ASIAN DEVELOPMENT BANK

TAR:STU 38052

TECHNICAL ASSISTANCE

FOR

GREATER MEKONG SUBREGION TRANSPORT SECTOR

STRATEGY STUDY

October 2004

ABBREVIATIONS

ADB	–	Asian Development Bank
ASEAN	–	Association of Southeast Asian Nations
ESCAP	–	Economic and Social Commission for Asia and the Pacific
GMS	–	Greater Mekong Subregion
Lao PDR	–	Lao People's Democratic Republic
MKID	–	Mekong Infrastructure Division
MKRD	–	Mekong Regional Department
PRC	–	People's Republic of China
TA	–	technical assistance

TA CLASSIFICATION

Poverty Classification	–	Others
Sector	–	Transportation and Communication
Subsector	–	Multimodal transport and sector development
Theme	–	Sustainable Economic Growth
Subthemes	–	Promoting economic efficiency and enabling markets
	–	Fostering physical infrastructure development

NOTE

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

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I. INTRODUCTION

1. The concept of regional economic cooperation in Asia was revived by global political changes of the late 1980s, rapid economic growth and transformation of many Asian countries, and globalization of the world economy. The Asian Development Bank (ADB) has played a critical role in promoting subregional economic cooperation throughout the Asian and Pacific region, most notably through the Greater Mekong Subregional Program (the GMS Program). A distinguishing feature of these cooperation schemes is their emphasis on promoting economic ties with neighboring countries by removing structural impediments to cooperation, such as poor physical infrastructure connections. The development of transport infrastructure networks and of regional agreements covering movement of goods and services through them has been of great importance to the GMS Program. Much progress has been made in improving transport access, efficiency, and comfort. However, the transport sector in almost all of the Greater Mekong Subregion (GMS) countries requires sustained development and investment. Transport linkages between member countries are limited, and a multimodal, integrated GMS transport network, which would expand and intensify regional economic cooperation, still does not exist.

2. The ability of the GMS to realize its potential as a tightly interconnected economic entity of 260 million people depends critically on the speed with which connectivity is established between member economies and with major economic partners. The objective of the technical assistance (TA) is to develop a clear vision and comprehensive strategy to develop a GMS transport network that will promote connectivity and competitiveness, and strengthen the spirit of community. This TA is included in the GMS Regional Cooperation Strategy and Program 2004–2008. The TA framework is in Appendix 1.[1]

II. ISSUES

3. The GMS Program, which was initiated in 1992, aims to strengthen the economic linkages among Cambodia, Lao People's Democratic Republic, Myanmar, Thailand, Viet Nam, and Yunnan Province of the People's Republic of China (PRC). The basic objectives of the GMS Program are to facilitate sustainable economic growth, create jobs, and reduce poverty by using the comparative advantages of the participating countries for mutual benefit. Since its inception, the GMS Program has greatly increased cooperation and promoted understanding among the participating countries. ADB has played a key role in GMS development, serving as financier, provider of technical advice, catalyst for financing, “honest broker,” and secretariat to the program.[2]

4. The GMS Program has evolved to meet emerging needs and demands, and has consistently recognized that the transport sector, by improving connectivity and regional cooperation, is important to increase economic growth. Large markets spanning two or more countries, and economies of scale can come about only if various regional and national centers of production and consumption are linked by modern and efficient infrastructure. Lack of interconnectivity between national networks, lack of interoperability between different modes of transportation, and missing links and bottlenecks constrain development of cross-border networks.

5. ADB has helped develop the GMS transport system in a variety of ways: (i) financing and implementing analytical studies, (ii) financing regional projects as well as national projects with regional implications, (iii) promoting policy initiatives and institution building, and (iv)

[1] The TA first appeared in *ADB Business Opportunities* (Internet edition) on 14 May 2004.
[2] ADB has provided about $1.2 billion to finance 17 projects since the inception of the program. Over $920 million of cofinancing has been mobilized. ADB has provided approximately $50 million for TA.

mobilizing financial resources from GMS and non-GMS countries. A noteworthy contribution has been the development of the corridor concept: transport infrastructure is developed in a specified geographic area in close conjunction with economic activities. Five corridors linking the entire subregion have been agreed upon and are at various stages of development and are expected to be completed by the end of this decade. Appendix 2 lists ADB-financed transport projects under the GMS Program.

