



# Report and Recommendation of the President to the Board of Directors

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Project Number: 36353  
November 2007

## Proposed Loans

Kingdom of Cambodia and Socialist Republic of  
Viet Nam: Greater Mekong Subregion Southern  
Coastal Corridor Project

## CURRENCY EQUIVALENTS

(as of 1 November 2007)

Currency Unit (Cambodia) – riel/s (KR)

KR1.00 = \$0.0002

\$1.00 = KR4,0352

Currency Unit (Viet Nam) – dong (D)

D1.00 = \$0.0001

\$1.00 = D16,081

## ABBREVIATIONS

AADT	–	average annual daily traffic
ADB	–	Asian Development Bank
AP	–	affected person
CBTA	–	Cross-Border Transport Agreement
DDIS	–	detailed design and implementation services
EA	–	executing agency
EIB	–	European Investment Bank
EIRR	–	economic internal rate of return
EMP	–	environmental management plan
GDP	–	gross domestic product
GDPW	–	General Department of Public Works
GMS	–	Greater Mekong Subregion
IA	–	implementation agency
ICB	–	international competitive bidding
IEE	–	initial environment examination
IMO	–	independent monitoring organization
IRC	–	Interministerial Resettlement Committee
IRI	–	International Roughness Index
IRM	–	independent resettlement monitor
JBIC	–	Japan Bank for International Cooperation
JICA	–	Japan International Cooperation Agency
KEXIM	–	Export-Import Bank of Korea
Lao PDR	–	Lao People's Democratic Republic
MEF	–	Ministry of Economy and Finance
MOF	–	Ministry of Finance
MOT	–	Ministry of Transport
MPWT	–	Ministry of Public Works and Transport
NCB	–	national competitive bidding
NPV	–	net present value
NR	–	national road (Cambodia)
PDPWT	–	Provincial Department of Public Works and Transport
PIR	–	poverty impact ratio
PIU	–	project implementation unit
PMU-3	–	Project Management Unit No. 3
PMU-MT	–	My Thuan Project Management Unit
PPC	–	Provincial People's Committee
PRC	–	People's Republic of China
QCBS	–	quality and cost-based selection

QL	–	national highway (Viet Nam)
RAMP	–	Road Asset Management Project
ROW	–	right-of-way
RP	–	resettlement plan
SCC	–	Southern Coastal Corridor
STI	–	sexually transmitted infection
TA	–	technical assistance
TL	–	provincial road (Viet Nam)
VOC	–	vehicle operating cost
VRA	–	Viet Nam Road Administration

### NOTE

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

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## LOAN AND PROJECT SUMMARY

<b>Borrowers</b>	Kingdom of Cambodia and Socialist Republic of Viet Nam
<b>Classification</b>	Targeting classification: General intervention Sector: Transport and communications Subsector: Roads and highways Themes: Sustainable economic growth, regional cooperation. Subthemes: Promoting economic efficiency and enabling markets, fostering physical infrastructure development
<b>Environment Assessment</b>	Category B. An initial environmental examination (IEE) was prepared for each of the Cambodian and Viet Nam sections.
<b>Project Description</b>	<p>The Project will complete the Greater Mekong Subregion Southern Coastal Corridor (GMS-SCC) Corridor in Cambodia and Viet Nam. The Project will include the following components:</p> <ul style="list-style-type: none"><li>(i) <b>Rehabilitation of transport infrastructure.</b> In Cambodia, 15 kilometers (km) of National Road (NR)33 will be improved to the border with Viet Nam at Preak Chak. In Viet Nam, 96.1 km of national highway (QL) 80 and QL63 will be improved, including construction of two large bridges across the Cai Be and Cai Lon Rivers.</li><li>(ii) <b>Cross-border facilities.</b> New cross-border facilities will be constructed, whose designs will take into account the ongoing work under the ADB's TA6307-REG on the <i>Implementation of the GMS Cross-Border Transport Agreement</i> approved in 2006.</li><li>(iii) <b>HIV/AIDS and trafficking awareness and prevention program.</b></li><li>(iv) <b>Road maintenance in Cambodia.</b></li></ul>
<b>Rationale</b>	<p>The SCC is one of 10 high priority subregional road projects identified to facilitate cross-border trade and support economic development in the Greater Mekong Subregion (GMS) countries. Cooperation in the transport sector has been given a high priority in the GMS because the poor state of transport infrastructure is a major constraint to economic growth, trade and other forms of cooperation. The poor transport system restricts access to job opportunities, markets, schools, and health facilities. Therefore, the provision of improved roads in areas where populations currently do not have good access will have a major impact on their livelihoods. Although sections of the GMS-SCC in Thailand and Cambodia are in good condition, the highway is not complete in Cambodia and much of the Vietnamese section requires major rehabilitation and improvements. By reducing travel times and vehicle operating costs (VOCs) along the GMS-SCC, the Project will encourage economic activities in the affected provinces, provide employment opportunities for the local population, and improve access to social services. At the national level, the Project responds to the emphasis given by both governments to infrastructure development and to improve the GMS road network.</p>

**Impact and Outcome**

The impact of the GMS-SCC Project will be the promotion of economic growth in the project area and GMS by strengthening connectivity with neighboring countries and increasing competitiveness. The outcome of the proposed GMS-SCC Project will be to reduce transport times and costs; and induce more efficient movement of passengers and goods between Thailand, Cambodia, Viet Nam, and within project provinces.

**Project Investment Plan**

The investment cost of the project is estimated at \$227.4 million, including taxes and duties of \$15.0 million.

**Financing Plan**

Source	Cambodia	%	Viet Nam	%	Total (\$ million)	%
ADB	7.0	37	75.0	36	82.0	36
Government of Australia <sup>a</sup>	8.0	43	25.5	12	33.5	15
Government of the Republic of Korea	0.0	0	50.0	24	50.0	22
Government of Cambodia	3.7	20	0.0	0	3.7	2
Government of Viet Nam	0.0	0	58.2	28	58.2	25
<b>Total</b>	<b>18.7</b>	<b>100</b>	<b>208.7</b>	<b>100</b>	<b>227.4</b>	<b>100</b>

ADB = Asian Development Bank.

<sup>a</sup> The amounts stated for the Government of Australia grants are inclusive of ADB's administration fees of \$200,000 for Cambodia and \$500,000 for Viet Nam.

Source: ADB estimates.

**Loan Amount and Terms**

It is proposed that the Asian Development Bank (ADB) will provide a loan to the Kingdom of Cambodia of \$7 million equivalent and a loan to the Socialist Republic of Viet Nam of \$75 million equivalent. The loans will be denominated in special drawing rights from ADB's Special Funds resources with terms of 32 years and grace periods of 8 years. There will be an interest charge of 1% per annum during the grace periods and 1.5% per annum thereafter.

The Government of the Republic of Korea, through the Economic Development Cooperation Fund, will provide a loan of \$50 million equivalent to the Socialist Republic of Viet Nam that will be denominated in won and have a term of 30 years including a grace period of 10 years. There will be an interest charge of 1% per annum charged throughout the term of the loan and a service charge of 0.1% on the amount of each disbursement. The Government of the Republic of Korea financing will be tied and made available as parallel cofinancing.

**Grant Amount**

The Government of Australia will provide a grant of \$8.0 million equivalent to the Kingdom of Cambodia and a grant of \$25.5 million equivalent to the Socialist Republic of Viet Nam. These amounts also include ADB's administration fee, audit cost, bank charges and provision for foreign exchange fluctuations (if any), to the extent that these items are not covered by the interest and investment income earned on this grant, or any additional grant contribution by the Government of Australia.

<b>Period of Utilization</b>	Cambodia: 31 December 2012; Viet Nam: 30 June 2015
<b>Estimated Project Completion Date</b>	Cambodia: 30 June 2012 Viet Nam: 31 December 2014
<b>Executing Agency</b>	<p><b>Cambodia.</b> The Executing Agency (EA) will be the General Department of Public Works, Ministry of Public Works and Transport (MPWT). Responsibility for implementation will be delegated to Project Management Unit No. 3 (PMU-3).</p> <p><b>Viet Nam.</b> The EA will be the Viet Nam Road Administration (VRA). Responsibility for implementation will be delegated to My Thuan Project Management Unit (PMU-MT).</p>
<b>Implementation Arrangements</b>	<p><b>Cambodia.</b> PMU-3 will engage and direct the work of all consultants, be responsible for procurement, be the employer on all civil works contracts, and have overall responsibility for implementation of the environmental management plan (EMP). Kampot Provincial Department of Public Works and Transport (PDPWT) will be responsible for the preparation and implementation of the resettlement plan, and will direct provincial government agencies to implement the HIV/AIDS and trafficking awareness and prevention program. <b>Viet Nam.</b> PMU-MT will engage and direct the work of all consultants, be responsible for procurement, be the employer on all civil works contracts, and have overall responsibility for implementation of the EMP. Separate consultants and contractors will be procured for the sections financed by ADB and the Republic of Korea. Kien Giang and Ca Mau Provincial People's Committees (PPCs) will be responsible for preparation and implementation of the resettlement plans, and will direct implementation of the HIV/AIDS and trafficking awareness and prevention program.</p>
<b>Procurement</b>	<p>Procurement of all works financed by ADB and the Government of Australia will be in accordance with ADB's <i>Procurement Guidelines</i> (2007, as amended from time to time). Implementing agencies in Cambodia, PMU-3, and Viet Nam, PMU-MT, are familiar with ADB procurement requirements. <b>Cambodia.</b> Under the rehabilitation of transport infrastructure and cross-border facilities components, four civil works contracts will be procured using international competitive bidding (ICB) procedures. Contracts under the maintenance component will be suitably packaged through a number of contracts where contracts costing more than \$100,000 and less than \$1 million may follow national competitive bidding (NCB) procedures. <b>Viet Nam.</b> Under the rehabilitation of transport infrastructure and cross-border facilities components, there will be seven contracts. For the component funded by ADB and the Government of Australia, two major civil works contracts will be procured using ICB procedures with prequalification; documentation will be subject to prior review. Other smaller civil works contracts costing more than \$100,000 and less than \$2 million will follow NCB procedures. Procurement of civil works under the component funded by the Government of the Republic of Korea will be subject to Republic of Korea procurement guidelines and procedures.</p>

**Consulting Services**

For all consulting services funded from ADB loan funds and Government of Australia grant funds, international and national consultants will be recruited through a firm in accordance with ADB's *Guidelines on the Use of Consulting Services* (2007, as amended from time to time). Quality and cost-based selection procedures will apply, full proposals will be requested, and evaluation will be based on an 80:20 ratio of quality to cost. **Cambodia.** A firm of consultants will be recruited to undertake all services required for the Project under a single contract to be funded using Government of Australia grant funds. Recruitment for these services will use quality and cost-based recruitment procedures (80:20) with full technical proposals. **Viet Nam.** A Government of Australia grant-funded contract for the detailed design and implementation supervision package will cover detailed design and construction supervision of the section funded by ADB and the Government of Australia, and the HIV and trafficking awareness and prevention program for all components in Viet Nam. Under the component funded by the Government of the Republic of Korea, a single package will be prepared for the detailed design and construction supervision of the Republic of Korea funded section.

**Project Benefits and Beneficiaries**

The major beneficiaries of the Project will be the residents of the project area. Both poor and nonpoor residents are heavy road users—over 86% of people living in the project area use the roads daily or several times a week. By reducing travel times and VOCs along the corridor, the Project will encourage economic activities in the affected provinces, provide employment opportunities for the local population, and improve access to social services. The Project's economic benefits are primarily derived from VOC savings and travel time savings. The estimated economic internal rate of return (EIRR) for the Project road is 16.7% indicating that the Project is economically viable. The results of sensitivity testing and risk analyses indicate that the project is robust with a very low risk of the EIRR falling below the minimum acceptable EIRR of 12%.

