND ENGINEERING ASPECTS :

- a) Topographic survey and Sill Investigation of the proposed Port vicinities.
- b) Hydraulic and hydrologic investigations including tide discharge, water levels, currents, sediment and pollution by affluents etc.
- c) Assessment of Dredging quantities including spoil dumping areas etc.
- d) Development of channels including turning basins etc. if necessary.
- e) Investigation of Existing proposed structures like bridges, jetties, etc. affecting hydraulic condition of the river in which the proposed facilities will be constructed.
- f) Studies for selection of suitable alternate site/sites for development of Port facilities to reduce existing congestion (Specially Badamtali, Wisagh-t, Simpaen ghat, Sadarghat & Mill Barrack) at Dhaka Port.
- g) Preparation of layout plan of port facilities, type, size and preliminary designs of the structures to be developed in the proposed river port/Ports and estimates.
- h) Review of earlier studies related to inland Ports, and Waterways carried under the sponsorship of BIWA since 1959.
- i) Examine the existing access roads to the Port facilities to ascertain extent of their improvement needed.

These are broad scope of works in general covering the engineering aspect of the studies. However, during the course of the study the consultant will investigate any other points pertinent to develop the best plan for the proposed facilities. The development plans may be programmed in phases.

II. SOCIO - ECONOMIC ASPECTS :

- a) Study of Socio-economic aspects of the Dhaka City including its suburban areas with a view to obtaining the basis for traffic projection over the period upto 2005 AD.
- b) Working out transport demand on different modes (waterways and roads and rail).
- c) Countings (Primary) of existing traffic on waterways and roads (Mechanized and traditional).
- d) Information about urbanisation, industrial activities trade and commerce in the area, both present and planned, their demand for various transport facilities.

ANNEXURE - II (Contd.)

- e) Information on origin-destination of incoming and out-going traffic, transport costs and other factors influencing the relative competitiveness of water transport.
 - f) Based on assessment of the above, savings on transport cost should be estimated together with the influence on other sector of the economy as labour market, balance of payments, local industrial development etc.
 - g) Economic justification for investment incorporating the calculation of benefit cost ratios and I.R.R. for investments especially for the specific port facilities to be worked out for each phase.
-

B.I.W.T.A. BERTHING FACILITIES AT DHAKA.

Sl. No.	Nos./Names	Nature of facilities	Size-length X Breadth Pontoons/Plats/Jetties/Approaches	REMARKS
1.	Jinjira	Narrow wooden Jetty with penteen at end.	30'x18' 30'x16'	
2.	Badamtali	a) Narrow wooden Jetty with penteen at end.	100'x20' 80'x6'	For cargo Vessels.
3.	Wiseghat	b) Reinforced concrete Jetty	T.Head 150'x40' 40'x30'	
4.	Simpsonghat	Narrow wooden Jetty with 2 panteens at end	85'x28' 150'x6'	
5.	Terminal	a) Two gangways & 6 Panteens gangways of steel with Plank flooring.	64'x27' 100' eachx25' 100'x12' 100'x12'	IWTA vessels & cargo vessels. PASSENGER SERVICE (only) small cargo (luggage).
6.	MILL barrack	b) Two gangways of 2 panteens, gangways of steel with plank flooring.	100'x25' each 100'x12'	
		a) Narrow wooden Jetty with penteen at end.	64'x27' 150'x7'	
		b) Narrow wooden Jetty with flat at end.	240'x30' 120'x7'	Mostly for feed grain and Government feedstaff.
		c) Reinforced concrete Jetty	T.Head 40'x30'	
		d) Narrow wooden Jetty	130'x40' 120'x7'	
7.	M.M.OIL "PAGLA"	a) Penteen and planks for landing	100'x25' -	Fertilizer, cement, reads etc. Gen.C.
		b) Penteen and planks for landing.	64'x27' -	(No.Oil).
8.	Patulla	Narrow wooden Jetty with penteen at end.	64'x27' 100'x6'	Only passengers Operated by BIWTA.

N.B. : Utilization of Port facilities upto Sl.No.6 will be affected by the proposed Buriganga bridge.