6. A master plan for the GMS transport sector was developed in 1995, and most initiatives proposed in the study have been implemented either as GMS projects or as part of national projects. The state of transport sector infrastructure in the GMS is, therefore, much better than it was a scant decade ago. Still, many national and regional problems continue to impede the vision of a fully connected GMS. At the national level, all major transport modes face problems of varying intensity: physical gaps, low efficiency, and poor reliability and safety. Where new transport systems have been developed, sometimes low-income groups have problems accessing them. The experiences of the past decade underscore the need for transport sector development to help solve social problems and overcome negative externalities. A regional road network will be in place at the end of the decade. Networks in other transport modes are less developed and constrained by technical, organizational, and institutional barriers, but are gradually emerging as a result of greater confidence among the countries, liberalization of markets, or technological advances. Interchanges and interoperability between different modes are, however, generally missing in the GMS and need to be developed systematically.

7. A major watershed in the development of the GMS Program was the summit of leaders held in Phnom Penh, Cambodia, in November 2002. The leaders expressed their vision of an integrated, prosperous, and equitable GMS. The 12th Ministerial Meeting of the GMS, held in Dali, Yunnan, PRC, in September 2003, gave further impetus to the leaders' vision by calling for enhanced connectivity, increased competitiveness, and greater sense of community. The vision, aspirations, and needs of GMS countries are reflected in the recent GMS Regional Cooperation Strategy and Program 2004–2008, which calls for an integrated transport sector master plan beyond 2006 to evaluate demand for transport and prospects for strengthening multimodal linkages.[3]

8. A comprehensive study of the transport sector for the GMS is needed for several reasons. First, the recommendations of the 1995 GMS Transport Master Plan have been largely overtaken by physical investment, general changes in policy, economic development and technological advances. A study is needed to highlight national and regional activities required to develop transportation networks. Second, sustained population and economic growth over the past decade has increased the demand for transport services and the complexity of the requisite transport systems. This issue requires systematic analysis and response. Third, efficient transport networks have become more important to regional cooperation, in absolute and relative terms, as tariff-based barriers to economic cooperation have declined in general. At the same time, the proportion of labor costs to total cost of manufactured exports has declined. GMS countries that have capitalized on their low labor costs, therefore, need to develop other advantages such as reliable, low-cost transport. Improved competitiveness will depend critically on the ability to establish connectivity and an efficient transport network. Improved transport systems and logistics are needed to deepen GMS cooperation, particularly in marketing the subregion as a single tourism destination and as a market and site for regional networks of consumption and production. Improved transportation networks are needed to link GMS and

[3] Management approval was obtained on 3 March 2004 for circulation to the Board for an informal Board seminar, held on 26 March 2004.

non-GMS countries such as via a landbridge between South Asia and the Association of Southeast Asian Nations (ASEAN)-PRC free trade area.[4]

9. ADB has long experience in providing a broad range of services in different sectors to GMS countries as financier, provider of technical advice, catalyst for mobilizing assistance, and neutral moderator among the six countries. ADB is, therefore, in a unique position to implement this study, which addresses a broad range of complex and sensitive issues, in full collaboration with the GMS countries.