**Risks and Assumptions**

The Project has been designed to reduce potential risks, which include delays in implementation because of inadequate implementation capacity of MPWT in Cambodia and VRA in Viet Nam, failure to provide counterpart financing on time, the traffic forecast not being realized, and inadequate road maintenance. There is a major risk of corruption and fraud in the procurement process in Cambodia. The Government of Cambodia has not complied with a number of loan covenants under ongoing road subsector projects. Although progress is now being made toward meeting these covenants, the risk of noncompliance remains. Resettlement can lead to impoverishment if adequate compensation and rehabilitation assistance are not provided to enable affected households to replace their losses and restore their livelihoods. There is an increased risk of exposure to HIV/AIDS during construction activities and the potential for increased trafficking of women and children because of large volumes of transit traffic along the GMS-SCC and the border area.



## I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on proposed loans to the Kingdom of Cambodia and the Socialist Republic of Viet Nam for the Greater Mekong Subregion Southern Coastal Corridor Project.

## II. RATIONALE: SECTOR PERFORMANCE, PROBLEMS, AND OPPORTUNITIES

2. The Greater Mekong Subregion Southern Coastal Corridor (GMS-SCC) Project is part of the Southern Economic Corridor involving Thailand, Cambodia, and Viet Nam<sup>1</sup>—one of 11 flagship programs endorsed by the First Greater Mekong Subregion (GMS) Summit in Cambodia in November 2002 to achieve the GMS vision of a prosperous, more integrated, and harmonious subregion. The GMS-SCC runs for 924 kilometers (km) along the Gulf of Thailand coast from Bangkok through Thailand, Cambodia, and ends at Nam Can in the south of Viet Nam. The SCC is one of 10 high priority subregional road projects identified in a Subregional Transport Sector Study completed in 1994<sup>2</sup> to facilitate cross-border trade and support economic development in the GMS countries. The design and monitoring framework is in Appendix 1.

### A. Performance Indicators and Analysis

3. The principal mode of transport for the movement of goods and people within Cambodia and Viet Nam, and between countries in the GMS, is by road. The road network in both Cambodia and Viet Nam has developed significantly over the past 10 years, with support from the Asian Development Bank (ADB) and other development partners, enabling more efficient movement of goods and people between regions and provinces. However, although much has been achieved in terms of rehabilitation and reconstruction of the road transport system, the condition of the transport system continues to restrict the economic and social development of both countries. Poor transport connections restrict access to job opportunities, markets, schools, and health facilities. Therefore, the provision of improved roads in areas where populations currently do not have good access will have a major impact on their livelihoods.

4. Sections of the GMS-SCC within Thailand and Cambodia are complete or under construction, with the exception of a short unimproved length of Cambodia's national road (NR) 33 leading to the Viet Nam border at Preak Chak–Xa Xia. For the section of the GMS-SCC in Cambodia between the Thai border and Kampot, the highway has been improved or is being improved under projects funded by the Government of Thailand, World Bank, and the Government of the Republic of Korea. In Viet Nam, the GMS-SCC runs from the south of the Cambodian border through Kien Giang and Ca Mau provinces to Ca Mau city on sections of national highway (QL) 80, QL61, and QL63. Road conditions on the Vietnamese section vary from a two-lane highway in reasonable condition, particularly the section of QL80 between Ha Tien and Minh Luong, to a narrow earth track only accessible by motorcycles.

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<sup>1</sup> The Southern Economic Corridor is defined by three main road subcorridors and their areas of influence: (i) Central Subcorridor: Bangkok (Thailand)–Phnom Penh (Cambodia)–Ho Chi Minh City–Vung Tau (Viet Nam); (ii) Southern Coastal Subcorridor: Bangkok–Trat (Thailand)–Koh Kong–Kampot (Cambodia)–Ha Tien–Ca Mau–Nam Can (Viet Nam); and (iii) Northern Subcorridor: Bangkok (Thailand)–Siem Reap–Stung Treng–Rattanakiri–O Yadav (Cambodia)–Play Ku–Quy Nhon (Viet Nam). An important inter-corridor link is the Southern Lao People's Democratic Republic (Lao PDR)–Sihanoukville Subcorridor: Dong Kralor–Stung Treng–Kratie–Phnom Penh–Sihanoukville (Cambodia). The Southern Economic Corridor will strive to improve subregional economic cooperation between and among Cambodia, Thailand, Viet Nam, and to a limited extent, southern Lao PDR, by, among others, upgrading critical links in the Asian Highway from Bangkok to Ho Chi Minh City via Phnom Penh.

<sup>2</sup> ADB. 1993. *Technical Assistance for Promoting Subregional Cooperation among Cambodia, People's Republic of China, Lao People's Democratic Republic, Myanmar, Thailand, and Socialist Republic of Viet Nam*. Manila.

5. The limited extent and quality of current roads in the project area within Viet Nam, particularly in the southern part of Kien Giang province and the northwestern part of Cau Mau province, require that most passenger and freight transport now use water transport. The high cost of carrying value-added freight by water transport has limited economic growth in these regions, with rice production dominating. It is expected that improved road transport will allow other production such as aquaculture and horticulture to grow substantially. This potential would be enhanced by ensuring that producers can make effective use of both water and road transport through enhanced intermodal transport. Landing stages play an important role in linking rural producers to the main transport networks through which they obtain inputs and market their produce, as they provide locations at which collection, consolidation, and distribution occurs.

## **B. Analysis of Key Problems and Opportunities**

6. In Cambodia, the Ministry of Public Works and Transport (MPWT) is responsible for the overall management and development of the transport sector. Given the condition of the road network, expenditure on roads for maintenance has been well below the required level. Until 2007, no annual budget has been provided and funds are only made available under ad hoc arrangements. Of the work that has been undertaken, force account procedures have been used with rates determined by negotiations. Under the *GMS Cambodia Road Improvement Project*,<sup>3</sup> programs were included to address road maintenance requirements and related organizational changes. These programs had not been implemented and the associated loan covenants had not been complied with. However, the following requirements were met as conditions for appraisal of this Project: (i) that an updated draft of the Road Transport Policy be prepared; (ii) that an Interministerial Committee for Reorganization with authority to review and advise on the reform of MPWT be reestablished; (iii) that a proposal for the restructuring of MPWT be submitted by the minister of MPWT to the Interministerial Committee for Reorganization; and (iv) based on an annual maintenance plan and budget for 2007 for all national and provincial roads, the Ministry of Economy and Finance (MEF) shall have authorized its Treasury Division to disburse an advance payment of 40% of the 2007 budget. By meeting the above requirements, significant progress has been made in meeting the loan covenants under the Cambodia Road Improvement Project. ADB is now preparing the Road Asset Management Project (RAMP) for approval in 2007. If approved, this project is to be cofinanced by the World Bank and Government of Australia. The RAMP project will address the long-term sustainability of the MPWT road network by establishing a consistent and prioritized road management system through systematic maintenance planning. The RAMP project will also address the issue of ensuring sustainable long-term funding for the road network by identifying funding sources and mechanisms, including options to generate revenue by tolling major routes.

7. In Viet Nam, the Ministry of Transport (MOT) is responsible for the overall management and development of the transport sector. The Viet Nam Road Administration (VRA) under MOT is in charge of the national roads network. The Provincial People's Committee (PPC) for each province has been delegated responsibility for the provincial road networks. The budget allocations to undertake road maintenance are relatively small—the cost of routine and periodic maintenance in the project area averages \$820/km for provincial roads and \$1,320/km for national roads. However, expenditure on road maintenance has been rising rapidly. For example, the budget allocation for maintenance of national roads increased from D592 billion in 2002 to D946 billion in 2004 (still only 50% of the required amount estimated by VRA). National roads maintenance is being supported by the World Bank-funded Road Network Improvement Project, which has developed a standardized road maintenance system for application in both national and provincial roads throughout Viet Nam. The Road Network Improvement Project includes a

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<sup>3</sup> ADB. 2002. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan for the Greater Mekong Subregion: Cambodia Road Improvement Project*. Manila (Loan 1945-CAM).

component for Strengthening Road Maintenance and Finance that will address improving road maintenance financing and management; and will prepare and implement a framework to improve cost recovery and planning, budgeting, and monitoring of maintenance on road assets.

8. Subregional traffic is dominated by roads for both freight and passenger traffic. Although subregional traffic is still modest between Cambodia and Viet Nam, great efforts are being made to promote and ease international traffic, develop effective cross-border agreements to facilitate movement of goods and people, and develop border crossing infrastructure and border access roads. Completion of the GMS-SCC offers enormous potential to facilitate the movement of goods and people between Cambodia and Viet Nam, given the fast-growing economic interaction that is taking place between the two countries. Traffic movements at the Bavet–Moc Bai crossing have already increased significantly since the improvements and rehabilitation of the Phnom Penh to Ho Chi Minh City road. The Preak Chak–Xa Xia crossing is expected to develop in a similar way; a small industrial zone has already been established and a cement plant has been proposed.

9. In February 2007, Cambodia and Viet Nam signed a memorandum of understanding to include the Preak Chak–Xa Xia<sup>4</sup> border crossing under the GMS Cross-Border Transport Agreement (CBTA). Under the CBTA, the border will be opened to international traffic and procedures will be adopted for improving the efficiency of goods and passenger processing—eventually leading to harmonized single-stop inspections and processing. Viet Nam has recently completed a new cross-border facility at Xa Xia in anticipation of opening the border. The existing border post at Preak Chak is not adequate to handle forecasted international cargo and passenger traffic and a new, enlarged facility will be required.

10. At the Koh Kong crossing between Cambodia and Thailand, trade has been severely limited by the need to traverse four major rivers by small ferries on the journey between the border and the junction with NR4, connecting Phnom Penh to Sihanoukville. Consequently, use of this border crossing is limited to local traffic. A major rehabilitation of this road, which includes new bridges at the four rivers, is expected to be completed by mid-2008 with Government of Thailand funding. This will connect southeastern Cambodia to the rest of Cambodia for the first time, and an alternative route between Phnom Penh and Bangkok will be useable.

11. **Subregional Strategy.** The ultimate objective of the GMS strategy is to facilitate sustainable economic growth, improve employment opportunities, and reduce poverty in the subregion by tapping the comparative advantages of the participating countries. In 2006, a GMS Transport Sector Strategy<sup>5</sup> was prepared for the period up to 2015 based on the theme “Towards Seamless Transport Services on a fully connected and integrated GMS Transport Network”. To develop the transport infrastructure of the GMS, the strategy proposed the goals of (i) sectoral focus, (ii) comprehensive inter-sectoral strategy, and (iii) goal setting and results-oriented management. The proposed Project will assist in achieving the strategy’s objectives. An overview of the development of the transport sector in the GMS, including the development and status of the CBTA is in Appendix 2.

12. From the national perspective, improvement of the road system will support broader development objectives, principally to facilitate (i) the movement of agricultural products from surplus to deficit areas, (ii) flow of consumer goods and agricultural inputs to rural areas, and (iii) marketing and export of cash crops and other produce. In both Cambodia and Viet Nam, the Project will meet the governments’ objective of completing the improvement of its road transport system, particularly with regard to facilitating trade and improving access between the two countries.

<sup>4</sup> Sometimes referred to as the Lork–Xa Xia or the Preak Chak–Ha Tien Border Crossing.

<sup>5</sup> ADB. 2006. *Final Report of the Greater Mekong Subregion Transport Sector Strategy*. Manila (TA 6195-REG).

13. **ADB's Strategy.** ADB's Regional Cooperation Strategy and Program for the GMS was approved in March 2004. The Regional Cooperation Strategy and Program Update, 2007–2009, for the Greater Mekong Subregion<sup>6</sup> noted progress in implementing the strategic pillars of the Regional Cooperation Strategy and Program, which provide the backbone of ADB assistance toward enhancing connectivity, improving competitiveness, and engendering a greater sense of community in the GMS. The GMS-SCC Project is consistent with the RSCP. Through regional collective action, ADB's Strategy for Regional Economic Cooperation and Integration<sup>7</sup> aims to generate greater physical connectivity; expansion of trade and investment; macroeconomic and financial stability and development of financial systems; and improved environmental, health, and social conditions. The GMS-SCC Project is consistent with the Strategy for Regional Economic Cooperation and Integration.