/Resbar/

B. I. V. T. A. BERTHING FACILITIES AT NARAYANGANJ.

Sl. No.	New Nos./Names (Former Nos./Name)	Nature of facilities	Size - Length X Breadth Pontoons/Flats/Jetties/Approches	R E M A R K S
1.	Ghat No. 1 (Ghat No. 1)	1 Penteen + Steel gangway with plank flooring.	64'x27'	113x17' VIP Jetty
2.	Ghat No. 2 (Launchghat).	2 Pontoons with built on reef + 2 steel gangway with plank flooring.	100'x25' each	100'x10' each Terminal Building passenger landings, small quantity cargo.
3.	Ghat No. 3 (BIMIC Flat Matla).	1 covered flat + 1 steel gangway with plank flooring.	90'x42'	90'-6"x12'-9" Only used for mooring & fer river crossing INTA small ferries.
4.	Ghat No. 4 (Ghat No. 2)	Penteen with steel gangway with wooden flooring.	64'x27'	91'x17' Waterdepth reduced due to obstruction by wreck Per cargo vessels.
5.	Ghat No. 5 (RCC Jetty-3)	Reinforced concrete Jetty.	T.Head 60'x40'	130'x40' Per cargo vessels.
6.	Ghat No. 6 BADC (Numberless-)	Penteen with planks as gangways.	64'x27'	Apprex. 90'x2' Per cargo vessels.
7.	Ghat No. 7 "N-Genj Deutkandi Ferry (Ghat No. 4)	Penteen + Steel landing with plank flooring.	64'x27'	45'x16' Ferry landing. Capacity of ferry-24 trucks.
8.	Ghat No. 8 "Dharia" Flat. (Ghat No. 5).	1 flat with 2 wooden jetties as shore connection.	240'x30'	90'x7' Per cargo vessels.

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Barbar/

ANNEXURE - III (Contd.)

Sl. No.	New Nos./Names (Former Nos./Names)	Nature of facilities	Size - Length X Breadth Pontoons/Pilts/Jetties/Approaches	R E M A R K S	
9.	Ghat No. 9 (Ghat No. 6)	Pontoon + Steel gangway with plank flooring.	64'x27'	96'x17'	For IWA Vessels. Also used as spare ferry landing.
10.	Ghat No. 10 RCC Jetty (Ghat No. 7)	Reinforced concrete Jetty.	-	60'x30'	At Charargepe Khal basin. For cargo vessels.
11.	Ghat No. 11 (Ghat No. 8)	Reinforced concrete Jetty.	-	60'x30'	At Charargepe Khal. For cargo vessels, only, country boats in dry season.
12.	Ghat No. 12 (Ghat No. 9)	Reinforced concrete Jetty.	-	60'x30'	- do -
13.	Ghat No. 13 (Ghat No. 10)	2 Pontoons + steel gang- way with plank flooring.	64'x27' each	50'x12'-6"	- do -
14.	Ghat No. 14, Khanpur (Numberless).	Reinforced concrete Jetty with 2 accesses.	T. Head 130'x40'	230'x40' each	For cargo vessels, under construction lengthening of T. Head by 160'.
15.	Ghat No. 15, Khanpur (Numberless). No number yet. Khanpur.	Wooden Jetty with pontoon at end. New wooden Jetty with pontoon at end.	30'x18'	180'x6'	For cargo vessels.
16.	Ghat No. 16 (CSD Jetty No. 1)	Wooden Jetty with pontoon.	64'x27'	180'x10'	For cargo vessels. CSD goods was approx. 200' inland.

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/Rathar/

Sl. No.	New Nos./Names (Former Nos./Names)	Nature of facilities	Size - Length X Breadth Penteen/Pits/Jetties/Approaches	REMARKS
17.	Ghat No. 17 (CSD Jetty No.2)	Wooden Jetty with T. Head.	T. Head 130'x25'	150'x12'
18.	Ghat No. 18 (CSD Jetty No.3)	Wooden Jetty with end sloping and penteen at end.	64'x27'	Main Jetty 180'x10' sloping part 60'x10'
19.	CSD SILO Jetties.	One RCC Jetty with suction pipes for bulk cargo. Two penteens together with one conveyor belt for bags from the silo to the penteens.	-	-

For imported wheat in bulk only at the RCC Jetty. Bagged wheat only for inland distribution at penteens Draught problems in dry season.

For cargo vessels. CSD gedowns approx. 200' inland

ESTIMATED CARGO HANDLING CAPACITIES AT THE INTA JETTIES AT DELHA.

Daily capacities are based on 8 hours work (meal hours excluded) and the required number of men for each particular commodity and jetty. Yearly capacities are based on 300 working days per year. Only jetties used for cargo are included in the estimated yearly capacity.

Type No.	Classification of jetties according to type of construction	No. of jetties	No. of jetties not used for cargo	No. of jetties with reduced capacity	Estimated maximum daily capacity for type of jetty	Estimated maximum yearly capacity for the cargo jetties
Ib	Pontoon/Flat jetties with wide steel gangway approaches	1	1	0	200	0
IIb	Wooden narrow jetties with pontoon/flat at end or pentoon/flat with plank gangway	10	2	8	150	3,60,000
IIIb	Wooden jetties with T-heads	0	-	-	200	-
IVb	R.C.C. jetties with place for the coaster/berge alongside	3	0	3	300	2,70,000
Vb	R.C.C. jetties with place for more than one coaster/berge alongside	0	-	-	600	-
Sub-Total :		14	2	11	-	6,30,000
Special types of jetties (Silo jetties, quay wall etc.) :		0	-	-	-	-
Grand Total :		14	2	11	-	6,30,000

Continues

ESTIMATED CARGO HANDLING CAPACITIES AT THE IWA JETTIES AT MARYANGOLLA

Daily capacities are based on 8 hours work (meal hours excluded) -- and the required number of men for each particular commodity and jetty. Yearly capacities are based on 300 working days per year. Only jetties used for cargo are included in the estimated yearly capacity.

