

**ASIAN DEVELOPMENT BANK**

**TAR: MLD 34289**

**TECHNICAL ASSISTANCE**

**TO THE**

**REPUBLIC OF THE MALDIVES**

**FOR THE**

**TRANSPORT MASTER PLAN**

**September 2002**

## **CURRENCY EQUIVALENTS**

(as of 15 August 2002)

Currency Unit – rufiyaa (Rf)

Rf1.00 = \$0.0781

\$1.00 = Rf12.80

## **ABBREVIATIONS**

ADB	-	Asian Development Bank
GDP	-	gross domestic product
MOFT	-	Ministry of Finance and Treasury
MTCA	-	Ministry of Transport and Civil Aviation
TA	-	technical assistance

## **NOTE**

In this report, "\$" refers to US dollars.

## I. INTRODUCTION

1. Since 1979, the Asian Development Bank (ADB) has provided the Maldives with four loan projects in the transport sector including an attempt to initiate a scheduled interisland transport service and support to improve the operations of Male' Port. ADB's past assistance in the transport sector proved largely successful in extending the physical capacity of Male' Port and upgrading its institutional capacity. However, the emphasis on improvement and upgrading of Male' Port inevitably caused unbalanced development between Male' and the outer atolls,<sup>1</sup> which consequently hindered establishment of an integrated transport network linking Male' and outer atolls. Recognizing this problem, the Government requested ADB to provide technical assistance (TA) to develop a transport master plan that will guide institutional capacity building and future sector investments from a long-term perspective in line with the Government's regional development strategy. The TA is included in the Country Strategy and Program, 2002-2004.

2. The Fact-Finding Mission visited the Maldives in July 2002 and reached an understanding with the Government on the objectives, scope, cost estimates, financing plan, implementation arrangements, and terms of reference for the TA. This TA report was prepared on the basis of the Mission's discussions with the Government; its observations in the field; and its review of data, studies, and reports.<sup>2</sup> The TA Framework is presented in Appendix 1.

## II. ISSUES

3. The Maldives consists of about 1,190 islands, grouped into 20 administrative atolls. Each atoll is a coral reef surrounding a lagoon. Male' is the capital city and is also the designation for one of the administrative atolls. Almost all of the land masses are very small, with an average area of only 16 hectares. Over 80% of the land mass is less than 1 meter above mean sea level, exposing the population to tidal waves, storms, and the risk of an increase in the sea level resulting from global warming.

4. The population of 270,000 is scattered among 198 inhabited islands. A quarter of the population reside on Male'. The Maldives has no known mineral resources and scant arable land. However, due to well-performing tourism and fisheries industries dominating the economy, with the two accounting for nearly 40% of gross domestic product (GDP), the economy has achieved high growth of 7.4% annually since 1991, and per capita GDP increased from \$1,636 in 1995 to \$2,061 in 2001.

5. Despite recent impressive economic growth, a large segment of the Maldives' population subsists on very low incomes and is considered to be poor. The Vulnerability and Poverty Assessment<sup>3</sup> reports that 43% of the population subsists on a per capita income of Rf15 (\$1.30) per day or less as of 1998, almost 90% of whom reside in the atolls. Income disparities were found to be in the order of 2:1, and access to social and physical infrastructure and services was found to be even worse, averaging 4:1. Isolation is an important element of human poverty in many atolls. Further, limited transportation opportunities add to remoteness and isolation. One third of the atoll population report that opportunities to travel to Male' are limited to 2-3

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<sup>1</sup> In the Maldives, the term "atoll" is normally associated with the outer, inhabited islands, and is used to differentiate these from the capital city and the islands that are used as resorts.

<sup>2</sup> The TA first appeared in *ADB Business Opportunities* in July 2002.

<sup>3</sup> Ministry of Planning and National Development and United Nations Development Programme, 1998.

sailings per week. Access problems were reported by half of all the atoll population due to problems with harbors, absence of a jetty, or problems of penetrating reefs.

6. This unbalanced development between Male' and the atolls resulted to a degree from past development efforts, which concentrated in Male'. For the past three decades, public investment in Male' was more than 50% higher than in the atolls.<sup>4</sup> ADB assistance in the past was also focused on Male', mainly for the improvement of power supply and port facilities. Past ADB assistance has thus contributed to the development of Male', but not that of the atolls.