14. **External Assistance.** Most of the assistance to Cambodia's road sector has been directed at restoring a basic level of access to as much of the country as possible through rehabilitation of the primary road network. In Viet Nam, projects initially focused on rehabilitating QL1, which runs along the east coast of Viet Nam and acts as the central spine for the road network. Subsequently, integral parts of the GMS economic corridors in Viet Nam were improved under ADB-funded projects. Appendix 3 details external assistance to GMS transport infrastructure projects.

15. **Lessons.** In Cambodia, the main lesson in the road sector is that project design must take into account the limitations caused by institutional and financing deficiencies in MPWT. Although its capacity to handle ADB-financed projects has improved considerably in recent years, certain aspects still need improvement. The key lessons from these loans were that there was a need to ensure that (i) procurement approval is delegated to the project management unit; (ii) processes for approving bid documents and awarding contracts that are applicable to ADB-financed contracts under a loan are clarified at the outset; (iii) satisfactory resettlement plans and frameworks are in place before loans are approved; (iv) specific environmental requirements, including documentation and reporting requirements, are included in loan covenant and bidding documents; and (v) agreement on the release of counterpart funds is reached with MEF. On early road sector projects, significant issues arose with respect to resettlement planning and implementation. On the Cambodian section of the Phnom Penh – Ho Chi Minh City Project,<sup>8</sup> problems arose due to the highway right-of-way not being clearly defined, and resettlement implementation did not comply with the agreed resettlement plan. This resulted in a number of affected people not receiving appropriate compensation, relocation and income restoration assistance. During the course of a resettlement audit in 2005 many of these affected people were identified and compensation payments, and other actions, were completed by the Interministerial Resettlement Committee (IRC) by October 2006. However, in May 2006 two additional groups of affected people were identified, claims made by these groups have been investigated and most have been resolved by the IRC. The remaining cases are still under investigation by the IRC, NGOs and ADB. On 30 July 2007 a complaint was made to the ADB's Office of the Special Project Facilitator. The Special Project Facilitator deemed the complaint to be valid on 19 September 2007 and investigations are now ongoing. In general, the capacity of both MPWT and the IRC to address resettlement issues has improved significantly since the early projects and the problems encountered on the Phnom Penh – Ho Chi Minh City Project have not been repeated.

<sup>6</sup> ADB. 2006. *Beyond Borders - Regional Cooperation Strategy and Program Update (RCSPU), 2007–2009, for the Greater Mekong Subregion*. Manila.

<sup>7</sup> ADB. 2006. *ADB's Strategy for Regional Cooperation and Integration*. Manila.

<sup>8</sup> ADB. 1998. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the Kingdom of Cambodia and to the Socialist Republic of Viet Nam for the Greater Mekong Subregion: Phnom Penh to Ho Chi Minh City Highway Project*. Manila (Loan 1659-CAM[SF] and Loan 1660-VIE[SF]).

Further work on strengthening legal and institutional capacity is ongoing under the ADB-funded technical assistance for Enhancing the Resettlement Legal Framework and Capacity Building.<sup>9</sup>

16. In Viet Nam, several review missions have noted implementation delays in previous road projects, especially during the project start-up phase. Project designs have required that project supervision consultants prepare detailed designs and bidding documents for civil works. Delays in recruiting consultants or preparing detailed designs have led to delays in the award of civil works. To alleviate these problems, the project design was developed based on a detailed understanding of both ADB and Government of Viet Nam approval procedures, and the project implementation schedule has allowed adequate time for these procedures. Inadequate resettlement planning has also caused delays but this is a low risk for new projects since MOT's capacity to address resettlement needs has improved considerably in recent years, in terms resettlement planning and implementation.

### III. THE PROPOSED PROJECT

#### A. Impact and Outcome

17. The impact of the GMS-SCC Project will be to promote economic growth in the project area and the GMS by strengthening connectivity with neighboring countries and increasing competitiveness.

18. The outcome of the Project will be to reduce transport times and costs on the GMS-SCC, and induce more efficient movement of passengers and goods within the project area and between GMS countries.

19. The project area includes the provinces of Kampot in Cambodia (population 0.58 million), and Kien Giang (population 1.63 million) and Ca Mau (population 1.20 million) in Viet Nam. The immediate project area has a population of 0.09 million in Cambodia and 1.44 million in Viet Nam. In Cambodia, the Project is located in an agricultural area between Kampong Trach market town and the border at Preak Chak. In Viet Nam, the Project runs alongside a series of canals through land used primarily for rice production. There is some shrimp farming, chiefly in locations with good transport links, with considerable potential for growth in higher value aquaculture and horticultural production. Industrial activity is limited to the major towns (e.g., cement production in Kien Luong) and an industrial complex is under construction in Ca Mau to be fuelled from offshore gas sources.

20. The scope of the GMS-SCC Project extends from Kampot in Cambodia to the Cambodia–Viet Nam border at Preak Chak–Xa Xia to Ca Mau in Viet Nam. Under the Cambodian component, the Project will undertake improve and rehabilitate sections of NR31 and NR33. This will include periodic maintenance work on the Kampot–Kampong Trach section, upgrading of the Kampong Trach–Preak Chak section, and routine maintenance works on NR31 between Kampong Trach and the junction with NR3. Border facilities at the Preak Chak–Xa Xia (Ha Tien) border (between Cambodia and Viet Nam) and Koh Kong border (between Cambodia and Thailand) will be improved under the Project. During the ADB-funded project preparation work, the needs of the entire corridor within Viet Nam were identified and reviewed at a feasibility level. Implementation of the Viet Nam component will be undertaken under two or more stages because of funding constraints. Funding is currently available for stage 1 of the GMS-SCC Project, which includes improvement of a short section of QL80 between the border at Xa Xia and Ha Tien, and completion of the transport corridor to Ca Mau on the Minh Luong–Ca Mau city section.

<sup>9</sup> ADB. 2004. *Technical Assistance for Enhancing the Resettlement Legal Framework and Capacity Building*. Manila (TA 4490-CAM).

Improvements to be funded under future stages will include improvements to the Ha Tien–Rach Gia section of QL80 and a bypass to Rach Gia.

21. Existing road traffic on NR33 in Cambodia between Kampong Trach and Preak Chak is relatively low, with average annual daily traffic (AADT) levels of about 200 motor vehicles excluding motorcycles. Traffic crossing the border is negligible—one or two trucks exchanging cargoes in the neutral zone and minor motorcycle and pedestrian movements. In Viet Nam, traffic on QL80 between Xa Xia and Ha Tien is low but it builds up along the corridor, and the highest levels occur on the approaches to Rach Gia and Rach Soi where AADT levels are about 2,000 motor vehicles and greater than 10,000 motorcycles. There is a sharp decrease in traffic south of the Tac Cau ferry, especially in motor vehicles, demonstrating the suppressing effect of the ferry service. The Tac Cau ferry is a major impediment to transport in the corridor south of Rach Gia. There has been a large increase in ferry traffic, with passenger and vehicle volumes doubling over the past 5 years. The levels of road traffic north and south of the ferry on QL63 differ significantly, partly because of the fishing industries located on the Cai Be and Cai Lon rivers but also because of the general level of suppressed traffic caused by the cost and time involved in the ferry crossing. Traffic between Thu Bay and Ca Mau city declines to an AADT of about 200 motor vehicles. Motor vehicle traffic largely comprises buses and trucks, reflecting the low level of private vehicle ownership. Trucks of all weights operate on QL80, QL61, and sections of QL63 where bridges have weight limits of 15 tons or more. No heavy trucks and very few medium trucks travel on the corridor south of the Tac Cau ferry because of the restrictions on vehicle size and weight imposed by the ferry and the remaining single-lane bridges.

## **B. Outputs**

22. Project outputs will include the following. Additional details of the proposed civil works are in Appendix 4.

### **1. Rehabilitation of Transport Infrastructure**

23. In Cambodia, NR33 will be improved to national road standard from the intersection with NR31 in Kampong Trach to the border with Viet Nam at Preak Chak, a distance of 15 km. The work will include replacing an existing steel bridge in the center of the border neutral zone.

24. In Viet Nam, QL80 between the Cambodia border at Xa Xia and the start of the Ha Tien bypass, and QL63 between Minh Luong and the start of the Tac Cau Bypass, will be widened along the existing alignments. At Tac Cau, a 6.4 km bypass will be constructed about 1 km south and east of the existing QL63. This bypass requires four bridges, including two large bridges across Cai Be River (about 600 meters [m] total length) and Cai Lon River (about 680 m total length). QL63 between the end of the Tac Cau bypass and Thu Bay will be widened, and the construction of Thu Bay Bypass will be completed under the Project. Rehabilitation and improvements to Provincial Road 7 will be undertaken between Thu Bay and Nga Bac Canal and from the Nga Bac Canal to Ca Mau, a new embankment will be constructed along the alignment of an existing track. The embankment for the existing access track will not be disturbed to avoid potential instability of canal banks. Bridgeworks on the Nga Bac Canal to Ca Mau section will include construction of 30 small or medium bridges across feeder canals and nine large bridges. The Project will identify key locations for improvements to existing public landings to facilitate intermodal transfers between road and water transport. This will coordinate with the Mekong Transport Infrastructure Development Project, funded by the World Bank with cofinancing from the Government of Australia, which will consider the development of intermodal transport infrastructure and services in the Mekong Delta in more detail.

## 2. Cross-Border Facilities

25. The GMS-SCC crosses borders between Cambodia and Thailand at Koh Kong, and between Cambodia and Thailand at Preaek Chak–Xa Xia. Current facilities at both border crossings are inadequate. A complete new facility will be constructed at Preaek Chak on the Cambodian side; on the Vietnamese side, additional facilities to facilitate passenger and cargo inspections and processing are required to supplement those provided in a recently completed building. The overall design of the cross-border facility will be a single design spanning both sides of the border and will take into account ongoing work on the implementation of the GMS CBTA.<sup>10</sup> At Koh Kong, a new facility will be constructed on the Cambodia side that will be designed to take into account the requirements of the GMS CBTA. Coordination with the Government of Thailand will be undertaken through existing committees established to coordinate border-crossing arrangements.

## 3. HIV/AIDS and Trafficking Awareness and Prevention Program

26. To address the increased risk of exposure to HIV/AIDS during construction activities, and the potential for increased trafficking of women and children because of large volumes of transit traffic along the GMS-SCC and the border area, the Project includes an HIV/AIDS and trafficking awareness and prevention campaign. This will be implemented through existing agencies in Cambodia and Viet Nam, with assistance from consultants engaged under the Project, and will complement ongoing programs. Plan components include advocacy actions on HIV/AIDS and trafficking, information and education campaigns on HIV/AIDS and trafficking, provision of comprehensive HIV/AIDS medical packages to clinics and medical centers along the road, and monitoring. The plan will also address the needs of ethnic minorities.

## 4. Road Maintenance in Cambodia

27. Lack of adequate maintenance of road assets has been one of the major issues in the road sector in Cambodia. The Project will contribute to the development of sustainable road maintenance by providing funds for technical support to MPWT through a demonstration project that will include (i) maintenance planning, (ii) implementation of routine and periodic maintenance through competitively bid contracts, (iii) exposure of Cambodian contractors to contracts for routine and periodic maintenance, (iv) exposure of MPWT and Provincial Department of Public Works and Transport (PDPWT) staff to maintenance planning and implementation of this plan through competitively bid contracts, and (v) establishment of market rates for maintenance work that can be used to evaluate and standardize maintenance costs. This demonstration project will be implemented on the section of the GMS-SCC along NR33 between Kampot and Kampong Trach, and the section of NR31 between Kampong Trach and the junction with NR3. Work under this component is consistent with, and will be coordinated with, work to be undertaken under the proposed RAMP (para. 6.). Both this component and the RAMP support the development of long-term sustainability of the road network in Cambodia.