III. THE TECHNICAL ASSISTANCE

A. Purpose and Output

10. The TA objective is to develop a clear vision and a comprehensive strategy for development of a GMS transport network that will promote the subregion's connectivity and competitiveness. This objective will be achieved chiefly by developing a GMS-wide multimodal transport system. The TA will, based on a careful analysis of the situation and likely developments, identify transport projects, policies, programs, and institutions, which the six GMS countries agree, are needed to promote economic cooperation. The key components of such a transport network include (i) major trade corridors between GMS countries, (ii) gateways linking GMS countries to the rest of the world, (iii) transit trade across GMS countries, and (iv) development of border areas of adjoining GMS countries. The TA will identify the priorities within each transport mode and across different modes, sequencing identified interventions and financial resources required, likely sources of these resources, and institutional arrangements, including public-private partnerships. The TA is expected to lead to (i) identification of a pipeline of transport projects and programs that will help create an integrated GMS transport network, (ii) mobilization of resources needed to finance these projects from the private as well as public sectors, and (iii) policies and institutions that will lead to the creation and sustaining of an efficient GMS transport network. The TA will provide the GMS countries with a common, medium-term, regional framework within which their own national activities can be planned and implemented. The TA output will also provide development partners with an objective basis for informed decision making with respect to programming and financing.

B. Methodology and Key Activities

11. Given the complex requirements and long-term nature of the development of a GMS transport network, the TA will be comprehensive and forward looking. It will cover 2006–2015. The 10-year study is long enough that meaningful strategies can be made and implemented but not so long that technical changes and progress will dramatically alter the environment and parameters in which the strategies are drawn up.

12. The TA is comprehensive in a number of ways. First, it covers all six GMS countries. Second, while it looks at the future, the analysis will build on the achievements of the first decade of cooperation. Third, the TA covers all the major transport modes that are likely to be of importance in the GMS in the medium term: road, rail, civil aviation, and ports and inland water navigation. The TA will also be comprehensive in that it will look at the subregional demand for transport services for goods and passengers as well as the constraints of the supply side. The supply of transport infrastructure will remain an important aspect of the TA, given the

[4] The landbridge is a road link from Thailand to northeastern India via Myanmar. The ASEAN-PRC free trade area will come into effect in 2010 for most GMS countries. All GMS countries, except the PRC, are now members of ASEAN.

widespread physical gaps and absence of linkages within each mode as well as across modes in the GMS. Supply-side analysis will be important in identifying new transport routes, particularly between the GMS and geographically contiguous economic partners. However, as scarce financial and human capital resources should be used efficiently, the TA will use a traffic network model to examine the likely regional demand for transport services on the basis of several key variables, including the following: (i) demographic growth and dispersion, (ii) major economic trends such as increasing economic ties between ASEAN and PRC, (iii) the emergence of regional production networks within the GMS, (iv) movement of "sunset" industries within Southeast Asia, (v) further development of the GMS as a single tourist destination, and (vi) subregional and bilateral cooperation initiatives among the GMS countries.

13. The TA will address equity and cross-cutting social issues and negative externalities such as increased incidence of HIV/AIDS,[6] traffic accidents, and pollution, which may be associated with the development of transport networks. The distribution of costs and benefits of the transport network among countries, as well as different income and demographic groups within countries, will be considered. Nongovernment organizations and civil society will be consulted early and throughout the study cycle so that relevant interventions may be identified.

14. The TA will examine how integrated transport networks have been developed in regional cooperation programs elsewhere (e.g., European Union, Southern Africa, Latin America), and assess the possibility of adapting them to the GMS context.

15. On the basis of the above factors and through a process of full consultation with all major stakeholders (governments, private sector, development partners, and civil society), the TA will identify a vision for a GMS transport strategy and the priority project, program, policy, and institutional interventions that will be required to create a GMS-wide transport network. Consultation will be important in ensuring maximum support for the study recommendations as well as ensuring consistency of development plans between countries, within each country, and between national and regional plans. The TA outputs will be disseminated by a variety of means (Web sited, in-country workshops, electronic reports, easily accessible brochures) to maximize the general acceptance of the strategy and attract financing from public and private sources. Key outputs may be translated into selected GMS languages, depending on demand and need.

C. Cost and Financing

16. The total cost of the TA is estimated of $950,000 equivalent. The TA will be financed on a grant basis by ADB's TA funding program. Cost estimates are in Appendix 3.

