ASIAN DEVELOPMENT BANK

TAR:IND 36012

TECHNICAL ASSISTANCE
(Financed by the Japan Special Fund)

TO

INDIA

FOR PREPARING

THE INLAND WATERWAY SECTOR DEVELOPMENT PROGRAM

November 2002

CURRENCY EQUIVALENTS

(as of 31 October 2002)

Currency Unit	–	Rupee/s (Re/Rs)
Re 1.00	=	$0.02
$1.00	=	Rs48.325

ABBREVIATIONS

ADB	–	Asian Development Bank
CIWTC	–	Central Inland Water Transport Corporation
DEA	–	Department of Economic Affairs
IWAI	–	Inland waterways Authority of India
LAD	–	least available depth
MOS	–	Ministry of Shipping
ton-km	–	ton-kilometers

NOTES

(i) The fiscal year (FY) of the Government and its agencies ends on 31 March. FY before a calendar year denotes the year in which the fiscal year ends, e.g., FY2000 ends on 31 March 2000.

(ii) In this report, "$" refers to US dollars

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INDIA
INLAND WATERWAY SECTOR
DEVELOPMENT PROGRAM
HIMACHAL PRADESH
PUNJAB
UTTARANCHAL
HARYANA
DELHI
UTTAR PRADESH
RAJASTHAN
BIHAR
SIKKIM
ARUNCHAL PRADESH
ASSAM
MEGHALAYA
TRIPURA
MIZORAM
Guwahati
Brahmaputra River
Ganga River
JHARKHAND
WEST BENGAL
Kolkata
GUJARAT
MADHYA PRADESH
Narmada River
Tapi River
CHHATTISGARH
Subarnrekha River
Mahanadi River
Damodar Valley Canal
East Coast Canal
Gulf of Cambay
MAHARASHTRA
ORISSA
Godavari River
Bay of Bengal
Krishna River
GOA
Mandovi
Zuari and Cumberjua
ANDHRA PRADESH
Kakinandu
Mercaunan
Canal
Arabian Sea
KARNATAKA
West Coast
Canal Extension
KERALA
TAMIL NADU
West Coast Canal
INDIAN OCEAN
75°00'E
85°00'E
25°00'N
10°00'N
N
0 100 200 300
Kilometers
National Capital
Declared Waterway
Identified Waterway
International Steamer Route
River
State or Union Territory Boundary
International Boundary
Boundaries are not necessarily authoritative.
02-2485RM

I. INTRODUCTION

1. India has an extensive network of rivers, lakes and canals, which if developed for shipping and navigation, can provide an efficient network of inland transportation. An optimal mix of road, rail and inland waterway transport will provide an efficient transport infrastructure that is flexible and cost-effective. The Government of India (the Government) wants to revive and promote the use of inland waterway transport and requested ADB technical assistance (TA). The Fact-finding Mission visited India from 22-30 April 2001 and reached an understanding with the Government on the goals, purpose, scope, implementation arrangements, cost, financing arrangements, and terms of reference. The TA is included in the 2002 TA program for India.[1]

II. ISSUES

2. Preliminary estimates prepared by the Government indicate that the capital cost of inland waterways in India is between 5-10 percent of the cost of constructing an equivalent 4-lane road or rail link. Maintenance cost can also be relatively lower for inland waterway at about 20 percent of road maintenance cost. It is also more fuel-efficient since it is estimated that one liter of fuel can move 24 ton-km of freight by road, 85 ton-km by rail and 105 ton-km by inland water transport. It is estimated that every shift of one billion ton-km to inland waterways will reduce the fuel cost by $5 million and the overall transport cost by $9 million. Should these preliminary estimates be confirmed, it means that inland waterways have the potential to be a very cost-effective transport mode. A viable inland water transport system can therefore contribute effectively to lowering (i) transportation cost and thus cost of goods, (ii) amount of fuel used in the transport sector and (iii) its attendant problems of pollution. These benefits in turn can help increase economic growth in India. It will also mean that developing inland water transport can allow India to avoid the development of more expensive transport modes such as roads and rail in corridors that can be served by inland waterways thus contributing to saving and optimizing the use of funds in the transport sector. The savings in funds can be utilized for poverty reduction efforts while the increase in economic growth can also indirectly help in poverty reduction efforts. In addition by opening up new areas that are poorly served by other transport modes e.g., in the Northeast region, inland waterways can make a direct contribution to poverty reduction efforts.