## C. Special Features

28. **Regional Cooperation.** The Project considers the improvement of border facilities as an important element in encouraging economic growth and increasing trade opportunities between Cambodia, Thailand, and Viet Nam. While the likely scale of the flow through the new crossing between Cambodia and Viet Nam at Preaek Chak–Xa Xia is difficult to quantify with precision because of the absence of a current formal crossing, regional population and industrial output suggest that future flows could be 10–30% of the concurrent traffic flows using the Bavet–Moc Bai

<sup>10</sup> ADB. 2006. *Technical Assistance for the Implementation of the GMS Cross-Border Transport Agreement*. Manila (TA 6307-REG). The CBTA will apply at both border crossings.

crossing on the road linking Ho Chi Minh City and Phnom Penh. The increase in cross-border activities between Moc Bai on the Viet Nam border and Bavet on the Cambodia border, improved under the Phnom Penh–Ho Chi Minh City Highway Project (footnote 8), started increasing around 2003 and 2004, soon after the completion of the upgrading of facilities at the border. The total value of trade through the Moc Bai–Bavet border posts has increased at around 41% per annum from 2003 to 2006. People crossing the border have increased at an average rate of 53% from 2003 to 2006 while vehicles crossing the border have increased at an average rate of 38% during the same period.

29. **Resettlement.** Three full resettlement plans have been prepared based on the preliminary design available—one for NR33 in Cambodia, and one each for Ca Mau Province and Kien Giang Provinces in Viet Nam. In Viet Nam, 3,775 households will be affected by loss of residential, commercial, or agricultural land within the corridors of impact of project roads and border crossings. Of these, 677 houses and 513 small businesses and shops will be displaced, and 680 households will be severely affected by loss of productive assets. In Cambodia, 337 households will be affected by the Project. It will require relocation of 83 houses and 58 small businesses and shops. Eight households will lose their entire total productive landholdings because of expansion of border facilities. The resettlement plans incorporate special actions to address the needs of ethnic minorities and are consistent with the project gender strategy. A summary of the resettlement plans is in Appendix 5.

#### D. Project Investment Plan

30. The project investment cost is estimated at \$227.40 million, including taxes and duties of \$15.00 million. The project investment plan is summarized in Table 1 and detailed cost estimates are in Appendix 6.

**Table 1: Project Investment Plan (\$ million)**

Item	Amounts <sup>a</sup>		
	Cambodia	Viet Nam	Total
<b>A. Base Cost<sup>b</sup></b>			
1. Civil Works	12.25	119.42	131.67
2. Resettlement	0.93	26.11	27.04
3. Consultants	2.28	14.67	16.95
4. Recurrent Costs	0.34	3.06	3.40
<b>Subtotal (A)</b>	<b>15.80</b>	<b>163.26</b>	<b>179.06</b>
<b>B. Contingencies<sup>c</sup></b>	<b>2.56</b>	<b>41.64</b>	<b>44.20</b>
<b>C. Financing Charges During Implementation<sup>d</sup></b>	<b>0.34</b>	<b>3.80</b>	<b>4.14</b>
<b>Total (A+B+C)</b>	<b>18.70</b>	<b>208.70</b>	<b>227.40</b>

<sup>a</sup> Includes taxes and duties of \$15.00 million (Cambodia \$1.33 million, Viet Nam, \$13.67 million.)

<sup>b</sup> In mid-2006 prices.

<sup>c</sup> Physical contingencies computed at 10% for civil works. Price contingencies computed at 17.5% for Viet Nam and 11% for Cambodia. Includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

<sup>d</sup> Includes interest during construction.

Source: Asian Development Bank estimates.

#### E. Financing Plan

31. It is proposed that ADB will provide a loan to the Kingdom of Cambodia of \$7 million equivalent and a loan to the Socialist Republic of Viet Nam of \$75 million equivalent. The loans will be denominated in special drawing rights from ADB's Special Funds resources with terms of 32 years and grace periods of 8 years. There will be an interest charge of 1% per annum during the grace periods and 1.5% per annum thereafter. It is further proposed that the Government of Australia, through the Australian Agency for International Development, provide a grant to the

Kingdom of Cambodia of 8.0 million equivalent and a grant to the Socialist Republic of Viet Nam of \$25.5 million equivalent in joint cofinancing for consulting services and civil works.<sup>11</sup> It is also proposed that the Government of the Republic of Korea, through the Economic Development Cooperation Fund of Korea, will provide a loan of about \$50.0 million equivalent to the Socialist Republic of Viet Nam for consulting services and civil works to construct the Tac Cau Bypass. The Government of the Republic of Korea loan will be denominated in won and have a term of 30 years including a grace period of 10 years. There will be an interest charge of 1% per annum charged throughout the term of the loan and a service charge of 0.1% on the amount of each disbursement. Repayments will be in semiannual installments after the grace period. Government of the Republic of Korea financing will be tied and made available as parallel cofinancing. The Government of Cambodia will contribute about \$3.7 million equivalent (about 20% of total costs for the Cambodian component) which will cover land acquisition and resettlement, independent monitoring of the resettlement plan provisions, a portion of project management costs, a portion of contingencies, a portion of civil works costs, and all taxes and duties. Of MPWT's recurrent project administration costs, ADB loan funds will be applied to the following items when costs are incurred for project-related activities: vehicle operation and maintenance; international and domestic travel, per diems, and allowances; communications; and miscellaneous office supplies. The Government of Viet Nam will contribute about \$58.2 million equivalent (about 28% of total costs for the Vietnamese component) which will cover land acquisition and resettlement, unexploded ordnance clearance,<sup>12</sup> independent monitoring of the resettlement plan provisions, project management costs, local currency contingencies, and all taxes and duties. The Project's financing plan is summarized in Table 2 and details are in Appendix 6.

**Table 2: Financing Plan**  
(\$ million)

Source	Cambodia	%	Viet Nam	%	Total	%
Asian Development Bank (ADB)	7.0	37	75.0	36	82.0	36
Government of Australia <sup>a</sup>	8.0	43	25.5	12	33.5	15
Government of the Republic of Korea	0.0	0	50.0	24	50.0	22
Government of Cambodia	3.7	20	0.0	0	3.7	2
Government of Viet Nam	0.0	0	58.2	28	58.2	25
<b>Totals</b>	<b>18.7</b>	<b>100</b>	<b>208.7</b>	<b>100</b>	<b>227.4</b>	<b>100</b>

<sup>a</sup> These amounts also include ADB's administration fee, audit cost, bank charges and provision for foreign exchange fluctuations (if any), to the extent that these items are not covered by the interest and investment income earned on this grant, or any additional grant contribution by the Government of Australia.

Source: ADB estimates.

32. In Cambodia, the Borrower for the Project will be the Kingdom of Cambodia. MEF will be responsible for repayment of the loan and will provide counterpart funds to MPWT through priority annual budgetary allocations. In Viet Nam, the Borrower for the Project will be the Socialist Republic of Viet Nam. The Ministry of Finance (MOF) will be responsible for repayment of the loan. MOF will provide counterpart funds to MOT through priority budgetary allocations and MOF will make project loan funds available to VRA by onlending through MOT. ADB provided \$1 million in grant funds for project preparation activities, funded from the Japan Special Fund.<sup>13</sup>

33. Government of Australia cofinancing will be made available through a cofinancing agreement between ADB and the Government of Australia for the funds to be placed in a trust

<sup>11</sup> The amounts stated for the Government of Australia grants are inclusive of ADB's administration fees of \$200,000 for Cambodia and \$500,000 for Viet Nam.

<sup>12</sup> For the Cambodian component, unexploded ordnance clearance will be financed from loan proceeds.

<sup>13</sup> ADB. 2005. *Technical Assistance for Preparing the Greater Mekong Subregion Southern Coastal Corridor Project*. Manila (TA 6235-REG).

account at ADB. The cofinancing agreement includes provision for a fixed Australian dollar amount (equivalent to US\$33.5 million) and provision has been made to cover the cost of administration fees. The conditions and arrangements for the application of the trust funds to the Project will also be (i) documented through an exchange of letters between the Government of Australia and the Government of Cambodia, and (ii) through a grant<sup>14</sup> agreement between ADB and the Government of Viet Nam. Conditions and arrangements for Government of the Republic of Korea cofinancing will be a through bilateral financing agreement to be negotiated between the Government of Viet Nam and the Government of the Republic of Korea. Operational arrangements for cofinancing arrangements between ADB and Government of the Republic of Korea will be based on the memorandum of understanding on Establishing Operational Arrangements between ADB and Export-Import Bank of Korea (KEXIM) signed on 14 December 2005. KEXIM is the Republic of Korea government agency responsible for the administration of the Economic Development Cooperation Fund.

## **F. Implementation Arrangements**

### **1. Project Management**

34. **Cambodia.** MPWT will be the Executing Agency (EA) for the Project with responsibility for procurement, withdrawal of loan proceeds, engagement and direction of consultants, acting as Employer on all works contracts, and reporting to ADB and the Government of Australia. Responsibilities for planning and implementation will be delegated to Project Management Unit No. 3 (PMU-3), under the General Department of Public Works (GDPW), as the implementation agency (IA) for the Project. The proposed project organization and implementation arrangements are in Appendix 7. MPWT and PMU-3 have experience of ADB requirements during implementation of ADB-funded projects and have performed satisfactorily on previous projects. PMU-3 will ensure that the Kampot PDPWT establishes a provincial resettlement committee as well as district resettlement working groups and commune resettlement task forces to be responsible for preparation and implementation of the resettlement plan. GDPW will ensure that an updated resettlement plan is prepared prior to any award of civil works contracts. The Kampot and Kep PDPWTs will coordinate with the Provincial Committees for the Control of AIDS to implement the HIV/AIDS and trafficking awareness and prevention program with assistance from the consultant engaged under the project implementation consulting services package. This plan will supplement government programs for prevention and complement other donor initiatives. PMU-3 will make equivalent arrangements as needed with regard to improvements of the Koh Kong border facility. PMU-3 will have overall responsibility for implementation of the environmental management plan (EMP) in the design and construction stages. EMP requirements will be incorporated into the construction documents; monitoring and enforcement will be ensured by PMU-3 with the assistance of the project implementation consultant. EMP requirements during operations will be monitored by the Social and Environmental Unit, Department of Planning (or Office of Social and Environmental Safeguard, General Department of Planning and Administrative Services, after MPWT reorganization), MPWT. IRC will recruit an independent resettlement monitor (IRM) to monitor implementation of the resettlement plans. The IRM will be engaged prior to initiation of resettlement activities.

35. Within 3 months of the completion of rehabilitating and upgrading NR33 from Kampong Trach to Preak Chek, MPWT will assign responsibility for operations and maintenance to Kampot and Kep PDPWTs which already have responsibility for the major national highways in the project area.

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<sup>14</sup> Government procedures require that loan and grant agreements be drawn up for use in Viet Nam.

36. **Viet Nam.** VRA will be the EA for the Project. Responsibility for planning and implementation will be delegated to My Thuan Project Management Unit (PMU-MT), which will be engaged under an agreement with VRA to undertake the duties of the IA for the Project. Consultants and contractors will be procured separately for the ADB and Government of Australia financed section, and for the Republic of Korea-financed section. The IA will engage, direct, and coordinate the work of all consultants; be responsible for procurement; and be the Employer on all civil works contracts. The IA will be delegated all necessary legal authority to undertake the above tasks. PMU-MT has experience of ADB requirements during the implementation of ADB-funded projects and performed satisfactorily on previous projects. The Government of Viet Nam will ensure that Kien Giang and Ca Mau PPC establish provincial resettlement committees (if needed, based on Project needs) as well as district compensation, assistance, and resettlement boards and commune resettlement task forces to be responsible for the preparation and implementation of the resettlement plans. PMU-MT will ensure that an updated resettlement plan is prepared prior to any award of civil works contracts. The PPCs will also direct provincial government agencies to implement the HIV/AIDS and trafficking awareness and prevention program with assistance from the ADB detailed design and implementation services (DDIS) component consultant. VRA will have overall responsibility for implementation of the EMP in the design and construction stages. EMP requirements will be incorporated into the construction documents; monitoring and enforcement will be ensured by the project implementation consultant and Republic of Korea supervision consultant. EMP requirements during operations will be implemented by PMU-MT, with monitoring by the Provincial Departments of Natural Resources and the Environment. The PMU-MT will recruit an IRM to monitor implementation of the resettlement plans. The IRM will be engaged prior to initiation of resettlement activities.