7. Recognizing this problem of unbalanced development, the Government shifted its development strategy to stimulating regional development, creating five regional growth centers — in the north, south, north-central, central, and south-central atolls — which will facilitate balanced provision of economic and social services. ADB's country strategy also emphasizes regional development including the provision of basic infrastructure and capacity building. With this decentralized development strategy, it becomes more important to effectively and systematically connect the regional centers with Male', and the regional centers with their surrounding atolls.

8. Interisland (intra- and inter-atoll) transport of passengers and freight is predominantly by sea. Currently there are no significant regional centers in the Maldives apart from Gan Island in the south. Accordingly, interisland freight and passenger traffic is dominated by movements directly between Male' and individual small island communities. In this regard, Male'-to-outer islands traffic is almost entirely transshipped cargo imported at Male' Port. The interisland shipping services are conducted entirely by the private sector, the Government role being to provide essential infrastructure such as ports and deepened harbors, and regulatory functions like maritime safety. The present interisland transport network, Male'-to-outer islands oriented, will, however, be unsuitable to accommodate the changed traffic pattern that will result from regional center-focused economic development.

9. Having an efficient and effective transport network that systematically links Male', the regional centers, and the surrounding atolls will be key to ensuring that socioeconomic growth in the Maldives is distributed equitably. Ad hoc investments for transport infrastructure and transport service will prove highly inefficient to install such a transport network, as evidenced by ADB's Interisland Transport Project.<sup>5</sup> A long-term transport master plan developed based on established national transport policies and transport sector development strategies will be essential to build an integrated, efficient transport network without wasting resources. In this context, ADB's Project Performance Audit Report for the Second Male' Port Project<sup>6</sup> rightly recommended developing a master transport plan that identifies transport infrastructure requirements consistent with meeting least-cost development considerations for Male' Port and the outer islands.

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<sup>4</sup> The trend was reversed in 1999 and 2000, with public investment levels in the atolls exceeding that of Male' for the first time.

<sup>5</sup> ADB. 1981. Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the Republic of Maldives for the *Interisland Transport Project*, June. Manila. The project intended to introduce a reliable, scheduled, and efficient interisland transport service, but was unsuccessful in meeting the objective. The main reason was that the project was designed in the absence of a long-term perspective on the demand for such a transport service.

<sup>6</sup> ADB. 1993. Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the Republic of Maldives for the *Second Male' Port Project*, April. Manila

10. In view of the fact that there has been no comprehensive master plan in the transport sector, this TA will assist the Government in developing a transport master plan with particular emphasis on (i) providing interisland (intra- and inter-atoll) transport service; (ii) developing ports and harbors in regional centers and focus islands;<sup>7</sup> (iii) providing public road transport service in Male' and other urban centers; (iv) redefining the role of air transport in the context of the regional development strategy; (v) drawing up sector reform measures including institutional capacity building and human resources development; and (vi) developing a sector regulatory framework.

### **III. THE TECHNICAL ASSISTANCE**

#### **A. Purpose and Output**

11. The objectives of the TA is to develop a transport master plan that identifies the general transport policies, strategies, legal and regulatory framework, investment programs, and activities necessary for ensuring a nationwide integrated transport network, including a detailed action plan, financing plan, and timetable for implementing these new transport sector policies and development programs.

12. The TA will (i) develop national transport policies that will direct transport sector development in the next 10 years; (ii) formulate transport sector development strategies in line with those national transport policies; (iii) prepare a transport master plan that will, in line with the national transport policies and transport sector development strategies, set out a time-bound action plan for introducing sector reforms, institutional capacity building, and human resources development, and a series of investment projects required to achieve sector objectives for the next 10 years; and (iv) develop a transport sector regulatory framework that supports the policies and strategies established.

#### **B. Methodology and Key Activities**

13. The TA will review the past and current situation of the main transport subsectors in terms of infrastructure development and operation and of transport service provision, i.e., sea transport including port and harbor development and operation, air transport including airport development and operation, and land transport including provision of public transport service. Consolidating this situation analysis into the assessment of transport sector development plans made by the Government as well as by aid agencies, the TA will conduct a demand analysis for each mode of transport for a 10-year period. The TA will also assess the institutional capacity for policy setting, regulation, and service provision for each subsector.

14. On the basis of the demand analysis and the assessment of sector institutions, the TA will develop the transport policies considering desirable roles of the public and private sectors in transport sector development, a desirable sector regulatory framework, and desirable division of functions between sector institutions. The detailed TA activities are described in the terms of reference for consulting services in Appendix 2.