Type No.	Classification of jetties according to type of construction	Nos. of jetties	Nos. of jetties not used for cargo handling	No. of jetties with reduced capacity	Estimated maximum daily capacity for type of jetty	Estimated maximum yearly capacity of the cargo jetties	(Pikalong Ton)		
							Sub-Total	Grand Total	
I	Pentecost/flat jetties with wide steel gangway approaches	7	4	3	200	1,80,000			
II	Wooden narrow jetties with pentecost/flat at end or pentecost/flat with plank gangways	6	0	6	150	2,70,000			
III	Wooden jetties with T-heads	1	0	1	200	60,000			
IV	R.C.C. jetties with place for one container/barge alongside	4	0	4	300	3,60,000			
V	R.C.C. jetties with place for more than one container/barge alongside	1	0	1	600	1,80,000			
Sub-Total :							10,50,000		
Special types of jetties (Silo jetties, Quaywal etc)		SIL0	0	0	BULK	2400	7,20,000		
		2	0	0	BAGS	300	90,000		
Grand Total :							18,60,000		

ANNEXURE - Y

Office accommodation, Office furniture
and Stationeries

- 1. Office accommodation for Expatriate personnel and their staff 1000 sqt @ Tk. 6,000 per sqt for 15 month = Tk. 90,000/-
- 2. Office furniture for Expatriate personnel @ Tk. 30,000 per head for 4 Net Expatriate = Tk. 1,20,000/-
- 3. Office stationeries = Tk. 50,000/-

Total Tk. 2,60,000/-

Note : It is necessary to provide office accommodation with office furniture @ stationeries as working facilities of expatriate and will be financed from project aids. BIWTA will not be able to provide office accommodation in it own buildings.

Land and Water Transport

A. Purchase of Land Transport.

- 1) Car 1 No. @ Tk. 5,00,000/-
 - 11) Microbus 1 No. @ Tk. 5,00,000/-
- Total = Tk. 10,00,000/-

B. Fuel cost for Land Transport (Operation).

- 1) Fuel (Petrol) for 1 No. car, 22.50 litre/vehicle/day @ Tk. 15.41/litre
 - 11) Fuel (diesel) for 1 No. Microbus, 22.50 litre/vehicle/day @ Tk. 8.81/litre
 - 111) Lab oil for car & Microbus 3% of fuel @ 607 litre @ Tk. 28.63/litre
- Total = Tk. 2,62,627.45
- Say = Tk. 2,62,627/-

C. Hire Charges for Water Transport.

- 1) Hire charge for "A" class launches 1 No. for 15 months @ Tk. 600/ each for 8 hours per day.
 - 11) Hire charge for work boat 2 Nos. for 15 months @ Tk. 500/ each for 8 hours per day.
- Total = Tk. 72,00,000/-

The land transport and the water transport (launches/workboats) will be needed for use by the study team for their local movements and for collection of data etc.

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Exploration, surveys, field investigation,
Data collection etc.

i)	Geotechnical exploration	Rs. 5,00,000/-
ii)	Hydrographic survey	Rs. 2,50,000/-
iii)	Hydraulic & Hydrological data collection	Rs. 7,50,000/-
iv)	Topographic survey	Rs. 10,00,000/-
v)	Traffic survey	Rs. 3,00,000/-
vi)	Purchase of Water level charts, discharge data, traffic data, orange handling data etc. from survey of Bangladesh, BMB BIRMO and other offices.	Rs. 1,00,000/-

Total Rs. 28,00,000/-

Note : For feasibility study, those items are needed to prepare a sound investment plan and therefore the estimated cost have been shown. These works are not covered in the HRA survey programme and these are a special requirement for the study only. So these works can not be covered by HRA budget and have to be covered under the study project costs.

ANNEXURE-VIII

Tentative list of BIWTA personnel who may be associated in the study :-

<u>Sl. No.</u>	<u>Department</u>	<u>Designation</u>	<u>Nos.</u>
<u>Ports & Traffic Department.</u>			
1.	"	D.P.T.	1
2.	"	Sr.D.D.P. (Operation)	1
3.	"	Asstt.Port Officer.	1
4.	"	P.A.DET	1
5.	"	Traffic Inspector	1
6.	"	Executive Asstt.	1
<u>Engineering Department.</u>			
7.	"	Chief Engineer.	1
8.	"	S.E.	1
9.	"	Asstt.Engineer.	1
10.	"	Sub-Asstt.Engineer.	1
11.	"	P.E. to CE	1
12.	"	Technical Asstt.	1
<u>Hydrography Department.</u>			
13.	"	Chief Hydrographer.	1
14.	"	Add.Chief Hydrographer.	1
15.	"	Asstt.Chief Hydrograph- er (S)	1
16.	"	Sr. RS (P & C)	1
17.	"	River Surveyer (Md.Hossain).	1
18.	"	Jr. R.S.	2
19.	"	P.A. to C.H.	1
<u>Planning Department.</u>			
20.	"	Director of Planning	1
21.	"	Sr.D.D.P.L.	1
22.	"	D.D.(P.A.& Adm.)	1
23.	"	Asstt.Director of Planning(Statistics)	1
23.	"	P.A. to DPL	1
24.	"	Typist. (Kamir).	1

APPENDIX B

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Reference Chairman's Order (P&T O.O.No.309 dt.4.11.84)
Quantum of dry cargo movement (M/Tons) at Dhaka Port.