37. Upon completion of the project roads, VRA will assign responsibility for operation and maintenance to its subsidiary operational agency, Regional Road Management Unit No. 7, which already has responsibility for the major national highways in the project area. MOT will reclassify provincial road (TL) 7 as a QL on completion of rehabilitation and improvements, and responsibility for the operation and maintenance of this road will be transferred to VRA.

## 2. Implementation Period

38. **Cambodia.** Recruitment of the DDIS consultant commenced in June 2007 and this consultant will start work in early 2008. Detailed designs and bid documents for upgrading NR33 will be completed by late 2008, enabling procurement to be completed and construction to start in mid 2009. It is estimated that a construction period of 18 months will be required, with completion by the end of 2010. The DDIS consultant will assist PMU-3 and Kampot PDPWT to complete resettlement work sufficient for award of civil works contracts by the mid of 2009. It is estimated that the periodic maintenance work for NR33 from Kampong Trach to Preaek Chek will require 18 months and be completed by the end of 2010. Routine maintenance work for NR31 and NR33 will be undertaken for 3 years and finish by mid-2012. An outline implementation schedule for the Cambodian component of the Project is in Appendix 8.

39. **Viet Nam.** The DDIS consultant for the ADB and Government of Australia funded components (ADB DDIS consultant) for the Project will be recruited and will start work by late 2008. For the first civil works contract, detailed designs and bid documents will be completed by late 2009, enabling procurement to be completed and construction to start by early 2010. The consultant will assist PMU-MT and the districts in Ca Mau and Kien Giang provinces to complete resettlement work sufficient for award of civil works contracts by early 2010. Construction of the ADB and Government of Australia funded civil works will be completed by end 2013. The Government of the Republic of Korea funded DDIS component consultant will begin work in late 2008 at the same time as the ADB DDIS consultant, and complete the detailed designs by the late

2009. This will enable the ADB DDIS consultant to complete the resettlement work on the Republic of Korea section in parallel with the ADB and Government of Australia section by the end of 2009 sufficient for construction work to commence. Construction on the Republic of Korea section is planned to begin in early 2010 and be completed by the end of 2013. An outline implementation schedule for the Vietnamese component of the Project is presented in Appendix 8.

### 3. Procurement

40. Procurement of all ADB and Government of Australia financed works will be in accordance with ADB's *Procurement Guidelines* (2007, as amended from time to time). Procurement plans<sup>15</sup> and details of proposed contract packages for the Project are in Appendix 9. Approval for advance procurement action for civil works has not been requested as preparation of civil works bidding documents can only commence after the DDIS consultants have commenced work, these services can only begin after loan effectiveness. IAs in both Cambodia (PMU-3) and Viet Nam (PMU-MT) are familiar with ADB procurement requirements, and they have performed satisfactorily under previous ADB-funded projects.

41. **Cambodia.** Separate civil works contracts will be procured for (i) improvement of NR33 between the border with Viet Nam at Preak Chak and Kampong Trach; (ii) cross-border facilities at Preak Chak; (iii) cross-border facilities at Koh Kong, and (iv) replacement of bridges and culverts along the Kampong Trach–Kampot road section. These contracts will be procured using international competitive bidding (ICB) procedures. Civil works under the maintenance component will be suitably packaged through a number of contracts, where contracts costing more than \$100,000 and less than \$1 million may follow national competitive bidding (NCB) procedures acceptable to ADB. For procurement under both ICB and NCB procedures, post-qualification will be used to confirm that contractors have adequate technical and financial capabilities. All contracts procured under ICB procedures and contracts for consulting services will be subject to prior review by ADB, unless otherwise agreed between the Government of Cambodia and ADB and set forth in the procurement plan. Documentation for the first contract procured under NCB will be subject to prior review by ADB; thereafter, post-review will be required unless otherwise agreed. NCB shall be carried out in accordance with Cambodia's public procurement law, modified or clarified as necessary to ensure consistency with ADB's *Procurement Guidelines*. Any necessary modifications or clarifications will be reflected in the procurement plan. The Government of Cambodia will use its own resources for financing the resettlement component of the Project, so procurement for these services and goods will be undertaken using government procurement procedures. All procurement will be managed by GDPW with assistance from the DDIS consultants.

42. **Viet Nam.** All procurement will be managed by the IA with assistance from the DDIS consultants. For the ADB and Government of Australia funded components, there will be two major civil works contracts (one each for the An Minh Bypass–Nga Bac Canal, and the Nga Bac Canal–Industrial Complex sections) to be procured using ADB's ICB procedures with prequalification; documentation will be subject to prior review. Other smaller civil works contracts partly or wholly financed by ADB and costing more than \$100,000 and less than \$2 million may follow NCB procedures acceptable to ADB. Documentation for the first contract procured under NCB procedures will be subject to prior review; thereafter, post-review will be required. NCB shall be carried out in accordance with Viet Nam's public procurement law, modified or clarified as necessary to ensure consistency with ADB's *Procurement Guidelines*. Any necessary modifications or clarifications will be reflected in the procurement plan. The Government of Viet

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<sup>15</sup> The Borrowers have submitted procurement plans for the next 18 months for ADB's approval. These will be updated annually or as necessary.

Nam will use its own resources for financing the resettlement component of the Project, so procurement for services and goods under this component will be undertaken using government procurement procedures.

43. Procurement of civil works under the Government of the Republic of Korea funded component will be subject to Republic of Korea procurement guidelines and procedures.

#### **4. Consulting Services**

44. For all ADB and Government of Australia financed consulting services, international and national consultants will be recruited through a firm in accordance with ADB's *Guidelines on the Use of Consultants* (2007, as amended from time to time) and will use ADB's quality and cost-based recruitment procedures. Full technical proposals will be required: to calculate the firms' total scores, technical proposals will be given a weight of 80% and financial proposals will be given a weight of 20%. Both governments have requested approval of advance contracting action for consulting services. They have been advised that approval does not commit ADB to finance the ensuing Project. Details of contract packages and procurement procedures are in Appendix 9. Summary terms of references for the detailed design and construction supervision consulting services are in Appendix 10. A more detailed outline of the terms of reference is in Supplementary Appendix A. IAs in both Cambodia (PMU-3 and IRC) and Viet Nam (PMU-MT) are familiar with ADB procurement requirements, and they have performed satisfactorily under previous ADB-funded projects.

45. **Cambodia.** Consultants for the Cambodian component of the Project will be recruited under two packages. A firm of consultants will be recruited to undertake the DDIS services under a contract to be financed using Government of Australia grant funds. For this contract, about 409 person-months of input will be required (about 47 person-months from international experts and about 362 of national experts). The consultants will have expertise in project management, procurement, construction supervision, surveying, quantity surveying, materials, and project management systems; highway, bridge (including hydrology and drainage engineering), and pavement design; environmental impact management, social impact (including social development, gender, HIV/AIDS, and human trafficking), and resettlement planning; architecture and electrical and mechanical engineering; maintenance planning and economics; road safety awareness and audits; and project monitoring and evaluation. Kampot PDPWT will direct provincial government agencies to implement the HIV/AIDS and trafficking awareness and prevention program with assistance from the DDIS consultant.

46. IRC will recruit an IRM to monitor implementation of the resettlement plans. The terms of reference for the IRM will also include monitoring of the HIV/AIDS and trafficking awareness and prevention program. The IRM will be a national company with experience in resettlement planning and social analysis on similar internationally funded infrastructure projects. Government of Cambodia counterpart funds will be applied to these services and recruitment will be under Government of Cambodia procedures.

47. **Viet Nam.** Consultants will be recruited under three separate packages. Under the ADB and Government of Australia funded components, one package (ADB DDIS package) will cover detailed design and construction supervision of the ADB and Government of Australia funded section, and the HIV/AIDS and trafficking awareness and prevention program. It is proposed that this package be funded from Government of Australia grant funds. For this contract, about 1,643 person-months of input will be required (about 137 person-months international and 1,506 national). The consultants will have expertise in project management, procurement, construction supervision, surveying, quantity surveying, materials, transport planning and economics, and

project management systems; highway, bridge (including hydrology and drainage engineering), and pavement design; environmental impact management, social impact (including social development, gender, HIV/AIDS, and human trafficking), and resettlement planning; architecture and electrical and mechanical engineering; maintenance planning and economics; road safety awareness and audits; and project monitoring and evaluation. Under the Government of the Republic of Korea funded component, a single package will be prepared for the Government of the Republic of Korea DDIS services with recruitment following Republic of Korea procedures. For this contract, about 1,348 person-months of input will be required (about 109 person-months international and 1,239 national). The consultants will have expertise in project management, procurement, construction supervision, surveying, quantity surveying, materials, and project management systems; highway, bridge (including hydrology and drainage engineering), and pavement design; and environmental impact management. The Ca Mau and Kien Giang PPCs will direct provincial government agencies to implement the HIV/AIDS and trafficking awareness and prevention program with assistance from the ADB DDIS consultant.

48. PMU-MT will recruit an IRM to monitor implementation of the resettlement plans. The terms of reference for the IRM will also include monitoring of the HIV/AIDS and trafficking awareness and prevention program. This IRM will be a national company with experience in resettlement planning and social analysis on similar internationally funded infrastructure projects. Government of Viet Nam counterpart funds will be applied to these services and recruitment will be under Government of Viet Nam procedures.

## 5. Anticorruption Policy

49. ADB's *Anticorruption Policy* (1998, as amended to date) was explained to and discussed with the governments and EAs in both Cambodia and Viet Nam. Consistent with its commitment to good governance, accountability, and transparency, ADB reserves the right to investigate, directly or through its agents, any alleged corrupt, fraudulent, collusive, or coercive practices relating to the Project. To support these efforts, relevant provisions of ADB's *Anticorruption Policy* are included in the loan regulations and the bidding documents for the Project. In particular, all contracts financed by ADB in connection with the Project shall include provisions specifying the right of ADB to audit and examine the records and accounts of the EA and all contractors, suppliers, consultants, and other service providers as they relate to the Project.

50. To promote transparency and good governance, project-specific websites will be set up to cover the Cambodia and Viet Nam components of the Project. These websites will include copies of all project-related documents, including information on how project funds are being used. Access to this websites will be made available to the public. MPWT and VRA<sup>16</sup> will publicly disclose on their websites information on how loan proceeds are being used, presenting procurement contract awards, including for each such contract: (i) the list of participating bidders, (ii) name of the winning bidder, (iii) basic details on bidding procedures adopted, (iv) amount of the contract awarded, (v) list of goods and/or services purchased, and (vi) intended and actual utilization of loan proceeds under each contract.

## 6. Disbursement Arrangements

51. **Cambodia.** Two imprest accounts—one for ADB loan funds and another for Government of Australia grant funds—will be established, managed, replenished, and liquidated in accordance with ADB's *Loan Disbursement Handbook* (2007, as amended from time to time), and the detailed arrangements agreed between the Government and ADB. The initial amount to be deposited in

<sup>16</sup> VRA will use the website maintained by the Ministry of Planning and Investment for the disclosure of procurement information.

the imprest account will be based on estimated expenditures for 6 months or 10% of the loan/grant amount, whichever is lower. The accounts will be established with a reputable commercial bank acceptable to both the Government of Cambodia and ADB. ADB's statement of expenditures procedure will be followed for reimbursement of expenditures and for the liquidation of each imprest account for individual payments not exceeding \$50,000. Loan disbursements for civil works (procured under ICB) and consulting services will utilize the direct payment procedures defined in ADB's *Loan Disbursement Handbook*.

52. **Viet Nam.** Two imprest accounts—one for ADB loan funds and another for Government of Australia grant funds—will be established, managed, replenished, and liquidated in accordance with ADB's *Loan Disbursement Handbook*, and the detailed arrangements agreed between the Government and ADB. The initial amount to be deposited in the imprest account will be based on estimated expenditures for 6 months or 10% of the loan/grant amount, whichever is lower. The accounts will be established with a reputable commercial bank acceptable to both the Government of Viet Nam and ADB. ADB's statement of expenditures procedure will be followed for reimbursement of expenditures and for the liquidation of each imprest account for individual payments not exceeding \$100,000. Loan disbursements for civil works (procured under ICB) and consulting services will utilized the direct payment procedures defined in ADB's *Loan Disbursement Handbook*.