15. The success of the TA will be highly contingent upon whether its output — a long-term plan for transport sector development — will be supported by all stakeholders. Accordingly, it is essential for the success of the TA to adopt a participatory approach from the beginning of TA

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<sup>7</sup> Within a regional growth center, the islands that are likely to receive accelerated development are termed focus islands, and the others, primary islands.

implementation involving all stakeholders, i.e., concerned ministries, transport service providers, and transport service users, especially local communities in the atolls at the early stage. For this purpose, when the draft master plan is formulated, a workshop will be organized for consensus building among stakeholders.

16. The successful implementation of the master plan will depend on whether the Government will support it. Without strong support from concerned authorities, it will be nearly impossible to coordinate the different needs and interests of the various concerned ministries and other stakeholders. It will be accordingly desirable to obtain broad support for the master plan from all concerned ministries to facilitate its future implementation.

### **C. Cost and Financing**

17. The estimated total cost of the TA is \$271,000 equivalent, of which the foreign exchange component is \$192,000 and the local currency component is \$79,000 equivalent. ADB will finance \$230,000 equivalent, of which the foreign exchange component will be \$192,000 and the local component will be \$38,000 equivalent. The TA will be financed by ADB on a grant basis from the ADB-funded TA Program. The Government will provide the remaining \$41,000 equivalent in the form of office accommodation, office equipment, counterpart staff, communications including Internet access, and other administrative assistance. Detailed cost estimates and the financing plan are provided in Appendix 3.

### **D. Implementation Arrangements**

18. The Ministry of Finance and Treasury (MOFT) will be the Executing Agency for the TA; the Ministry of Transport and Civil Aviation (MTCA) will be the Implementing Agency. MTCA will appoint a high-ranking officer as project director who will be responsible for the TA's overall implementation. The project director will report the progress of the TA to ADB regularly and will ensure that MTCA and the TA consultants coordinate with ADB during TA implementation.

19. A steering committee will be established before the consultants are fielded to provide overall guidance to them. It will be chaired by the project director and will comprise staff from MOFT; Ministry of Planning and National Development; MTCA; Ministry of Atolls Administration; Ministry of Home Affairs, Housing and Environment; Ministry of Construction and Public Works; and Maldives Port Authority. The steering committee will review the reports produced by the consultants and provide its comments and guidance thereon. It will finalize the transport master plan for endorsement by the Government.

20. The TA will require 6 person-months of international consulting services engaged from a firm in accordance with ADB's *Guidelines on the Use of Consultants* and 9 person-months of domestic consulting services engaged on an individual basis in accordance with arrangements satisfactory to ADB. The expertise required for international consultants will be (i) transport policy specialist (3 person-months), and (ii) transport economist (3 person-months). The expertise required for domestic consultants will be (i) transport engineer specializing in aviation and maritime (3 person-months); (ii) transport engineer specializing in land transport (3 person-months); and (iii) transport economist (3 person-months). The simplified technical proposal will be used under the TA. The terms of reference for consulting services are in Appendix 2.

21. The consultants will submit (i) an outline of changes in the approach, methodology, work plan, and terms of reference to ADB and the Government within 1 month of commencement of

their work; (ii) a draft master plan to ADB and the Government within 2.5 months of commencement of their work; and (iii) a final master plan to ADB and the Government within 1 month of receipt of comments from ADB and the Government. The consultants, after submitting the draft master plan, will organize a workshop in consultation with the steering committee for all concerned ministries and other stakeholders to build a consensus. The consultants are expected to start their work in February 2003 and to end it at the end of April 2003.

#### **IV. THE PRESIDENT'S DECISION**

22. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of \$230,000 on a grant basis to the Government of the Maldives for preparing the Transport Master Plan, and hereby reports this action to the Board.

## TECHNICAL ASSISTANCE FRAMEWORK

Design Summary	Performance Indicators/Targets	Monitoring Mechanisms	Assumptions and Risks
<p><b>Goal</b></p> <p>Develop transport policies and sector development strategies along with a sector regulatory framework</p>	<p>Government approval of policies and strategies by September 2003</p>	<p>Steering committee's coordination among ministries</p>	<p>Strong support for transport policies and strategies from the high authority of the Government</p>
<p><b>Purpose</b></p> <p>Formulate a transport master plan which will guide sector investments and support establishment of a nationwide integrated transport network</p>	<p>Government approval of the master plan by September 2003</p>	<p>Steering committee's coordination among ministries</p>	<p>Strong support for the transport master plan from the right authorities</p>
<p><b>Outputs</b></p> <p>Transport policies                      Transport sector development strategies                      Transport master plan                      Sector regulatory framework</p>	<p>Consultants' draft of transport policies, strategies, and a master plan together with a regulatory framework by May 2003</p> <p>Steering committee's review of the drafts by July 2003</p> <p>Government approval of transport policies, strategies, the master plan, and the regulatory framework by September 2003</p>	<p>Supervision of consultants' work by monthly progress report                      Workshop                      ADB review mission                      Steering committee's work report                      ADB review mission</p>	<p>Policies, strategies, and priorities for investment plan agreed upon by various government agencies                      Sector reform measures accepted by bureaucrats</p>