3. The annual cargo moved by inland waterway transport in 2000 was about 1.5 billion ton-km out of the total cargo market of 1,000 billion ton-km i.e. a modal share of only 0.15 percent. This tiny modal share is because of several reasons. The infrastructure facilities for inland water transport are poor. Most of the waterways suffer from navigational hazards like shallow waters, narrow width of channels during dry season, siltation, bank erosion, and inadequate navigational aids to permit 24-hour a day operations. There is also a lack of supporting infrastructure like adequate and properly equipped terminals and warehouses. Another constraint in using inland waterways as a viable transport mode is the lack of adequate vessels. The existing availability of vessels for inland waterway transport in the public and private sectors put together is less than 400 vessels including tankers, bulk carriers, barges, and other vessels, with an average capacity of 600 tons.

4. The physical problems affecting the development of the inland waterway transport subsector are a reflection of the weaknesses in the institutional and regulatory environment for the subsector. The Inland Waterways Authority of India (IWAI) established in 1986, is the nodal

[1] The TA was first listed in *ADB Business Opportunities* in April 2002

agency for the development of infrastructure in the National Waterways. The IWAI Act, 1985 gives very broad powers to the IWAI to act as a provider, facilitator, regulator and even as a joint venture partner for the development of the IWAI. It can enter into and perform any contract necessary for the discharge of its functions, provide or permit the setting up of infrastructure facilities and with the approval of the Government levy any fees for services provided in relation to the use of the national waterways. However to date IWAI does not impose any such fees. It does not have any internal capacity to carry out economic regulation. While the IWAI has the technical capability to identify and implement infrastructure works to improve the navigation along waterways, it does not have the skills necessary to develop the subsector in an integrated manner. This is seen in the studies it carries out. While it carried out feasibility studies to identify the required infrastructure improvements, it does not have in place a comprehensive masterplan integrating these required infrastructure improvements with the need for supporting facilities (e.g., terminals and warehouses with intermodal transfer facilities), improved operating efficiency by fleet operators and a strategic marketing plan to attract users to this subsector that is required to ensure the success of inland waterway transport.

5. The Central Inland Water Transport Corporation (CIWTC), a public sector undertaking set up in 1967 is the principal inland water operator. In addition to running services from Kolkata to Bangladesh and to Assam as well as lighterage services in the River Hooghly and services from Kolkata to Allahabad, it also carries out the construction and repair of small and medium sized vessels as well as repairs of ocean-going vessels. Its operational and financial performance and its fleet capacity utilization are very poor. Its current customers have stated that it does not have a strong commercial focus or strong marketing skills to attract more business. The CIWTC has been incurring operating losses since its inception in 1967 and relies on Government budgetary support. At present private sector companies play only a very minimal role in operating inland waterway services. Nevertheless private sector companies are profitable and have higher productivity than the CIWTC. Private sector operators face several handicaps such as requiring a license from the CIWTC to undertake cross-border (India-Bangladesh) services from the CIWTC, i.e. their competitor.