D. Implementation Arrangements

17. ADB will be the Executing Agency for the TA. The Infrastructure Division (MKID) of Mekong Regional Department (MKRD) will take the lead in implementing the TA in full collaboration and consultation with other departments involved in GMS Program activities. A steering committee will be established within MKRD to ensure output quality. The steering committee will be supported by a subregional transport specialist acting as a resource person that will be hired for 3 months, intermittently. A small TA secretariat will be established within MKID to ensure smooth coordination between and among the countries, consultants, and ADB, as well as to help produce reports and disseminate them on time. The secretariat will closely coordinate with the GMS countries, each of which will establish a focal group to ensure ownership of the resulting study and facilitate interministerial discussion on TA implementation

[6] human immunodeficiency virus/acquired immunodeficiency syndrome.

and findings.[7] Coordination with other development partners involved in promoting regional economic cooperation and/or related activities will be pursued to avoid duplication of effort.

18. The TA will be implemented by an international consulting firm under close supervision of ADB staff members. ADB will select and engage the consultant in accordance with ADB's *Guidelines on the Use of Consultants*. The TA will be implemented over approximately 12 months, from January to December 2005; 28 person-months of international consulting inputs are anticipated to be required, involving seven international consultants. Domestic consultants may be engaged for a total of 6 person-months in selected GMS countries. The outline terms of reference for the consultant are in Appendix 4.

19. An initial round of fact-finding by the team leader and ADB staff to selected GMS countries will be conducted over 2 weeks, starting in January 2005, to clarify project objectives, implementation arrangements, and governments' role. After the visit, the consultant team will be fielded. The consultant will focus on three key aspects: (i) forecasting demand for subregional traffic by mode and route of transport; (ii) reviewing the efficiency, safety, and adequacy of transport supply, and identifying institutional, legal, regulatory, and operational improvements; and (iii) identifying likely transport infrastructure bottlenecks; to form the basis for formulating a prioritized, medium-term transport infrastructure investment plan in 2006–2015.

20. An interim report presenting an assessment of GMS achievements, a proposed strategy to develop the GMS transport system, and a tentative long list of preliminarily identified projects and prioritization criteria will be submitted to the GMS countries in mid-April 2005. These will be discussed at a workshop of senior officials of the GMS countries before submission and endorsement by high-level government authorities at the GMS transport sector forum in Beijing, PRC, scheduled for May 2005. Based on the forum's outcome, the consultant will elaborate a prioritized plan to develop an efficient and internationally competitive transport network linking the GMS and its neighbors. Throughout, the consultant will keep close counsel with the focal groups established in each GMS country to ensure national ownership and full coordination with national transport and investment planning. The consultant's draft final report will be issued in September 2005 for review by ADB and the GMS countries, and will subsequently be discussed at a senior transport officials' meeting tentatively scheduled for October 2005. The final report will be issued in December 2005.

IV. THE PRESIDENT'S DECISION

21. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of $950,000 on a grant basis for the Greater Mekong Subregion Transport Sector Strategy Study, and hereby reports this action to the Board.

[7] The TA was presented at the Eighth GMS Subregional Transport Forum (3–4 August 2004, Phnom Penh) and all relevant comments have been incorporated.