In supersession of weekly traffic movement statement from 5.11.84 to 12.11.84 submitted earlier, the following statement for the period from 5.11.84 to 4.12.84 is submitted which is as under :-

- A. Period :- 5.11.84 to 4.12.84 (30 days)
- B. Personnel: 1. Jb. Asadulla-Al-Hossain, A.R.O (Planning Deptt.) From 5.11.84 to 7.11.84 & from 15.11.84 to 4.12.84.
- 2. Jb. Ruhul Amin, Asstt: " From 6.11.84 to 19.11.84.
- 3. Jb. A. Mazid, Asstt. (Dhaka Port) From 5.11.84 to 4.12.84.
- 4. Jb. A. Halim Bhuiyan, (E.A. (Ops, Sec.)) -do-
- 5. Jb. A. Khaleq. T.I. (Dhaka Port) From 5.11.84 to 25.11.84
- 6. Jb. Nur-er-Rahman, T.I. " From 26.11.84 to 4.12.84
- 7. Jb. M.R. Khan, Asstt. " From 5.11.84 to 19.11.84.
- 8. Jb. R.K. Nizami, E.A. (Ops. Sec) From 4.11.84 to 4.12.84
- 9. Jb. Abdus Salam, Choud., E.A. (S&S Sec.) -do-
- 10. Jb. Ghulam Rasul Biswas, Asstt. (Dhaka Port) From 5.11.84 to 19.11.84
- 11. Jb. A. Sobhan Khan, E.A. (S&S Sec.) From 5.11.84 to 4.12.84
- 12. Jb. Rokunuddin, Asstt. (Dhaka Port) -do-

The survey was conducted under the supervision of Jb. A.R. Choudhury, DD(S&S).

C. Area:- Within Port Limits of Dhaka Port (approximately 10 miles).

D. Nature of Survey:- All types of dry cargo movement by any type of vessels/crafts/country boats of both incoming & outgoing irrespective of private, leased out, direct collection or non-revenue points.

E. It was a very tough job no doubt to record correctly each type of traffic movement when the carriers move at their own conveniences but still the job has been well-done and may be considered the figures nearest to be correct for forming a base for Planning. In this regard attention is required to consider allowances in movement of seasonal commodities. As for instance movement of foodgrain, cement, Firewood, Bricks (mostly from the other bank of the river), sand etc. vary from month to month or season to season.

The movement of cargo traffic by types at each of the eighteen cargo handling points is shown in different tables and annexures enclosed herewith wherein it transpires that the total dry cargo movement by mechanised vessels in one month was 1,30,473 M/Tons (excluding the cargo carried by country boats i.e. Sand/Brick, fresh vegetables etc.). Thus the annual dry cargo movement comes to 1.56 million tons. Besides this dry cargo, another 0.5 million tons of FOL is handled at Fatullah bringing the total tonnage handled at Dhaka Port to 2.06 million tons per annum.

The report is submitted for favour of information and onward transmission to the Chairman please.

Sd/- A.R. Choudhury
Dy. Director of Ports & Traffic (S&S)

Continues

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~~Annexure (Contd.)~~

SUMMARY OF TRAFFIC DATA OF THE TRAFFIC SURVEY CARRIED OUT DURING
ONE MONTH (5TH NOVEMBER TO 4TH DECEMBER, 1984).

TABLE - I : Dry cargo movement from 5.11.84 to 4.12.84
Fatulla to Swarighat.

Name of points	Quantum of cargo (M/Tons)	Name of Points	Quantum of cargo (M/Tons)
i) Fatullah	3411	x) Farqshganj	4324
ii) Dhapa	46459	xi) Shymbazar	11985
iii) Aliganj	20426	xii) Terminal Building	15678
iv) Pagla	17705	xiii) Simpson/Wiseghat	5175
v) Munshikhela	71178	xiv) Badamtali	38614
vi) M.M.Oil Mill	3973	xv) Babubazar	3578
vii) Kadamtali	4470	xvi) Panghat	4010
viii) Doleshwar/ Shympur	2914	xvii) Champatali	1888
ix) Mill Barrack	20555	xviii) Swarighat	5821
Total :			2,82,164

TABLE - 2. : Principal Cargo.