6. Three waterways have been declared as National Waterways.[2] National Waterway 1 is the River Ganga from Haldia to Allahabad with a total length of 1620 km. National Waterway 2 is the River Brahmaputra from Dhubri to Sadiya (891 km) and National Waterway 3 is the West Coast Canal from Kottapuram to Kollam along with the Champakkara and Udyogamandal Canals (205 km). In addition under the current Tenth Development Plan that came into force in April 2002, the Government is planning to extend the national waterway system by declaring another five waterways i.e. (i) Barak River; (ii) Kakinada-Mercaunam Canal integrated with Godavari and Krishna Rivers; (iii) East Coast Canal integrated with Brahmani river system; (iv) extension of National Waterway 3; and (v) Damodar Valley Canal as national waterways (see attached map for current and potential national waterways). This is in line with the Government's objective to revive inland waterways as a viable transport mode. The IWAI also prepared detailed project reports infrastructure improvements of several National Waterways. However these studies are a bit dated and need to be reviewed and updated, and supplementary studies carried out where necessary, to assess whether the current and potential National Waterways are a viable transport mode. This includes assessing whether the infrastructure improvements needed are economically viable and the operation of inland water transport services is financially viable.

[2] The Inland Waterways Authority of India Act of 1985 empowers the government to declare waterways to declare waterways with potential for development of shipping and navigation as National Waterways and to develop such waterways for efficient shipping and navigation.

7. Furthermore before the potential benefits can be realized, it will be necessary to actually attract cargo to inland waterways. It is therefore necessary to formulate a sector development strategy. This would include formulating a strategic marketing campaign designed to identify potential markets, decision criteria used in those markets for mode choice and how to target those markets, establishing the optimum infrastructure and service parameters, identification of criteria for infrastructure project selection, institutional strengthening of the IWAI so that it can play its roles in facilitating, infrastructure provision and maintenance, as well as acting as a credible technical and economic regulator, restructuring the CIWTC so that it competes on a level playing field with potential private operators and formulating a private sector development plan incorporating public-private partnerships so that the maximum possible private sector investment is secured for infrastructure provision and maintenance and in operating inland water transport services. It is also necessary to investigate the potential social and environmental impacts of inland waterway development including identifying any land acquisition required, resettlement action plans if necessary and assessing effect of dredging and infrastructure works on water flows and water volumes and the associated aquatic habitats.

III. THE TECHNICAL ASSISTANCE

A. Purpose and Output

8. The TA will be carried out in two phases. The objective of the first phase is to assess the technical, economic and financial feasibility of inland water transport in the corridors served by the three current and five potential national waterways mentioned in para. 6 above to establish (i) the potential demand at different infrastructure and service parameters e.g., different least available depth (LAD) and service frequencies, (ii) the infrastructure requirements in terms of engineering requirements, dredging requirements, navigational requirements and aids, terminal facilities including warehousing/storage needs, intermodal linkages as well as equipment needs and (iii) the fleet size and operational performance requirements to meet the potential demand. Based on these parameters, the consultants will have to assess the economic viability of improving the inland waterway infrastructure and the financial viability of operating inland waterway transport services and recommend the optimum infrastructure and service parameters. There will also be a comparative analysis with road and rail to identify the least cost option.

9. If inland water transport is found to be viable under Phase I, Phase II of the study will commence. The objective of this second phase will be to prepare a sector development strategy and to prepare inland waterway transport investment projects for ADB loan financing. This phase will include formulation of a strategic marketing plan to increase modal share of inland waterway transport, formulation project masterplan and selection criteria, preliminary engineering design for infrastructure improvements, initial environmental examination, initial social assessment and preparation of resettlement framework, formulation of a road map for legal/ regulatory reform of the sector and institutional strengthening of IWAI, identification of financing and operating mechanisms to ensure adequate maintenance; measures to improve the operational and financial performance of CIWTC, formulation of a private sector development plan to maximize private sector investment in both infrastructure development and vessel operations and a review on strengthening inland waterway transport operations particularly between India and Bangladesh including improvements in Customs and documentation procedures.