<b>Design Summary</b>	<b>Performance Indicators/Targets</b>	<b>Monitoring Mechanisms</b>	<b>Assumptions and Risks</b>
<p><b>Activities</b></p> <p>Conducting baseline surveys, research, interviews, data collection, and analysis  Formulating transport policies, sector development strategies, and sector reform measures including institutional capacity building and human resource development, investment program, financing plan, and detailed action plan to implement the master plan  Holding a workshop</p>	<p>Survey, interview, and data analysis  Traffic projections</p> <p>Human resource assessment  Institutional analysis  Cost/benefit analysis and financing plan  Feasibility assessment of reform measures</p> <p>Feedback from workshop participants</p>	<p>Consultants' monthly progress report  Steering committee's feedback  ADB review mission</p> <p>ADB's participation in workshop</p>	<p>Adequate coordination of MTCA with consultants to make available existing survey and research data/information  Adequate coordination of MTCA with steering committee members to collect different views and perspectives for transport from different stakeholders  Adequate motivation for all concerned stakeholders to provide their views and perspectives for transport and participate in workshop</p>
<p><b>Inputs</b></p> <p>Consultants  Administration expenditures</p>	<p>International: \$147,000  Domestic: \$22,500  Workshop and others: \$78,000</p>	<p>Consultants' inception and monthly progress report  ADB's inception and review missions</p>	<p>Adequate number of review missions  Consultants and contractors are competent.  Qualified counterpart staff are available.</p>

MTCA = Ministry of Transport and Civil Aviation.

## **OUTLINE TERMS OF REFERENCE FOR CONSULTING SERVICES**

### **A. International Consultants**

1. The consultant's responsibility will include the following:

- (i) Review available macroeconomic data, transport sector studies, and feasibility reports; identify constraints; and estimate the scale and pattern of the demand for passenger and freight traffic.
- (ii) Identify planned and potential transport sector projects and programs by either the Government or aid agencies that will have any impact on transport demand, and quantify their effects.
- (iii) Prepare a full description of land, sea, and air transport facilities and services in the Maldives. This should include an inventory for each atoll covering:
  - (a) The road network showing total length, paved sections, and condition;
  - (b) Ports showing quay lengths, drafts and channel depths, storage areas, and handling equipment, and their condition;
  - (c) Airport facilities showing their present condition in terms of infrastructure and equipment; and
  - (d) Interisland and intransland transport services.
- (iv) Review the current division of functions of transport sector policy setting, sector regulation, and service provision in each transport subsector, especially for ports, civil aviation, land transport, and transport services. Identify a desirable division of functions in the Maldives' context. Develop a transport sector regulatory framework for regulating tariffs, promoting competition, ensuring safety, and establishing transport standards.
- (v) Establish traffic levels on all modes of transport over recent years, and their trends.
- (vi) Estimate the level and pattern of annual demand for international and domestic passenger and freight traffic for the next 10 years for all modes of transport, using a range of scenarios that reflect different types and qualities of transport services, and different rates of economic development.
- (vii) Develop transport sector policies and strategies for a 10-year time horizon in terms of infrastructure development and operation and of provision of transport services by subsector such as sea transport including port/harbor development and operation, air transport including airport development and operation, and land transport including public transport services. The following issues should be reviewed:
  - (a) appropriate expenditure for construction, operation, and maintenance in the transport sector;