53. Arrangements for disbursement of funds made available from the Government of the Republic of Korea loan will follow Republic of Korea procedures.

## **7. Accounting, Auditing, and Reporting**

54. The project IAs in Cambodia (PMU-3) and Viet Nam (PMU-MT) will maintain separate records and accounts adequate to identify the goods and services financed from the proceeds of the project loans and grants, financing resources received, expenditures incurred for the Project, an audit of resettlement expenditures, and use of local funds. Within 6 months of the close of the each year, each government will submit audited annual project accounts to ADB, which provide a detailed description of the source of funds and expenditures made. Annual project accounts will be audited by an auditor acceptable to ADB, and the auditor's terms of reference will be approved by ADB before commencement of work. The annual audit will include an audit opinion on the imprest account and statement of expenditures procedure operations. The audit results will be submitted to ADB, Government of Australia, and KEXIM annually.

55. Regular progress reports on the Project will be prepared by the DDIS consultants, reviewed by the IAs, and submitted by the IAs to ADB and Government of Australia every quarter. In Viet Nam, copies of the progress reports will also be submitted to KEXIM. Progress reports will include a description of the physical progress, status of implementation of resettlement plans, status of work subject to provisions of the EMP, procurement and contractual status, and highlights of any implementation issues. The progress reports will also contain a summary of project accounts, including details of the latest project expenditures and contract amounts. These reports will include an evaluation of progress in implementing the Project. Within 3 months of physical completion of the Project, the IAs will furnish to ADB and Government of Australia (in Viet Nam, also to KEXIM) a project completion report covering details of project implementation, costs, and an evaluation of the Project's success in meeting performance targets.

## **8. Project Performance Monitoring and Evaluation**

56. The project IAs, assisted by the consultants, will establish systematic project performance monitoring and analysis throughout the life of the Project and integrating it with the existing management information system. Initially, the monitoring system will develop and conduct sample

surveys to establish baseline data for subsequent performance monitoring, and will establish pre-project social and economic living conditions for the direct project beneficiaries. A second survey will be carried out on project completion and a third survey after a period of not less than 5 years after project completion. The baseline and impact surveys will include appropriate control areas and will assess all interventions under the Project, including resettlement and other safeguard interventions that affect the livelihood of project beneficiaries. In addition, a set of indicators reflecting transport costs, tariffs, and mobility will be developed to assess the effects of improved access to the area. District indicators will include agricultural productivity, economic activity, and health and education indicators. The impacts of development on the poor resulting from improved road access will receive particular attention.

## **9. Project Review**

57. In addition to regular reviews by ADB and the Government of Australia, and in Viet Nam by KEXIM, a midterm review of project implementation will be carried out. At critical periods during implementation of the resettlement plans and EMPs, ADB's resettlement and environment specialists will join the reviews. Representatives of ADB, and in Viet Nam of KEXIM, and the governments will take part in the review. The review will allow for any necessary midcourse corrections.

## **IV. PROJECT BENEFITS, IMPACTS, ASSUMPTIONS, AND RISKS**

### **A. Project Benefits**

58. The economic internal rate of return (EIRR) for the Project was calculated by comparing the with- and without-project scenarios for the project road. In the without-project scenario, the road is assumed to receive only minimal maintenance and will continue to deteriorate. The with-project scenario includes routine and periodic maintenance according to international standards. The project preparatory technical assistance (footnote 14) considered various mutually exclusive project alternatives, and the proposed Project is based on the most cost-effective and least-cost option. Without the Project, the traffic volume would exceed the capacity of the roads, which would become congested—leading to increases in travel time and vehicle operating costs (VOCs). With the Project, travel time will be reduced because of higher speeds; VOCs will be reduced because of the faster and smoother ride on the project road.

59. The economic analysis was carried out using the Highway Design and Maintenance Standards Model. The model evaluates the project investment considering capital and recurrent costs as well as the benefits derived from savings in road user costs for the with- and without-project cases. In the economic analysis, the project life was taken to be 20 years. The economic costs of the Project include the resource costs for construction, operation and maintenance, and the social costs of compensation for land acquisition and resettlement. The economic benefits were quantified in terms of VOC savings and time savings. The economic analysis subdivided the project road into homogeneous sections. These sections were defined based on traffic volumes derived from the traffic analysis, roughness observed during the surveys, and altitude and gradient of the road. The EIRR was estimated separately for each country and also for the Project as a whole. The estimated EIRR was 14.0% for Cambodia, 16.8% for Viet Nam, and 16.7% for the Project as a whole. These EIRRs indicate that the Project is economically viable. The economic analysis is summarized in Appendix 11 and further details are in Supplementary Appendix B.

60. The sensitivity of the project road was analyzed with respect to changes in the benefit and cost streams. Several sensitivity test cases were examined: (i) an increase of 20% in construction costs, (ii) a decrease of 20% in benefits, (iii) a decrease of 20% in the base year estimate of

traffic, (iv) a decrease of 20% in traffic growth rates, (v) a reduction in generated traffic by 20%, (vi) no time saving benefits, and (vii) a combination of a 20% increase in capital costs and a 20% reduction of benefits. The results show that the quantified economic benefits are quite robust to the various sensitivity tests and the project remains economically viable. Switching values were determined for capital costs and economic benefits. The capital cost would have to increase by 56% to reduce the EIRR to 12%. The benefit level would have to decrease by 36% to achieve the same effect on the EIRR. The estimate of the benefits from generated traffic would have to fall by 77% for the EIRR to fall to 12%. Further to the sensitivity tests, a risk analysis was undertaken to determine the probability of the EIRR falling below 12%, the opportunity cost of capital, and economic viability. The risk analysis used the @Risk computer program. The results from the risk analysis indicated that the probability of the EIRR for the Project falling below 12% is only 10.6%. The risk analysis is described as part of the summary of the economic analysis in Appendix 11. A full description of the methodology and assumptions used in the risk analysis is in Supplementary Appendix B.

61. The population of the project area is 1.526 million with about 94% living in Viet Nam. Overall, the project area has a poverty rate of 27.5%, as measured by the Project Road User Survey. The total number of households below the poverty line in the Viet Nam project area was 23.1% compared to 64.1% in Cambodia; both rates are above the respective national and provincial averages. Although the poverty rate is much lower in Viet Nam, poor households in the project area represent over 43% of the total poor in the two Vietnamese provinces. The Project's economic benefits are primarily derived from VOC savings and travel time savings that will accrue primarily from improvements in road surface, horizontal and vertical alignment, and increased average speed in some sections. Both poor and nonpoor residents are heavy road users, with over 86% of people living in the project area using the roads daily or several times a week. Vehicle ownership by the poor accounts for 15.0% of motorized vehicles; the poor's share of public passenger transport usage is 34.3% and the share of public freight transport usage is 23.1%. A distribution analysis was undertaken to assess the extent that the direct economic benefits quantified in the economic analysis would accrue to poor people; and to estimate the poverty impact ratio (PIR) for the Cambodia section, Viet Nam section, and the Project as a whole. Initially, estimates were prepared of the distribution of the quantified benefits among the various categories of road users (bus and truck operators/owners; bus passengers; car, utility and motorcycle owners, drivers, and passengers; and bicycle and animal drawn vehicle users). The distributional analysis indicates a PIR of 0.38 for the Project as a whole, which indicates a substantial net transfer of resources from the economy as a whole to the poor in the project area. The PIR provides a strong indication that the Project is highly pro-poor. Other benefits will also accrue to the poor but have not been quantified in the analysis, including improvements in access to (i) nonfarm employment opportunities, which will help reduce dependency on subsistence agriculture and seasonal labor; (ii) health facilities and medication, which will reduce the risk and severity of health hazards; and (iii) education, which increases the chances that the young can improve their future earnings potential. The ability of the public sector to provide these services efficiently will be enhanced by better road access.

## **B. Project Impacts**

62. **Social and Gender.** The Project has been formulated to minimize potential risk. Project impacts were assessed along with potential associated risks. The road improvements will lead to lower transport costs and improved access of the poor to markets and social services. Farmers will benefit from lower input price because of lower freight rates. Both poor and nonpoor will benefit from lower costs of using their own motorized vehicles and reduced travel time. These benefits will be not only in economic activities but also in improved access to schools, medical facilities, and other social services. The ability of the public sector to provide these services in a

more cost-effective way could be increased because of improved access. The improved roads and open border between Viet Nam and Cambodia will boost development in the tourism sector. The Project will contribute to economic growth, which may expand economic opportunities available to the poor. Improved roads will create new opportunities for women in the areas of jobs and small businesses, and better access to social services. However, the extent to which women can take advantage of these opportunities depends on economic, social, and cultural factors. Project impacts also relate to (i) displacement of local economic activities because of land acquisition; (ii) loss of productive land; (iii) displacement of local activities for transport of goods from the border to markets by large commercial vehicles; (iv) increased traffic risks for people living and working along road because of large volumes of traffic and higher vehicle speeds along the improved road; (v) increased risks of exposure to HIV/AIDS and trafficking of women and children during construction activities and because of large volumes of transit traffic along the road and border area; and (vi) increased flow of illegal drugs and number of drug users in the project area because of improved access. Details of impacts are in the summary of poverty and social strategy in Appendix 12.

63. **Ethnic Minorities.** There are no ethnic minority people in the project area in Cambodia. In the Viet Nam project area, Khmer ethnic minority groups account for about 2% of the population in Ca Mau Province and 12% of the population in Kieng Giang Province, or about 7% in the project area overall. In Viet Nam, ethnic minority households (Khmer) in the project area speak both Vietnamese and Khmer (especially men). Khmer people are well integrated in the mainstream and maintain religious practice without interference from the Vietnamese (Kinh). Like the majority Kinh Vietnamese, rural ethnic Khmer cultivate rice and/or engage in shrimp farming. Urban ethnic Khmer are shopkeepers or are engaged in nonfarm activities. Reliance on trading and small business by Khmer is about same as the mainstream population. In both Kien Giang and Ca Mau, nearly all project-affected persons, including those from ethnic minorities, are classified nonpoor. The Project will not affect Khmer people differently from the Vietnamese. Khmer people will benefit from the economic development in the project area. The new road section in Ca Mau will reduce isolation for Khmer community. Near the border area of Kieng Giang, increased tourism will benefit small businesses run by Khmer people. Since there is no differential negative impact on ethnic minority groups than on the Kinh, an ethnic minority development plan is not required. To ensure project benefits to the Khmer people, ethnic minority specific activities are included in the resettlement plan, gender strategy, and HIV/AIDS and trafficking awareness and prevention program.

64. **Resettlement.** The resettlement plans prepared for the Project are summarized in Appendix 5, and resettlement plans have been endorsed by the respective governments and disclosed to project-affected persons. The Project is designed to avoid or minimize involuntary resettlement wherever possible. In Viet Nam, this has been done by adjusting road alignments via (i) widening on the land side only to avoid the heavily built-up canal side; (ii) adjusting bridge alignments to avoid structures; or (iii) bypassing towns to avoid dense development, although this usually impacts agricultural rather than residential land. In Viet Nam, two full resettlement plans have been prepared, one each for Kien Giang Province and Ca Mau Province. A total of 3,775 households will be affected by loss of residential, commercial, or agricultural land within the corridor of impact of project roads. Of these, 680 households will be severely affected by loss of productive assets, 677 houses and 513 small businesses and shops will be displaced, and 680 households will be severely affected by loss of productive assets. Affected households will be compensated and assisted to move out of the right-of-way with all entitlements.

65. Resettlement impacts in Cambodia will be minimized by allowing affected persons the option of moving back out of the corridor of impact into the remaining right-of-way, or completely out of the right-of-way. Such options will give affected persons the best opportunities for avoiding

or minimizing impacts on roadside livelihood activities, such as small shops and market stalls. Project-affected persons also have the option of moving right out of the right-of-way now or in the future, with all entitlements. In Cambodia, 337 households will be affected by the Project. It will require the relocation of 83 houses and 58 small businesses and shops. Eight households will lose their entire total productive landholdings because of the expansion of border facilities. A full resettlement plan has been prepared for Cambodia.