B. Methodology and Key Activities

10. Surveys need to be carried out to estimate potential demand for inland water transport services economic and financial viability of this subsector, the potential for subregional demand. These surveys and analysis will form the basis for a strategic marketing plan. Engineering and hydrological surveys will need to be carried out to for preliminary engineering studies for infrastructure, terminal, navigational, and fleet requirements as well as to formulate recommendations to improve the intermodal connections between inland waterways and other transport modes principally roads but also railways. Social and environmental surveys will be needed for the initial social impact and initial environmental examinations so that potential negative social and environmental impacts can be alleviated. An institutional analysis of the IWAI needs to be carried out to identify its strengths and weaknesses and to recommend how it can best play its role as a sector regulator. An operational and financial review of the CIWTC needs to be carried out to identify its strengths and weaknesses, recommend how it can be restructured to function as a viable operator, the investment required and the associated financing options as well as a plan identifying how it can be fully divested from the government.

11. The activities that need to be carried out are data-intensive and it is assumed that the required data will be readily available in a timely fashion. It is also assumed that the private sector will cooperate in the surveys especially in identifying the decision criteria that are critical to determining transport mode choice. It is assumed that the CIWTC will allow access to its financial and operational data because this is critical to developing a restructuring plan for the CIWTC. Another factor that needs to be borne in mind is that the engineering, hydrological and environmental surveys may be hampered by adverse weather conditions and the timing of TA commencement will be chosen to minimize delays due to weather conditions.

C. Cost and Financing

12. The cost of the TA is estimated as $1,125,000 equivalent comprising $675,000 in foreign exchange costs and $450,000 equivalent in local currency costs. It is proposed that ADB will provide $900,000 equivalent to finance the entire foreign exchange cost of $675,000 and $225,000 equivalent of the local currency cost. The TA will be financed on a grant basis by the Japan Special Fund, funded by the Government of Japan. The Government will provide $225,000 equivalent for local currency costs in the form of services and facilities including counterpart staff, office accommodation and transport and administrative resources. The budget includes provision for the travel costs of two Government representatives to Manila for contract negotiations. Details of the cost estimates and financing plan are shown in Appendix 1. The Government has been advised that approval of the TA does not commit the ADB to financing any ensuing project.

D. Implementation Arrangements

13. The Ministry of Shipping (MOS) will be the Executing Agency for the TA and will chair a steering committee consisting of MOS, DEA, IWAI and CIWTC. The steering committee will meet monthly and the inception, draft final and final reports of the consultant will need to be approved by this committee. The MOS will designate a senior officer as Chairperson of the steering committee who will provide policy guidance to the study. The IWAI will be the Implementing Agency and will chair a technical sub-committee that will closely monitor the TA and report to the steering committee. The technical sub-committee will consist of IWAI and CIWTC officials. The technical sub-committee will discuss the working details of the study and provide overall coordination and support to the study. The IWAI will designate a senior officer as

the Chairperson of the technical sub-committee and who will act as the focal point for the study team. This sub-committee will meet at least once a month to consider the progress of the study.

14. An international consultant firm that can supply a team with expertise in (i) technical, economic and financial feasibility studies of transport projects; (ii) demand analysis and marketing strategies for freight transport; (iii) environment impact assessment of inland waterways; (iv) social impact assessment and preparation of resettlement action plans; (v) inland waterway sector operations; (vi) restructuring of state-owned enterprises; (vii) formulation of private sector development and public-private partnership plans as well as financial appraisal of new ventures; and (viii) legal and policy issues relevant to inland waterway operations supported by domestic consultants with expertise in (i) civil, hydraulic and dredging engineering of inland waterway infrastructure improvements, (ii) environment impact assessment of riverine and canal improvement projects (iii) social impact analysis and preparation of resettlement action plans; (iv) legal framework on private sector investment and (v) survey design and analysis skills will be engaged under the TA. Domestic consultants will be engaged by the international consultant firm, which will have overall responsibility for the TA. Consultants will be recruited in accordance with ADB's *Guidelines on the Use of Consultants* and other arrangements satisfactory to ADB to provide an estimated 30 person-months of international and 20 person-months of domestic consulting services. Outline terms of reference for the consultants are attached as Appendix 2. Any equipment procurement will be in accordance with ADB's *Guidelines on Procurement*.