- (b) level of economic and safety regulation of the transport sector, the impact of regulation on the efficiency of the sector, and areas in which regulatory reforms are appropriate;
  - (c) desirable roles of the public and private sectors in the provision of transport services and in the development of transport infrastructure and measures to further encourage involvement of the private sector where appropriate;
  - (d) appropriate transport user charges (air, maritime, and road transport), including transport infrastructure user charges;
  - (e) appropriate physical and policy measures to improve traffic management and safety in Male'; and
  - (f) appropriate measures to ensure that the outer islands are served with adequate frequency and in a cost-effective and suitable manner.
- (viii) Identify operational improvements that could increase the efficiency and/or capacity of the existing facilities without major investment. For example, the scope for rationalizing the use of deepwater port facilities, especially the division of port space among cargo, passenger, and fishing vessels, should be examined.
- (ix) Prepare a phased program for investment in transport facilities that is affordable and sustainable. It should be divided into short-term (5-year) and medium-term (10-year) programs.
- (x) Review the existing system for transport data compilation, and establish a concise transport database for all aspects of the transport infrastructure and services in the most suitable way for the Ministry of Transport and Civil Aviation to maintain the database in the future and extend its coverage.
- (xi) Review the present government criteria for project selection and establish appropriate criteria for the selection and prioritization of investment projects in the transport sector.
- (xii) Review organizational and institutional improvements necessary to develop and implement the master plan on a sustainable basis, including human resource development.
- (xiii) Review organizational and institutional arrangements necessary to operate and maintain, in a cost-effective and sustainable manner, infrastructure to be developed under the master plan, including self-help and community-based programs for operation and maintenance, especially in the outer islands.
- (xiv) Prepare a transport master plan for a 10-year time horizon, including a program of investments, a time-bound action plan to implement sector reforms, institutional capacity building, human resource development, and a sustainable financing plan to support the investment program.
- (xv) Recommend an appropriate organizational and institutional development plan necessary for implementation of the master plan.
- (xvi) Recommend an appropriate policy implementation plan necessary for implementation of the master plan.
- (xvii) Organize a workshop to brief relevant stakeholders on the draft master plan.

(xviii) Undertake additional tasks as reasonably requested by ADB staff.

**B. Domestic Consultants: Transport Engineers (6 person-months) and Transport Economist (3 person-months)**

2. In general, all the domestic specialists will overlap with counterpart international consultants, and provide the following services:

- (i) Help the international consultants to collect documents for studies and data.
- (ii) Conduct field-based research and studies.
- (iii) Design and translate appropriate questionnaires, interview guides, and other research tools.
- (iv) Conduct interviews.
- (v) Compile and analyze the results of interviews, statistics, surveys, etc.
- (vi) Prepare reports and summaries of surveys and other research results for use in workshop.
- (vii) Liaise with the Government, the Asian Development Bank (ADB), and the international consultants to provide necessary information and advice.

**C. Reports**

3. The following reports, all in the English language, will be submitted by the consultants to the Government (5 copies) and ADB (5 copies). The final report will also be submitted in CD ROM format.

- (i) **Inception report.** This brief report should be submitted within 1 month of the start of the services. It should outline any changes in the approach, methodology, or work plan, as well as cost implications for the consultants' services (contained in the consultants' proposal) that are required to fulfill the terms of reference.
- (ii) **Working papers.** These reports, prepared on a need basis as part of the consultation process with the Government, will deal with aspects of the technical assistance that have major implications for government policy.
- (iii) **Draft final report.** To be submitted at the end of 2.5 months.
- (iv) **Final report.** To be submitted within 1 month of receipt of comments from the Government and ADB.

## COST ESTIMATES AND FINANCING PLAN

(\$)

Item	Foreign Currency	Local Currency	Total
<b>A. Asian Development Bank Financing</b>			
1. Consultants			
a. Remuneration and Per Diem			
i. International Consultants	147,000	0	147,000
ii. Domestic Consultants	0	22,500	22,500
b. Travel			
i. International	9,000	0	9,000
ii. Domestic	0	12,000	12,000
2. Reports	3,000	0	3,000
3. Communications	3,000	0	3,000
4. Workshop	10,000	0	10,000
5. Contingencies	20,000	3,500	23,500
<b>Subtotal (A)</b>	<b>192,000</b>	<b>38,000</b>	<b>230,000</b>
<b>B. Government Financing</b>			
1. Office Accommodation	0	12,000	12,000
2. Office Equipment	0	7,500	7,500
3. Counterpart Staff	0	9,000	9,000
4. Communications	0	7,500	7,500
5. Miscellaneous	0	5,000	5,000
<b>Subtotal (B)</b>	<b>0</b>	<b>41,000</b>	<b>41,000</b>
<b>Total</b>	<b>192,000</b>	<b>79,000</b>	<b>271,000</b>

Source: Asian Development Bank estimates.