Type of cargo	Quantity (M/Tons)	Percentage
i) Sand/Brick	132648	47%
ii) Cement	31395	11%
iii) Wheat/Rice/Sugar	28795	10%
iv) Sundries	26473	9%
v) Firewood	14457	6%
vi) Boulders/Shingles	11363	4%
vii) Vegetables	10136	4%
viii) Iron & Steel	9577	3%
ix) Others	17320	6%
Total :		282164
		100%

TABLE - 3 : Type & Number of vessels engaged in carrying cargo
with quantity & Percentage share :-

Type	No.	QTY. carried (M/Tons)	Percentage share
Coaster	79	52563	19%
Cargo Launch	379	38585	14%
Pass. Launch. Only these passenger launches which carried cargo.	2067	18644	7%
Flat/Barge	55	20681	7%
Country Boats	8319	151691	53%
Total		282164	100%

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APPENDIX - I (Contd.)

Table-4: Type & Number of vessels engaged in carrying cargo with quantity during 1984 to 1985

Points	Coaster		Cargo Launch		Passenger Launch		Barge/Flat		Country Boats		Total Quantity	Remarks
	No.	Cty.	No.	Cty.	No.	Cty.	No.	Cty.	No.	Cty.		
i) Fatullah	-	-	2	51	300	176	-	-	162	3184	3411	
ii) Dhapa	-	-	8	1509	-	-	3	700	877	44250	46459	
iii) Aliganj	4	2500	19	4729	-	-	15	7110	134	6087	20426	1. Coaster 639 M/Tons
iv) Pagla	-	-	18	2838	-	-	3	452	584	14415	147765	2. Cargo-Launch 142 "
v) Munshikhola	5	3381	60	13375	-	-	10	3517	1484	50905	71178	3. Flat/Barge 304 "
vi) M.M.Oil Mill	-	-	1	134	-	-	1	250	66	3589	3973	4. Pass-Launch
vii) Kadamtali	3	1904	10	1987	-	-	4	507	7	72	4470	
viii) Deleshwar/Shyampur	-	-	10	1492	-	-	-	-	45	1422	2914	
ix) Mill Barreck	19	13045	-	-	-	-	10	6376	124	1134	20555	a. Small 0.59 "
x) Farashganj	3	1635	2	377	-	-	1	327	113	1985	4324	b. Big 10.45 "
xi) Shymbazar	-	-	1	187	-	-	-	-	2902	11798	11985	5. Country Boats
xii) Terminal-Building	-	-	-	-	1500	15678	-	-	-	-	15678	a. Small 20-50 mds,
xiii) Simpson/Wiseghat	-	-	1	131	267	2790	-	-	805	2254	5175	b. Medium 51-200 "
xiv) Badamtali	45	30098	24	5483	-	-	8	1442	51	1591	38614	c. Big 201-1000 "
xv) Babubazar	-	-	-	-	-	-	-	-	341	3578	3578	
xvi) Panghat	-	-	62	2585	-	-	-	-	223	1425	4010	
xvii) Chempatali	-	-	4	38	-	-	-	-	194	1850	1888	
xviii) Swarighat	-	-	157	3669	-	-	-	-	207	2152	5821	
Total :	79	52563	379	38585	2067	18644	55	20681	1319	151691	282164	

* Only those passenger launches which carried cargo.

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Quantum of Dry-cargo movement by sea and points within
Dhaka Port from 5.11.84 to 4.12.84 (Figures in M/Tons)

	Bri- cks	Come- nt	Coal	Ferti- lizer	Fish	Ico	Iron & Steel	Milk	News Print	Pota- to	Rice	Salt
FATULLAH	-	-	608	5	46	-	-	62	-	-	-	-
DHAPA	14	254	324	-	-	-	455	-	-	-	-	762
ALIGANJ	23	-	4298	6913	-	-	203	-	-	-	-	-
PAGLA	2408	580	-	-	-	-	-	-	-	-	-	-
MUNSHIKHOLA	4214	3533	-	-	-	-	-	-	-	-	-	-
H.M.OIL MILL	58	250	-	-	-	-	1412	-	-	-	-	-
KADMTALI	-	585	-	-	-	-	-	-	-	456	6087	-
DOLESHAR/ SHYMPUR	-	-	-	-	-	-	-	-	-	-	-	-
MILL BARRACK	-	-	-	-	-	-	-	-	-	-	-	-
FARASHGANJ	41	2339	-	-	-	-	-	-	-	-	-	-
SHYBAZAR	-	-	-	-	-	-	-	-	-	-	-	-
TERMINAL- BUILDING	-	-	-	-	-	-	-	-	-	-	-	-
SIMPSON/WISEGHAT	613	-	-	-	-	-	6676	-	680	-	512	-
BADAMTALI	424	23715	-	-	-	-	831	-	-	-	528	-
BABUBAZAR	248	139	-	-	249	-	-	-	-	-	649	-
PANGHAT	-	-	-	-	-	-	-	-	-	-	-	37
CHAMPATALI	-	-	-	-	2774	93	-	-	-	-	210	13
S. RIGAT	-	-	-	-	-	-	-	-	-	-	-	-
Total	8043	31395	5230	6918	3069	93	9577	62	680	456	7986	812

ing the annual movement to 1.56 millions M/Tons. To this ...