15. The TA is expected to be carried out over 7 months, starting in February 2003 and ending in August 2003. Three Tripartite Review Meetings will be held, one to consider the Phase I report, the second to consider the Phase II Inception Report and the third the Draft Final Report. The timings for these report submissions are given in Appendix 2. In addition there will be an ADB review mission at the end of the fourth month of the TA commencement. The consultant will also be required to organize two workshops, one after the completion of Phase I and the other after the Draft Final Report, to which interested parties from the private sector including current and potential users, investors and financiers will be invited. The purpose is to give all concerned an assessment of the potential of inland water transport as a viable transport mode and an opportunity to the private sector to give views and suggestions about the direction and findings of the Study. The second workshop has an additional objective, which is to inform potential users investors of the opportunities that exist in the sector. The TA budget provides for these workshops and for the dissemination of information.

IV. THE PRESIDENT'S DECISION

16. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of $900,000 on a grant basis to the Government of India for preparing the Inland Waterway Sector Development Program and hereby reports this action to the Board.

COST ESTIMATES AND FINANCING PLAN

($'000)

Item	Foreign Exchange	Local Currency	Total Cost
A. Asian Development Bank Financing [a]			
1. Consultants			
a. Remuneration and Per Diem			
i. International Consultants	520.0	0.0	520.0
ii. Domestic Consultants	0.0	120.0	120.0
b. International and Local Travel	84.0	30.0	114.0
c. Reports and Communications	0.0	10.0	10.0
2. Equipment (computers, printers, etc.)	0.0	10.0	10.0
3. Training, Seminars, and Workshops	0.0	20.0	20.0
4. Surveys	0.0	30.0	30.0
5. Miscellaneous Administration and Support Costs	0.0	5.0	5.0
6. Representative for Contract Negotiations	6.0	0.0	6.0
7. Contingencies	65.0	0.0	65.0
Subtotal (A)	**675.0**	**225.0**	**900.0**
B. Government Financing			
1. Office Accommodation and Transport	0.0	175.0	175.0
2. Remuneration and Per Diem of Counterpart Staff	0.0	30.0	30.0
3. Others	0.0	20.0	20.0
Subtotal (B)	**0.0**	**225.0**	**225.0**
Total	**675.0**	**450.0**	**1,125.0**

[a] Financed by the Japan Special Fund

Source: Asian Development Bank

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

A. Introduction

1. The Government of India has requested the Asian Development Bank (ADB) to provide technical assistance for the formulation of projects suitable for financing by ADB in the Inland Waterway Transport Sector. This TA will be carried out in two phases. In Phase I, the consultants will review and where necessary update and supplement the studies carried out by IWAI to assess the technical, economic and financial viability of inland waterway transport. If inland water transport is found to be viable under Phase I, Phase II of the study will commence. The objective of this second phase will be to prepare inland waterway transport investment projects that can be considered for ADB financing as well as recommending measures in the related policy, legal and operating framework to ensure a conducive environment for the subsector.

B. Phase I: Assessing the Viability of Inland Water Transport.

2. The activities required include but are not limited to:

(i) Reviewing, updating and where necessary supplementing with new studies and analysis, to estimate overall freight transport demand in corridors served by the three existing and five potential national waterways identified by IWAI;

(ii) Reviewing, updating and where necessary supplementing with new studies and analysis, surveys of freight transport users to identify key decision criteria used to make decisions on transport mode choice, determine how inland waterway transport compares on these criteria with competing transport roads e.g., road and rail;

(iii) Estimating the potential demand for inland water transport at different infrastructure and service parameters e.g., different least available depth (LAD) and service frequencies including estimating potential modal share by commodity type of inland waterway transport under different stages of development of inland waterways including identifying for which commodities and routes inland waterways has a comparative advantage;