66. **Environment.** The project corridor in southern Cambodia contains no designated forest, wildlife, or rare and endangered species or habitats. Vehicle related air and noise pollution is not a serious problem along the corridor. However, during dry seasons, laterite dust from passing vehicles creates serious dust clouds—affecting the quality of life for all living along the roadway and up to 75 m on either side. Paving the road and shoulders will eliminate this problem. During construction, a watering schedule will be required to minimize the temporary impact on air quality of dust generated by construction activities. A potential impact during operation at the Preak Chak–Xa Xia and Koh Kong border crossings will be the wastewater and solid wastes generated at the customs and immigration facility, if these wastes are not managed properly. A primary waste treatment facility will be designed and installed to service the new buildings to minimize the potential impacts. Garbage will be managed by contracting a local worker to collect and dispose of solid waste. It is assessed that most of the potential impacts of the Cambodian section are during the construction stage; these are of a nature temporary and can be managed effectively by mitigation measures. An EMP and monitoring program have been prepared and will be implemented by MPWT during the construction and operation periods. Appropriate clauses will be included in civil works contracts to ensure the implementation of the EMP. Separate initial environmental examinations (IEE) have been prepared for the Cambodian and Vietnamese project components. These IEEs have been summarized in a single project summary IEE (Supplementary Appendix C).

67. The project corridor in southern Viet Nam lies in the Mekong Delta, which has a dense network of waterways and navigable canals. There are two ecologically sensitive sites in the region, which were identified by BirdLife International in Indochina as important habitats for endangered birds and mammals. However, the project corridor is far from the two sites and none of the project activities would affect these sites. Major environmental concerns of the Project in the Vietnamese section are the interference of ship traffic caused by poor design of bridges and water quality because of disturbance of acid sulphate soils in localized areas. The EA will ensure the bridge designs allow sufficient navigation clearances. It will also secure accurate acid sulphate soil maps and make them available for contractors. Construction procedures in such areas will follow guidance from Can Tho University to minimize the potential impacts of acid soil on water quality and surrounding aquaculture activities. It is assessed that most of the potential impacts of the Viet Nam section are during the construction stage; these are of a nature temporary and can be managed effectively by mitigation measures. An EMP and monitoring program have been prepared, and will be implemented by PMU-MT during construction and by VRA during operation periods. Appropriate clauses will be included in civil works contracts to ensure implementation of the EMP.

### **C. Project Risks**

68. The Project has been designed to reduce potential risks, which include delays in implementation because of inadequate implementation capacity of MPWT in Cambodia and VRA in Viet Nam, failure to provide counterpart financing on time, the traffic forecast not being realized, and inadequate road maintenance. The Project includes a number of measures to mitigate the risk of delays. Approval for advance contracting action for recruitment of consultants has been requested. The EAs are familiar with ADB procedures and will be able to make full use of the

advance action provisions. The governments have been made aware of ADB's emphasis on the timely provision of counterpart funds, and have assured the project processing missions that they can provide the necessary funds for all ongoing ADB-financed road projects on time. In Cambodia there is a risk of corruption and fraud in the procurement process; therefore measures have been included in the Project design to strengthen the integrity of the procurement process. Project specific web pages will be established in both Cambodia and Viet Nam and information will be publicly disclosed on these web pages on how Loan proceeds are being used together with specific procurement information on each contract. Other risks include lower-than-expected traffic, especially generated traffic. This has been mitigated by using conservative assumptions to estimate benefits in the economic analysis, and undertaking sensitivity analyses that included reducing traffic growth forecasts by 20% and reducing the estimate of generated traffic by 50%. In addition, a risk analysis was undertaken to determine the probability of the EIRR falling below 12%, the opportunity cost of capital, and the indicator of economic viability. These analyses showed that the overall Project remained robustly viable. There is also a risk that the project roads will not be properly maintained and thus the full benefits of the Project will not be realized, this risk is addressed in paragraph 69. To address risks arising from road safety, the Project includes both road safety audits and road safety awareness campaigns in both Cambodia and Viet Nam to be undertaken by project-funded consultants. To address the risk of overloaded trucks, the new border facilities at Preak Chak–Xa Xia and Koh Kong will be equipped with weighing facilities.

69. **Sustainability.** Available funds currently cover about 50% of road maintenance requirements in Viet Nam. As Viet Nam maintains ADB-financed roads in accordance with the loan covenants, this would imply that other parts of the road network are neglected. The problem is that infrastructure development is needed to enable economic growth but initial utilization of the infrastructure is light, which curtails the scope for financing from user charges. Funding from the Government's general tax revenue is equally constrained. The funding problem will be temporary and will last until economic growth increases general tax revenues and the number of transport users. Based on current trends, Viet Nam is likely to reach breakeven with respect to road maintenance funding in about 10 years. Thus, adequate funds should be available by the time major maintenance is required for the project roads. The World Bank is undertaking a road maintenance financing study to review the scope for reducing the time frame until breakeven, and identify supplementary funding until it is attained. Given the above assessment, the Vietnamese component of the Project is considered sustainable.

70. The Government of Cambodia has not complied with a number of loan covenants under the Greater Mekong Subregion: Cambodia Road Improvement Project (footnote 3), including covenants addressing road maintenance and the reorganization of MPWT. Progress is now being made towards meeting these covenants (para. 6.). To continue the progress made, the Government of Cambodia has agreed to a condition for loan effectiveness that, based on the 2007 annual maintenance plan and budget, MEF must have disbursed an interim second payment amounting to 30% of the annual budget to the PDPWTs. The first payment was made as a condition for loan appraisal. However, the risk of noncompliance with loan covenants remains. Despite this risk, it is proposed that the GMS-SCC Project include the proposed Cambodian component as (i) the Kampong Trach–Preak Chak section of NR33 to be improved under the Project is only 15 km long, so the increase in the overall length of improved road within the Cambodian road network is small; and (ii) part of the rationale for the investments in the Vietnamese component is the assumption that the GMS-SCC will be completed in Cambodia, giving access from Viet Nam through to Thailand. Further, the proposed RAMP (para. 6.) will address the long-term sustainability of the MPWT road network. Based on the above assessment, the Cambodian component of the Project is considered sustainable.

71. **Project Implementation.** Resettlement can lead to impoverishment if adequate compensation and rehabilitation assistance is not provided to enable affected households to replace their losses and restore their livelihoods. The resettlement plans include capacity building training for the affected households<sup>17</sup> to increase their understanding of resettlement activities; entitlements to compensation, resettlement and rehabilitation; and rights to grievance redress. The increased knowledge of men and women from affected households will facilitate their access to fair compensation and other entitlements, and reduce the risk of impoverishment. To address the increased risk of exposure to HIV/AIDS during construction activities and the potential for increased trafficking of women and children because of large volumes of transit traffic along the GMS-SCC and the border area, the Project includes a HIV/AIDS and trafficking awareness and prevention campaign.

## V. ASSURANCES AND CONDITIONS

### A. Specific Assurances

72. In addition to the standard assurances, the Government and MPWT have given the following assurances, which are incorporated in the legal documents:

#### 1. Cambodia

- (i) **Resettlement.** The Government will ensure that (a) IRC recruits an independent monitoring organization before commencement of any land acquisition activities; and (b) land acquisition and relocation activities do not commence until an updated resettlement plan has been prepared for that section and the updated resettlement plan has been reviewed and approved by ADB. Resettlement plans shall be prepared in compliance with ADB's *Involuntary Resettlement Policy* (1995) and the Government's laws, regulations, and procedures. In case of discrepancies between the Government's laws, regulations, and procedures and ADB's policy requirements, ADB's policy requirements shall prevail.
- (ii) MPWT will ensure that civil works contractors are not issued a notice of possession for a geographic area until (a) compensation payment and relocation to new sites has been satisfactorily completed for that area, (b) agreed rehabilitation assistance is in place, and (c) the area is free of all encumbrances.
- (iii) **Gender.** MPWT will implement the provisions set forth in the project-specific gender strategy, as set out in Appendix 12, and the Government will ensure that in any instance where land is acquired for affected households, the Government and MPWT will ensure joint registration of land or land use rights in the names of both the husband and wife.
- (iv) **Other Social Issues.** MPWT will ensure that all civil works contracts under the Project incorporate provisions and budget to the effect that contractors comply with all applicable labor laws and related international treaty obligations and carry out HIV/AIDS and trafficking awareness and prevention program in the campsites and corridors of influence.
- (v) **Environmental.** The Government shall ensure (a) that specific provisions are included for the implementation of the EMP and its monitoring in civil works contracts, and in consulting services contracts, together with budget allowances for these provisions; and (b) the environmental mitigation measures in the IEE and the summary IEE will be adequately implemented by the contractors.
- (vi) **Governance.** The Government will ensure that a Project specific web page will be established and information will be publicly disclosed on this web page on how Loan proceeds are being used, including for each contract (a) the list of

<sup>17</sup> Particularly vulnerable households in terms of poverty, ethnicity or gender.

participating bidders, (b) name of the winning bidder, (c) basic details on bidding procedures adopted, (d) amount of the contract awarded, (d) list of Goods and/or services purchased, and (e) intended and actual utilization of Loan proceeds under each contract. The web page will be updated within four weeks after each award of contract.

- (vii) **Operation and Maintenance.** The Government will ensure that (a) the improved roads are maintained to design standards and in accordance with sound maintenance practices; and (b) annual road maintenance plans are prepared for the improved roads, on the basis of the agreed-upon maintenance standards, traffic volumes, and assessment of needs.
- (viii) Within 12 months of the award of the civil works contracts for the maintenance component, MPWT will revise maintenance costs to reflect the rates used in the above contracts. These revised rates will then be applied as guidance for future budget requests for maintenance of the road system and will be revised annually.

## 2. Viet Nam

73. In addition to the standard assurances, the Government, MOT, and VRA have given the following assurances, which are incorporated in the legal documents:

- (i) **Resettlement.** The Government will ensure that (a) PMU-MT recruits an independent monitoring organization before commencement of any land acquisition activities; and (b) land acquisition and relocation activities do not commence until an updated resettlement plan has been prepared for that section and the updated resettlement plan has been reviewed and approved by ADB. Resettlement plans shall be prepared in compliance with ADB's *Involuntary Resettlement Policy* and the Government's laws, regulations, and procedures. In case of discrepancies between the Government's laws, regulations, and procedures and ADB's policy requirements, ADB's policy requirements shall prevail.
- (ii) MOT will ensure that civil works contractors are not issued a notice of possession for a geographic area until (a) compensation payment and relocation to new sites has been satisfactorily completed for that area, (b) agreed rehabilitation assistance is in place, and (c) the area is free of all encumbrances.
- (iii) **Indigenous Peoples and Ethnic Minorities.** The Government will ensure that, to the extent any ethnic minorities are likely to be significantly affected by the Project, the measures set forth in the ethnic minorities specific sections in the resettlement plans, and as agreed between the Government and ADB, are carried out in accordance with such actions, applicable laws and regulations of the Government, and ADB's *Policy on Indigenous Peoples* (1998).
- (iv) **Gender.** VRA will implement the provisions set forth in the project-specific gender strategy and the Government will ensure that in any instance where land is acquired for affected households, the Government and VRA will ensure joint registration of land or land use rights in the names of both the husband and wife.
- (v) **Other Social Issues.** VRA will ensure that all civil works contracts under the Project incorporate provisions and budget to the effect that contractors comply with all applicable labor laws and related international treaty obligations and carry out HIV/AIDS and trafficking awareness and prevention program in the campsites and corridors of influence.
- (vi) **Governance.** The Government will ensure that a Project specific web page will be established and information will be publicly disclosed on this web page on how Loan proceeds are being used, including for each contract (a) the list of participating bidders, (b) name of the winning bidder, (c) basic details on bidding

procedures adopted, (d) amount of the contract awarded, (d) list of Goods and/or services purchased, and (e) intended and actual utilization of Loan proceeds under each contract. The web page will be updated within two weeks after each award of contract.