APPENDIX I (Contd)

Sand	Shing- los	Suggar	Sund- ries	Vege- table	Wheat	Wood	Total
1395	-	-	199	-	-	1096	3411
2121	959	-	15	-	-	2319	46459
5373	653	650	1096	-	-	658	20426
10851	1733	-	-	-	-	1930	17705
57241	5007	-	797	-	-	386	71178
3531	134	-	-	-	-	-	3973
-	1460	-	157	-	-	856	4470
628	1171	-	61	-	-	1054	2914
59	-	-	46	-	13894	13	20555
404	-	-	-	-	-	1540	4324
2343	-	-	-	6590	-	3052	11985
-	-	-	12543	3135	-	-	15678
8	-	-	4143	411	-	-	5175
279	246	5536	219	-	327	-	38614
372	-	-	1397	-	-	63	3578
-	-	-	3112	-	-	-	4010
-	-	49	1173	-	-	629	1888
-	-	353	1517	-	-	861	5821
124605	11363	6588	26473	10136	14221	14457	282164

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APPENDIX-I (contd.)

Flat/Barges has been considered here under Mechanised vessels because these are always towed by self propelled vessels.

Thus the movement of cargo by mechanised vessels is 130473 M/Tons i.e. 47% and by country boats is 151691 M/Tons i.e. 53%. Out of the 130473 M/Tons moved by mechanised vessels the percentage share of coasters is 40%, cargo launches 30%, passenger launches 14% and Flat/Barge 16%.

Comments :-

From the ^{above data} working papers, the following is observed :-

Total quantum of dry cargo movement from 5.11.84 to 4.12.84 within Dhaka Port limit was 2,82,614 M/Tons. This quantity includes handling at all points including directly controlled, leased out and untapped points. Prior to this survey, cargo carried by country boats which are mainly sand, bricks, fresh vegetables from nearby riverbed, other bank of the river and adjoining areas were not included. However, considerable country boat traffic handled beyond swaryghat upto Mirpur (about 2.00 lacs tons) is not covered under this survey report.

During the survey period such quantity was 151691 M/Tons which have been carried exclusively by country boats. So dry cargo movement by mechanised vessels was 1,30,473 M/Tons in one month bringing the annual movement to 1.56 millions M/Tons. To this figure another 0.5 million tons of POL is to be added which are handled annually at Fatullah bringing the total cargo movement at 2.06 million annually within Dhaka Port.

Passenger Movement :-

During the survey period the total number of outgoing passengers was 4,36,000 passengers as per revenue earned on this head.

Presuming same number as incoming passengers and approximately 5% movement of personnels on official duties the total movement figure was 8,93,800 personnels in a month i.e. 10 million annual.

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APPENDIX - II.

Mr. OIWA

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A. Traffic movement at Dhaka Port.

<u>Year</u>	<u>Cargo (In lac Ton)</u>	<u>Passenger (In lac Nos.)</u>
1978-79	6.99 *	99.84
1979-80	7.40 *	121.42
1980-81	7.80 *	125.73
1981-82	8.33 *	134.72
1982-83	19.30	143.71
1983-84	20.60	154.67

* Data based on direct collection by BIWTA and do not cover other points in the port area.

B. Traffic movement at Narayanganj Port.

<u>Year</u>	<u>Cargo (In lac Ton)</u>	<u>Passenger (In lac Nos.)</u>
1978-79	8.44	35.54
1979-80	8.72	42.23
1980-81	9.00	44.85
1981-82	9.20	48.05
1982-83	10.85	51.24
1983-84	11.45	55.16

Sources : (1) Ports & Traffic Department and Planning Department of BIWTA.

9. Terms of Reference for Container Study, IBRD

TRANSPORT OF CONTAINERS BY INLAND WATERWAYS IN BANGLADESH FEASIBILITY AND DETAILED ENGINEERING

Revised Terms of Reference

Background

The Chittagong Port Authority is undertaking the construction of two multipurpose berths with associated facilities designed to handle general cargo as well as increasing levels of container traffic. Although civil works will be completed in 1987/88, about 12,000 containers are already arriving in Chittagong every year. About one-third of this containerized freight is likely to remain in the Chittagong area, and the remaining two-thirds would be bound for Dhaka/Narayanganj. It is therefore necessary to establish a transport system for carrying containers from the ocean port of Chittagong to Dhaka/Narayanganj. To the extent that the port of Chalna will also receive container traffic, provisions will have to be made for the transport of containers between Chalna and inland points such as Khulna and Dhaka/Narayanganj. According to a preliminary analysis conducted under ESCAP financing, inland water transport is the most feasible mode for such movement of containers. BIWTA will be the implementing agency of the study while the World Bank will be the executing agency. The study will be carried out by the consultant under the overall supervision and control of BIWTA and World Bank. Views of BIWTA will be obtained before finalization of specific recommendations.

Objectives of the Study

The main objectives of the study will be to:

- (a) carry out technical, engineering and financial studies to identify and develop the required facilities (civil works, vessels and cargo handling equipment) and the relevant quantum of investment; and
- (b) identify and develop the institutional and procedural changes required to establish an efficient system for the movement of containers as close to the consignees door as possible.