(iv) Estimating and costing (both capital costs and maintenance costs) the infrastructure requirements in terms of engineering requirements, dredging requirements, navigational requirements and aids, terminal facilities including warehousing/storage needs, intermodal linkages as well as equipment needs;

(v) Estimating and costing (both capital costs and maintenance costs) the fleet size and operational performance requirements to meet the potential demand;

(vi) Based on all the above analysis the consultants will have to assess the economic viability of improving the inland waterway infrastructure and the financial viability of operating inland waterway transport services and recommend the optimum infrastructure and service parameters (e.g., LAD and service frequency) and do a comparative assessment of inland

waterways with other modes in the corridors to established whether it is the least cost mode.

C. Phase II: Project Preparation for Inland Waterway Sector

(a) Infrastructure, fleet operational requirements, strategic marketing plan and impact assessment component

3. The activities required for this component include but are not limited to:

(i) reviewing the existing conditions of current and potential national waterways in terms of depth of navigational channels, allowable draught, existing navigational aids, potential for all-weather and year-round usage, requirements for dredging and other conditions relevant to ensuring the adequacy of these waterways to support operations necessary to achieve targets of the strategic marketing plan, recommend improvements and estimate cost of the recommended improvements;

(ii) reviewing the adequacy of existing terminals in terms number, location, size, equipment and facilities (including equipment and facilities to achieve seamless intermodal connection between inland waterway transport and other modes principally roads) to achieve the targets of the strategic marketing plan, recommend improvements and estimate cost of the recommended improvements;

(iii) identification of criteria for project selection, prioritize projects for investment from the three current and three potential national waterways where such projects need not cover the entire length of a particular National Waterway but can be a section of such a waterway to be included in the sector masterplan;

(iv) preliminary engineering design for infrastructure improvements for the projects identified including channel improvements, navigation improvements and terminal improvements;

(v) reviewing the current maintenance practices and recommend required maintenance of infrastructure and terminals including dredging frequency and estimate cost of recommended maintenance;

(vi) formulation of a strategic marketing plan to increase modal share of inland waterway transport including formulating a detailed phased strategic marketing plan by commodity type and route for inland waterway to increase the modal share of inland waterway transport in the domestic freight transport market;

(vii) reviewing the adequacy of current fleet requirements (both public and private sector) targets of the strategic marketing plan, estimate additional fleet acquisition requirements including vessel type and estimate cost of the estimated acquisitions;

(viii) estimating human resource requirements to operate the infrastructure, terminals and vessels and compare with current numbers;

(ix) identification of locations for terminal facilities (including storage), estimating any land acquisition requirements, preparing the initial social impact assessment and if necessary the resettlement action plans;

(x) preparing a resettlement plan for three projects for included in the preliminary engineering studies and preparing the resettlement framework for the sector as well as an Initial Social Assessment (ISA) in accordance with the relevant ADB guidelines and safeguard policies including those concerning indigenous people and gender;

(xi) preparing Initial Environmental Examinations (IEE) in accordance to the ADB's Environmental Assessment Guideline by taking into consideration the Government's guideline on EIA for the three detailed projects, assessing the capacity of the Government particularly EA to review environmental impact assessment studies and implement environmental mitigation measures, recommending the review procedure for IEE of the follow up sub-projects and preparing environmental criteria for selection and appraisal of sub-projects; carrying out an environmental impact assessment of developing inland waterways including effect of dredging on water flows and water volumes and the associated aquatic habitats;

(b) Legal, policy and institutional analysis component

4. The activities required for this component include but are not limited to:

(i) reviewing current legislation, policy documents and guidelines for private sector development as well as other relevant guidelines and recommend improvements that will foster a vibrant inland waterway transport sector and encourage private sector participation in the operation of inland water transport fleets, terminals and other infrastructure developments;

(ii) identifying and suggesting delineation of the roles, functions and powers of the different government agencies involved in the sector in particular the Ministry of Ports and Shipping and the Inland Waterway Authority of India both in the short-term and the medium-term and structuring a policy framework that ensures that the use of National Waterways for transport does not adversely affect their use for irrigation and water resources;

(iii) identifying an appropriate organizational structure and skill levels required by the IWAI to play the part envisaged under part (ii) above.