TECHNICAL ASSISTANCE FRAMEWORK

Design Summary	Performance Indicators/Targets	Monitoring Mechanisms	Assumptions and Risks
Goals Increased economic development in the GMS as a result of subregional economic cooperation	Increased economic growth rate Decreased poverty incidence Increased cross-border trade and tourism	Country economic and transport sector reports	Governments have strong political will and commitment. Country-based reforms continue. Financing for transport sector projects is available.
Purpose Creation of an integrated transport network that will promote connectivity and competitiveness of GMS	Improved transport links, lower costs, improved transport safety in GMS	Transport sector reports Consumer surveys	Governments agree on priority areas for cooperation. Priority projects are implemented on time.
Outputs Multimodal transport sector study for the GMS in 2006-2015, which will provide a vision and strategy for an integrated GMS transport network as well as a prioritized list of project, policy, and program interventions needed to realize the strategy	Interim report (Dec 2004) Draft final report (Apr 2005) Final report (May 2005) CD-ROMs Translation of report summaries	Regular reports from consultants Country workshops High-level transport sector meeting	MKID staff members are closely involved in the study. Close internal coordination exists within ADB. Governments provide data, guidance, and comments on time.
Activities Consultation with a broad range of shareholders Analysis of transport demand and supply constraints Identification of priority projects, policies, programs, and institutional actions in 2006–2015 Dissemination of study results	Transport sector problems and challenges identified Reports delivered and workshops are implemented Regional dimension integrated into national plans	Consultants' reports, workshops, and high-level meetings Final report	Governments provide relevant information and actively participate in the study process. Each government engages in thorough internal discussion. Key documents are translated on time.
Inputs International consultant team composed of (i) team leader (transport economist), (ii) transport modeler, (iii) macro economist, (iv) passenger transport specialist, (v) cargo transport specialist, (vi) investment program development specialist, (vii) reform and development specialist Domestic consultants Subregional transport specialist/resource person attached to ADB internal steering committee	28 person-months Cost: $560,000 6 person-months Cost: $15,000 3 person-months Cost: $45,000	Consultant selection process and approval Progress report of TA activities, missions, and meetings	Availability of qualified consultants who are engaged in timely manner

Design Summary	Performance Indicators/Targets	Monitoring Mechanisms	Assumptions and Risks
Focal person in each GMS government and secretariat in ADB	Cost: $35,000		Qualified government officials are assigned to the study
Country workshops and conferences	2–3 workshops or conferences. Cost: $55,000	Report of meeting outcomes	Adequate preparations prior to meetings

ADB = Asian Development Bank, GMS = Greater Mekong Subregion, MKID = Mekong Infrastructure Division, TA = technical assistance.

ASIAN DEVELOPMENT BANK-ASSISTED LOAN PROJECTS FOR THE TRANSPORT SECTOR IN THE GREATER MEKONG SUBREGION

(as of 31 December 2003)

Loan No.	Country	Project Name	Date Approved	Financing			
				ADB	Government	Cofinancing	
1325	PRC	Yunnan Expressway	29-Sep-94	150.0	311.4		
1369	Lao PDR	Champassak Road Improvement	31-Aug-95	48.0	12.1		
1503	Cambodia	Siem Reap Airport	12-Dec-96	15.0	2.0		
1659	Cambodia	Phnom Penh-Ho Chi Minh Highway	15-Dec-98	40.0	12.7		
1660	Viet Nam	Phnom Penh-Ho Chi Minh Highway	15-Dec-98	100.0	44.8		
1691	PRC	Southern Yunnan Development	24-Jun-99	250.0	520.3		
1727	Lao PDR	East-West Corridor Project	20-Dec-99	32.0	28.0[a]	145.0[c]	JICA and JBIC
1728	Viet Nam	East-West Corridor Project	20-Dec-99	25.0	72.0[b]	290.0[d]	JBIC and World Bank
1945	Cambodia	GMS: Cambodia Road Improvement	26-Nov-02	50.0	17.5	10.0	OPEC Fund
1989	Lao PDR	GMS: Northern Economic Corridor	20-Dec-02	30.0	17.3	58.5	Government of the PRC and Thailand
2014	PRC	Western Yunnan Roads Development	28-Oc-03	250.0	174.1	157.9	AFD and domestic commercial banks
		Total		**990.0**	**1,028.1**	**661.4**	

ADB = Asian Development Bank, AFD = Agence Française de Développement, GMS = Greater Mekong Subregion, JBIC = Japan Bank for International Cooperation, JICA = Japan International Cooperation Agency, Lao PDR = Lao Peoples Democratic Republic, OPEC = Organization of the Petroleum Exporting Countries, PRC = People's Republic of China.

[a] Includes $8-million counterpart financing of the Government of Lao PDR for the ADB loan, and ¥2.0 billion worth of counterpart financing by the Government of Lao PDR and Thailand for the Second Mekong International Bridge.