Scope of Work

1. The consultants will gather available data and evidence regarding the cost and operational characteristics of IWT for transport of containers between ocean ports and the inland destinations mentioned above. The consultants will also gather similar information about the transport of containers by railway.

Phase One (Technical, Engineering, Economic and Financial Feasibility Study).

2. The consultants will prepare a forecast of container movements between the ocean ports of Chittagong and Chalna, and the river ports of Dhaka/Narayanganj and Khulna. The forecast shall be in detail to 1995, and in outline to 2005. It will take into account the type of commodities susceptible to containerization and the degree to which such containerization may be realistically expected to take place. The forecast will consider the likely import/export imbalance in container traffic between Chittagong and Chalna, and will take into account the expected movement of empty containers. The consultants will to the extent possible, take into account the volume of potential transit traffic going to or coming from Nepal and Bhutan. The consultants will also recommend means to encourage the containerization of those export products that are susceptible to containerization.
3. (a) The consultants will identify the type (or types) of new vessels or used vessels outside Bangladesh most suitable for carrying containers by inland waterways. (b) They will take into account the fleets currently owned by BIWTC and private IWT operators, and will indicate the extent to which such fleets are suited or may be adapted for carrying containers, and at what cost. In carrying out the above study the consultants will take into account GOB's views regarding the desirable relative role of the public and private sectors in IWT, as well as the views of the Chamber of Commerce, shipping agents and Stevedores Associations.
4. The consultants will identify suitable sites,^{1/} required infrastructure (including berths, storage areas, access roads, etc.) and container handling equipment for inland container terminals at Dhaka/Narayanganj and Khulna. They will prepare preliminary designs and cost estimates for alternative schemes at suitable sites with appropriate layouts, to be used as a basis for subsequent selection by GOB/IDA. Preliminary outline designs will take into account possible modifications and extensions of existing berths and facilities, and the type of vessel that would use them. The consultants should explore the possibility of operating these facilities by both private and public sectors and make their recommendations consequently, particular attention shall be paid to operational methods to be adopted, the need for container freight stations for stuffing and unstuffing, container stacking areas, container handling equipment, bonded warehouses, etc.; the required administrative and maintenance facilities; and customs and security aspects. In identifying a suitable site in the Dhaka/Narayanganj area, the consultants will keep in mind the constraints of the present Dhaka/Narayanganj road. The consultants will identify the investment required to make this road suitable for container traffic, in particular, they will make recommendations for desirable road widening, strengthening, elimination of sharp curves and capacity increase. The consultants will compare the costs of road improvement against the benefits resulting from not transporting freight in break bulk condition between the CFS and the consignees' premises. The consultant will also identify links to existing railways and estimated costs of such works.

1/ Where soils information is found to be inadequate or nonexistent, consultants will carry out such tests and investigations, which will enable them to prepare the necessary cost estimates. GOB's and IDA's prior approval will be sought before such tests are carried out.

5. The consultants will recommend necessary changes in customs procedures and other government-related institutional arrangements and practices, including insurance coverage and combined transport documents as required to facilitate and expedite the through intermodal movement of containers to their final destination. The consultants will also submit recommendations and prepare detailed TOR regarding staff training required for the management and operation of the proposed facilities.

6. The consultants will make recommendations regarding the appropriate rates to be charged on container traffic at river ports.

7. For the preferred alternative scheme (consisting of civil works, vessels and container handling equipment) the consultants will:

- (a) prepare an economic cost-benefit analysis; and
- (b) assess its financial viability.

8. The consultants will prepare a short-term and medium-term program for the introduction of container handling operations on the existing inland waterways systems, based on the utilization of any readily available facilities, such as jetties, equipment and vessels. Such program should be fully compatible with the recommended plans for long-term development, and should be supported by preliminary estimates of capital and operating costs.

Phase Two (Implementation of Phase One's Findings and Recommendations)

After review and acceptance by GOB and IDA of Phase One's findings and recommendations, the consultants will embark upon Phase Two at IDA's indication *of the Government with IDA*

9. The consultants will develop a detailed Plan of Action for the implementation of the short-term and medium-term program described in paragraph 8 above (and provide advice on actual pilot operation of container handling at Dhaka/Narayanganj and in Khulna utilizing existing facilities and equipment)

10. The consultants will prepare conceptual design/performance specifications and bid documents of the type or types of vessels approved by GOB/IDA (Refer to para 3a). They will also provide detailed designs and bid documents for modifications of selected vessels currently operating on inland waterways, under public or private ownership (Refer to para 3b) 1/

11. The consultants will produce detailed engineering designs for civil works and specifications for equipment identified in paragraph 4 above in accordance with the solution selected after phase I review. 2/

1/ At this time, it is not possible to define the scope of this work which will be negotiated after completion of stage I.

2/ This does not include design of modifications to access roads and railways to the ports since such investments are not yet defined.