(iv) identifying the role of IWAI in infrastructure development of the sector and ways to finance the public sector component of this infrastructure development;

(v) identifying appropriate financing and operating mechanisms to ensure sustainability of the improvements recommended so that these facilities are adequately maintained;

(vi) preparing a time-bound road map for legal, policy and regulatory improvements and for the transformation and institutional strengthening of the IWAI.

(c) Restructuring and private sector development component

5. The activities required for this component include but are not limited to:

(i) reviewing operational and financial performance of Central Inland Waterway Transport Corporation (CIWTC) and recommend measures to improve the operational and financial performance of CIWTC such that it can operate as a viable operator without the need for government subsidies;

(ii) identifying fleet acquisition and financing needs for CIWTC to play its role in a competitive inland waterway transport service sector to achieve the targets mentioned in the strategic marketing plan;

(iii) preparing a private sector development plan identifying what infrastructure and service components can attract private sector financing and how to package concession agreements to attract the maximum possible amount of private sector investment;

(iv) preparing a public-private partnership plan to identify what components can be developed as public-private partnerships and how concession agreements can be structured to attract the private sector component into these partnerships.

(v) measures to improve access by interested parties to financing for viable projects in the inland waterway subsector including recommending possible improvements to the government's subsidy scheme procedures and conditions and possible ways to encourage financial institutions to finance projects in the subsector

(d) Enhancing Inland Water Transport Between India and Bangladesh

6. The activities required under this component include but are not limited to:

(i) reviewing current cross-border traffic between India and Bangladesh by all modes including by inland waterways and estimate potential for diversion of traffic from other modes to inland waterways;

(ii) reviewing current legal and policy guidelines and Customs procedures as well as documentation requirements governing inland waterway transport between India and Bangladesh and recommend amendments/revisions/simplifications that can be implemented to facilitate the increased use of inland waterway transport.

(iii) reviewing the number of inland waterway border crossing points and facilities in these crossing points and recommend if the number of crossing points

should be increased, ideal locations for these crossing points and facilities that should be provided at these crossing points by each side.

C. Reporting Requirements

7. The consultants will submit 5 copies of all reports, technical working papers and progress reports to the ADB and 16 copies to the Ministry of Shipping. The timetable for the submission of reports is as follows:

(i) the Phase I report within 8 weeks of the commencement of consulting services;

(ii) an inception report setting out the initial findings, detailed methodology, detailed work schedule and plan including the timetable for submission of technical working papers within one month of commencement of Phase II of the consulting services;

(iii) technical working papers to be submitted according to the schedule set out in the Inception Report and agreed to by the ADB;

(iv) monthly progress reports at the end of each month outlining the progress of work during the previous month, the work program for the subsequent month, and major issues to be addressed;

(v) a draft final report setting out the consultants' findings and recommendations and including all technical working papers within five months of the date of commencement of Phase II of the consulting services;

(vi) a final report to be submitted within two weeks after the receipt of ADB's comments.

8. The consultants will organize a tripartite meeting of the Government of India, ADB and TA consultants following submission of the Phase I report, the Inception Report for Phase II and draft final report. The consultants will also organize two workshops during the course of the TA to brief all stakeholders including from the private sector and user groups on the findings to date and solicit views of the participants on issues to be discussed. One workshop will be at the end of Phase I and the second after the draft final report has been prepared. The issues will be finalized in consultation with the Ministry of Shipping and the ADB.