[b] Includes $11-million counterpart financing of the Government of Viet Nam for the ADB loan, ¥6.6 billion worth of counterpart financing by the Government of Viet Nam for the Hai Van tunnel construction and Da Nang port upgrading.

[c] Includes ¥7.2-billion grant assistance from JICA to Lao PDR for upgrading of the Seno-Muang Phin section in Lao PDR, and ¥8.1 billion loan to Lao PDR and Thailand for the construction of the Second Mekong International Bridge.

[d] Includes ¥18.9 billion in loans from JBIC to Viet Nam for the construction of the Hai Van tunnel and upgrading of Da Nang port, respectively, and $22-million loan from the World Bank for the improvement of Highway 1A from Dong Ha to Da Nang.

Source: Asian Development Bank.

COST ESTIMATES AND FINANCING PLAN
($'000)

Item	Total Cost
Asian Development Bank Financing[a]	
1. Consultants	
a. Remuneration and Per Diem	
i. International Consultants	560.0
ii. Domestic Consultants	15.0
iii. Subregional Transport Specialist/Resource Person	45.0
b. International and Local Travel	95.0
c. Reports and Communications	8.0
2. Workshops and Conferences	
a. National Workshops	25.0
b. Conferences	30.0
3. Editing, Translation, and Printing of reports and brochures	40.0
4. Web Site, CD-ROM Production	12.0
5. Surveys, Data, Maps	5.0
6. Secretariat Costs	35.0
7. Contingencies	80.0
Total	**950.0**

[a] Financed by Asian Development Bank's technical assistance funding program.
Source: Asian Development Bank estimates.

OUTLINE TERMS OF REFERENCE FOR CONSULTANT

1. The technical assistance (TA) will develop a vision and strategy to develop a comprehensive Greater Mekong Subregion (GMS) transport network, which will link the GMS countries in an efficient and sustainable manner. The transport network will help realize GMS objectives, particularly to become competitive. The transport network will be established chiefly by developing GMS-wide multimodal transport systems encompassing all current and possible future modes in the GMS: road, rail, inland water, sea, and air.

2. The TA will be implemented over 12 months, starting in January 2005. It will require about 28 person-months of international consulting inputs. Provision will be made for 6 person-months of domestic consultant inputs.

3. The consultant assignment will have two phases. The first will be from January to April 2005, when an interim report containing an assessment of GMS achievements, a proposed strategy to develop the GMS transport sector, and a long list of proposed interventions and prioritization criteria will be submitted to the Asian Development Bank (ADB) and GMS countries. This first phase will be initiated by a 2-week fact-finding mission to selected GMS countries to help fine-tune the study methodology. The mission will consist of ADB staff members in charge of the study, and the team leader.

4. Analysis of demand-side factors and supply-side constraints affecting the establishment and effectiveness of a GMS transport network will be emphasized in the first phase. The second phase will be from May to September 2005, when the draft final report will be presented to ADB and the GMS countries.

5. The work sequence of the study team is as follows:

(i) Phase I will consist of the following:

(a) assessment of GMS achievements and outstanding challenges;
(b) modeling of derived demand for transport services based on projected levels of economic activity and trade, particularly along major economic corridors;
(c) assessment of the factors that will affect the performance of different modes and the corridors as multimodal routes; and
(d) preparation of a draft strategy to strengthen GMS-wide transport efficiency and accessibility, and of an associated long list of proposed interventions and prioritization criteria to develop a GMS transport network.

(ii) Phase II will consist of the following:

(a) prioritization of strategic projects and policy initiatives required to develop a GMS transport network;
(b) detailed formulation and evaluation of investment projects and policy initiatives; and
(c) dissemination of the study results to targeted audience.