12. The consultants will prepare detailed cost estimates, based on final design, for all infrastructure facilities, equipment and vessels required to set up the proposed system for inland handling of containers.

13. The consultants will prepare contract drawings and tender documents for:

- (a) civil engineering and associated works for construction of inland container terminals at selected sites;
- (b) equipment for handling cargo and containers; and
- (c) modifications of existing IWI vessels and/or acquisition of new ones (the tender documents should be suitable for international competitive bidding, in accordance with IDA guidelines)

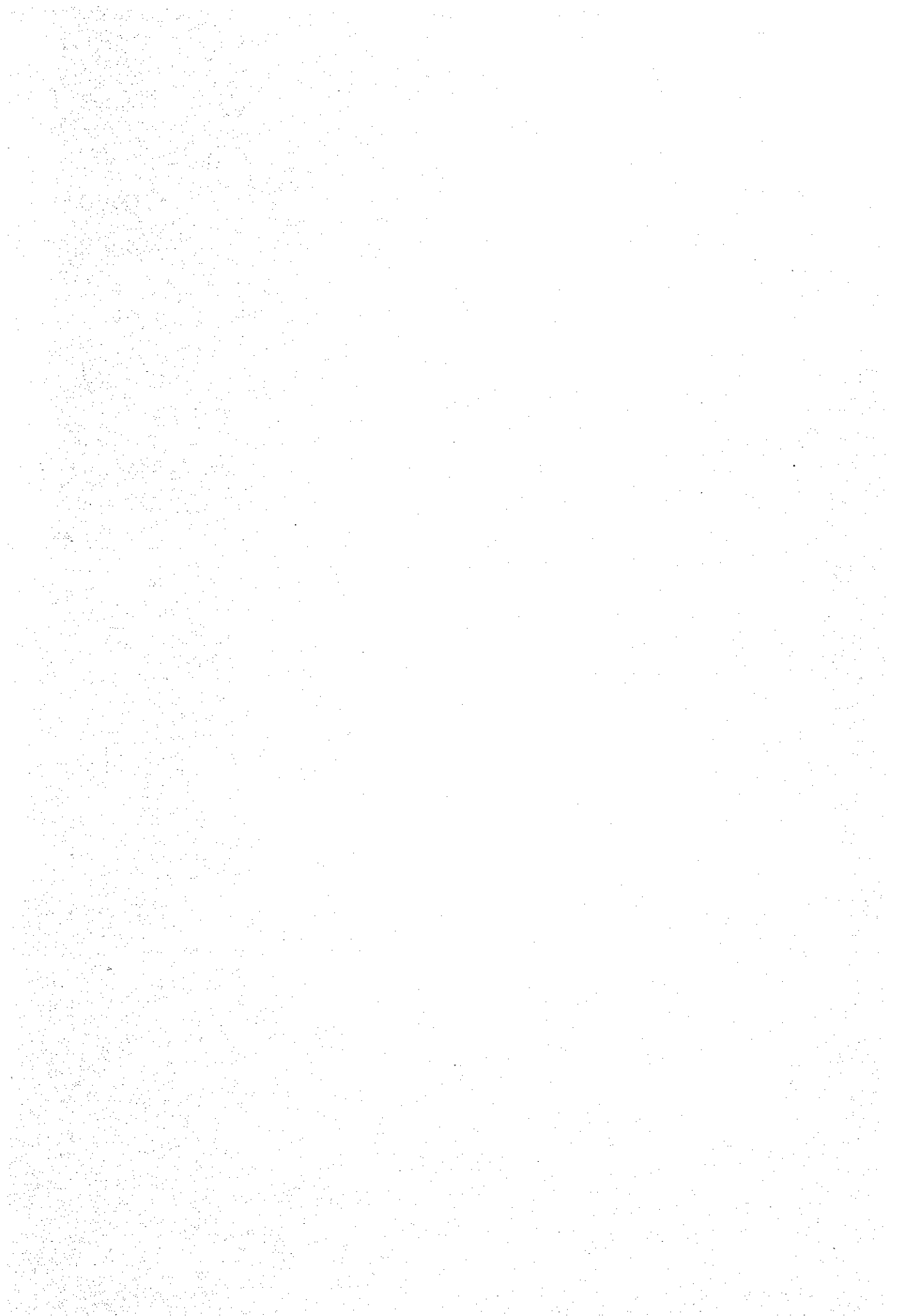
14. The consultants will assist concerned authorities in all steps leading to invitation of bids, including prequalification of bidders.

15. ^{assist in} The consultants will carry out the evaluation of bids received, and will ~~prepare~~ ^{assist in} recommendations regarding contract award. In evaluating bids received, they will conduct, if required, an analysis of alternative designs submitted by bidders.

16. The consultants will prepare the following reports:

inception report, progress reports, phase I final report, and proposed implementation schedule, phase II draft report and phase II final report.

The consultants will assist in carrying out the evaluation of bids received, and assist in preparing recommendations regarding contract award. In evaluating bids received, they will conduct, if required, an analysis of alternative designs submitted by bidders.



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