6. The consultant will need to interact with a broad range of stakeholders in each GMS country. These include but are not necessarily limited to the following:

(i) **Public sector.** GMS coordinator and government agencies in charge of regional and bilateral cooperation plans and line ministries.
(ii) **International organizations.** Association of Southeast Asian Nations (ASEAN), Economic and Social Commission for Asia and the Pacific (ECAP), International Maritime Organization (IMO), International Civil Aviation Organization (ICAO), and relevant multilateral and bilateral development partners.
(iii) **Private sector.** Chambers of commerce, multinational corporations, industry organizations.
(iv) **Nongovernment organizations.**

7. During meetings with different stakeholders, the consultant will explicitly recognize the following:

(i) need for consistency between national and regional policies and plans;
(ii) need to recognize that the GMS's natural, economic, and political diversity warrants a carefully calibrated strategy; and
(iii) existence of other GMS transport cooperation schemes that predate the present study or are being concurrently implemented, e.g., Mekong River Commission's Navigation Programme.

A. Consultant Team

8. The consultant team will consist of three groups of specialists, responsible for demand forecasting, sector efficiency and supply constraint analysis, and development program formulation, respectively. The team will be headed by a team leader, who will coordinate the specialist teams, and liaison with the GMS governments, ADB, and other concerned development partners. The following team composition is envisaged:

1. Team Leader (7 person-months)

9. Transport economist or equivalent responsible for overall execution of the study and liaison with the concerned GMS governments, ADB, and other development partners, the team leader will do the following:

(i) Provide guidance and vision to the team, and coordinate and monitor the activities of all other consultants, who will regularly report to ADB through the team leader.
(ii) Coordinate field visits, prepare visit briefs that will document key findings, and list people met.
(iii) Facilitate the study and ensure regular communication among the consultants, and between them and governments.
(iv) Ensure that the reports and studies submitted by other consultants are of high quality, consistent in style and presentation, and submitted on time.
(v) Prepare a final report (integrative report) that will consolidate and synthesize the main findings of the sector studies.
(vi) Help organize workshops and presentations to senior government officials and other stakeholders.
(vii) Help incorporate comments made by GMS countries and others on the draft final report.

2. Demand-Side Analysis Team

10. The team will consist of the following:

(i) **Transport modeler** (4.5 person-months). Formulate a subregional transport model.

(ii) **Macroeconomist** (2.5 person-months). Prepare subregional origin-destination forecasting.

3. Supply-Side Analysis Team

11. The team will consist of the following:

(i) **Passenger transport specialist** (2.5 person-months). Identify constraints on subregional transport of passengers (especially international tourists) by air, sea, rail, and road. Recommend reform of the legal, regulatory, and operational frameworks.

(ii) **Cargo transport specialist** (3.5 person-months). Identify constraints on subregional freight transport (especially multimodal transports) by air, sea, rail, and road. Recommend reform of legal, regulatory, and operational frameworks.

4. Development Program Formulation Team

12. The team will consist of the following:

(i) **Investment program development specialist** (4 person-months). Identify, cost, and assess the economic and financial viability and subsequent prioritization of investment projects that may form part of GMS transport sector development portfolio from 2006 and 2015.

(ii) **Reform and development specialist** (4 person-months). Identify, cost, and assess the economic and financial viability and subsequent prioritization of reform and TA projects that may form part of the GMS transport sector development portfolio from 2006 and 2015.

B. Domestic Consultants

13. Domestic consultants may be engaged from any of the GMS countries if warranted and if suitable persons can be found. Provision will be made for a total of 6 person-months of domestic consultant inputs.

14. The domestic consultants will serve as resource persons and help the international consultants

(i) provide data and information from local sources,
(ii) arrange meetings with relevant stakeholders,
(iii) comment on the interim and draft final reports,
(iv) organize in-country workshops, and
(v) assist and accompany the international consultant team on field visits.

C. Mode of Implementation

15. The study will be executed in close cooperation with ADB and the concerned GMS governments. The consultant will propose analytical methodologies, deliver preliminary findings, and propose plans and solutions in the form of working papers for the perusal of ADB, GMS governments, and development partners. Approved working papers will form part of the consultant's draft and final reports. Within one month of inception, the consultant will deliver a preliminary list of contents of the resulting study report (inclusive of proposed appendixes), along with a schedule to deliver various chapters and appendixes in the form of working papers for review by ADB and GMS governments.