- (vii) **Operation and Maintenance.** The Government will ensure that (i) the improved roads are maintained to design standards and in accordance with sound maintenance practices; and (ii) annual road maintenance plans are prepared for the improved roads, on the basis of the agreed-upon maintenance standards, traffic volumes, and assessment of needs.
- (viii) That road TL7 be reclassified as road QL7 and responsibility for the maintenance and operation of this road be transferred to VRA. MOT and VRA will effect this reclassification.
- (ix) **Environmental.** VRA shall ensure (a) that specific provisions are included for the implementation of the EMP and its monitoring in civil works contracts, and in consulting services contracts, together with budget allowances for these provisions; and (b) the environmental mitigation measures in the IEE and the summary IEE will be adequately implemented by the contractors.

## **B. Conditions for Loan Effectiveness**

74. **Cambodia.** Based on the 2007 annual maintenance plan and budget, MEF shall have disbursed an interim second payment amounting to 30% of the annual budget to the PDPWTs.

## **VI. RECOMMENDATION**

75. I am satisfied that the proposed loans would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve:

- (i) the loan in various currencies equivalent to Special Drawing Rights 48,300,000 to the Socialist Republic of Viet Nam for the Greater Mekong Subregion Southern Coastal Corridor Project from ADB's Special Funds resources with an interest charge at the rate of 1.0% per annum during the grace period and 1.5% per annum thereafter; a term of 32 years, including a grace period of 8 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft Loan Agreement presented to the Board;
- (ii) the administration by ADB of grant financing not exceeding the equivalent of \$25,500,000 from the Government of Australia to the Socialist Republic of Viet Nam for the Greater Mekong Subregion Southern Coastal Corridor Project;
- (iii) the loan in various currencies equivalent to Special Drawing Rights 4,576,000 to the Kingdom of Cambodia for the Greater Mekong Subregion Southern Coastal Corridor Project from ADB's Special Funds resources with an interest charge at the rate of 1.0% per annum during the grace period and 1.5% per annum thereafter; a term of 32 years, including a grace period of 8 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft Loan Agreement presented to the Board; and
- (iv) the administration by ADB of grant financing not exceeding the equivalent of \$8,000,000 from the Government of Australia to the Kingdom of Cambodia for the Greater Mekong Subregion Southern Coastal Corridor Project.

Haruhiko Kuroda  
President

7 November 2007

## DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
<p><b>Impact</b></p> <ul style="list-style-type: none"> <li>Promotion of economic growth in the project area and GMS by strengthening connectivity with neighboring countries and increasing competitiveness</li> </ul>	<ul style="list-style-type: none"> <li>Average per capita income in project-affected provinces will reach the national average (Cambodia or Viet Nam, as appropriate) within 5 years of project completion</li> <li>Total trading volume between Cambodia and Viet Nam will double 5 years after project completion</li> </ul>	<ul style="list-style-type: none"> <li>National and regional economic data and statistics</li> <li>International trade statistics</li> <li>Baseline and ex-post surveys of household income levels in project-affected areas</li> <li>Project completion report and benefit monitoring and evaluation</li> </ul>	<p><b>Assumption</b></p> <ul style="list-style-type: none"> <li>GMS CBTA is fully implemented</li> </ul>
<p><b>Outcome</b></p> <ul style="list-style-type: none"> <li>Reduce transport times and costs, and induce more efficient movement of passengers and goods within the project area and between GMS countries</li> </ul>	<ul style="list-style-type: none"> <li>Reduction in passenger and freight vehicle operating costs by an average of 30%, in real terms, within 5 years of project completion</li> <li>Traffic on improved roads increases by 40% from 2008 baseline within 2 years of project completion</li> <li>Cross-border processing times of under 0.5 hours for passengers and under 2.0 hours for freight by project completion</li> <li>Maintenance budgets in Cambodia based on market rates for activities</li> </ul>	<ul style="list-style-type: none"> <li>Baseline traffic and transport cost data</li> <li>Traffic counts at border crossings and strategic points in the transport network</li> <li>Customs statistics</li> <li>Field surveys and interviews of road transport operators and road users</li> <li>Road maintenance budget allocation and expenditure reports</li> </ul>	<p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>GMS CBTA is implemented at pilot sites</li> <li>Reciprocal operating permits are granted to commercial passenger and goods vehicles</li> </ul> <p><b>Risks</b></p> <ul style="list-style-type: none"> <li>Harmonized cross-border inspection procedures are not implemented effectively</li> <li>Lack of maintenance funds and capacity to plan and manage road maintenance effectively</li> </ul>
<p><b>Outputs</b></p> <ol style="list-style-type: none"> <li>Completion of the road and bridge improvements enabling unrestricted passenger and freight transport</li> <li>Border facilities constructed</li> <li>HIV/AIDS and trafficking awareness and prevention programs completed on the project road</li> <li>Cambodia Maintenance Demonstration Project Completed</li> </ol>	<ul style="list-style-type: none"> <li>In Cambodia, improve 15 km of NR33; replace 24 bridges and culverts on NR33; and construct border facilities at Koh Kong and Preaek Chak</li> <li>In Viet Nam, improve 4 km of QL80 between Xa Xia and Ha Tien, 21 km of QL63 between Minh Luong and Thu Bay, and 70 km of TL7 from Thu Bay to Ca Mau; construct bridges across the Cai Be and Cai Lon rivers; and construct border facilities at Xa Xia</li> </ul>	<ul style="list-style-type: none"> <li>Resettlement monitoring reports</li> <li>Civil works bid evaluation and award of contract reports</li> <li>Monthly and quarterly progress reports</li> <li>Project completion report</li> </ul>	<p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>Procurement processes ensure bidders are qualified</li> <li>Quality management and cost control of civil works are effective</li> <li>Provincial authorities have the capacity to manage resettlement, environmental management, and social action plans</li> </ul>

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
	<ul style="list-style-type: none"> <li>• Finalization, approval, and implementation of resettlement plans and environmental management plans without delays</li> <li>• Civil works contracts awarded within 9 months of invitation for bids</li> <li>• Project-specific web pages established and procurement information made available to the public.</li> <li>• Unexploded ordnance cleared prior to start of civil works</li> <li>• Completion of civil works contracts on schedule, in compliance with conditions of contract and all defects rectified by end of defects liability period</li> <li>• All vulnerable groups and contractor personnel have participated in HIV/AIDS and trafficking awareness and prevention programs</li> <li>• Road safety audits undertaken during detailed design and road safety awareness programs undertaken during construction period</li> <li>• Periodic and routine maintenance contracts awarded after competitive bidding and completed in Cambodia</li> <li>• Market rates established for maintenance activities in Cambodia</li> </ul>		<p><b>Risks</b></p> <ul style="list-style-type: none"> <li>• Insufficient number of bids are received from qualified, eligible bidders</li> <li>• Major risk of corruption and fraud in the procurement process in Cambodia</li> <li>• Delays in completion of procurement or resettlement delay start of construction</li> <li>• Increased construction and resettlement costs reduce the scope of work achievable within the Project</li> <li>• Contractors fail to perform as required</li> <li>• Increased number and severity of road accidents</li> </ul>

Activities with Milestones	Inputs												
<p><b>Cambodia</b></p> <p>1.1 Selection of detailed design and construction supervision consultant <b>Target:</b> Begin Q3 2007 and complete Q2 2008</p> <p>1.2 Preparation of detailed designs and bidding documents <b>Target:</b> Begin Q2 2008 and complete Q4 2008</p> <p>1.3 Bidding for civil works contractors <b>Target:</b> Begin Q4 2008 and complete Q3 2009</p> <p>1.4 Civil works for road and bridges <b>Target:</b> Begin Q3 2009 and complete Q4 2010</p>	<p><b>Cambodia</b></p> <table border="0"> <tr> <td>Consulting Services</td> <td>\$2.2 million</td> <td>Government of Australia</td> </tr> <tr> <td>Civil Works</td> <td>\$7.0 million</td> <td>ADB</td> </tr> <tr> <td></td> <td>\$5.6 million</td> <td>Government of Australia</td> </tr> <tr> <td></td> <td>\$3.7 million</td> <td>Government of Cambodia</td> </tr> </table>	Consulting Services	\$2.2 million	Government of Australia	Civil Works	\$7.0 million	ADB		\$5.6 million	Government of Australia		\$3.7 million	Government of Cambodia
Consulting Services	\$2.2 million	Government of Australia											
Civil Works	\$7.0 million	ADB											
	\$5.6 million	Government of Australia											
	\$3.7 million	Government of Cambodia											

Activities with Milestones	Inputs		
1.5 Implement resettlement plans and project specific gender strategy <b>Target:</b> Begin Q4 2008 and complete Q2 2010	<b>Viet Nam</b>	\$9.8 million	Government of Australia
2.1 Civil works for cross-border facilities <b>Target:</b> Begin Q3 2009 and complete Q4 2010	Consulting Services	\$4.5 million	Government of the Republic of Korea
3.1 Implement HIV/AIDS and trafficking awareness and prevention programs <b>Target:</b> Begin Q3 2009 and complete Q4 2010	Civil Works	\$75.0 million	ADB
4.1 Prepare maintenance demonstration component <b>Target:</b> Begin Q2 2008 and complete Q3 2009		\$15.2 million	Government of Australia
4.2 Implement maintenance demonstration component <b>Target:</b> Begin Q3 2009 and complete Q2 2012		\$45.5 million	Government of the Republic of Korea
5.1 Project monitoring and evaluation <b>Targets:</b> Initial baseline survey within 18 months of loan effectiveness Second survey immediately prior to project completion Third survey to be conducted 5 years after project completion		\$58.2 million	Government of Viet Nam
<b>Viet Nam</b>			
1.1 Selection of detailed design and construction supervision consultant <b>Target:</b> Begin Q4 2007 and complete Q3 2008 – ADB component <b>Target:</b> Begin Q4 2007 and complete Q3 2008 – Republic of Korea component			
1.2 Preparation of detailed designs and bidding documents <b>Target:</b> Begin Q4 2008 and complete Q4 2009 – ADB Component <b>Target:</b> Begin Q4 2008 and complete Q4 2009 – Republic of Korea component			
1.3 Bidding for civil works contractors <b>Target:</b> Begin Q2 2009 and complete Q4 2010– ADB Component <b>Target:</b> Begin Q2 2009 and complete Q4 2010 – Republic of Korea component			
1.4 Civil works for road and bridges <b>Target:</b> Begin Q1 2010 and complete Q4 2013 – ADB Component <b>Target:</b> Begin Q1 2010 and complete Q4 2013 – Republic of Korea component			
1.5 Implement resettlement plans and project specific gender strategy <b>Target:</b> Begin Q4 2009 and complete Q2 2011			
2.1 Civil works for cross-border facilities <b>Target:</b> Begin Q1 2010 and complete Q1 2011			
3.1 Implement HIV/AIDS and trafficking awareness and prevention programs <b>Target:</b> Begin Q1 2010 and complete Q4 2012			
4.1 Project monitoring and evaluation <b>Targets:</b> Initial baseline survey within 18 months of loan effectiveness Second survey immediately prior to project completion Third survey to be conducted 5 years after project completion			

ADB = Asian Development Bank, CBTA = GMS Cross-Border Transport Agreement, GMS = Greater Mekong Subregion, km = kilometer, NR = national road (Cambodia), Q = quarter, QL = national highway (Viet Nam), STI = sexually transmitted infection, TL = provincial road (Viet Nam).

Note: ADB component refers to components to be funded by ADB and the Government of Australia.

## DEVELOPMENT OF THE TRANSPORT SECTOR IN THE GREATER MEKONG SUBREGION

### A. Introduction

1. The Greater Mekong Subregion (GMS) comprises Cambodia, Yunnan Province and Guangxi Zhuang Autonomous Region of the People's Republic of China (PRC), Lao People's Democratic Republic (Lao PDR), Myanmar, Thailand, and Viet Nam. In 1992, with the assistance of the Asian Development Bank (ADB), the six countries entered into a program of subregional economic cooperation. The ultimate objective of the program is to facilitate sustainable economic growth and to improve the standard of living of the people in the subregion. The program has contributed to the development of infrastructure to enable the development and sharing of the resource base, and to promote the freer flow of goods and people in the subregion. ADB's Regional Cooperation Strategy and Program Update for the GMS<sup>1</sup> includes four strategic pillars, the first of which addresses strengthening connectivity and facilitating cross-border movement and tourism. The high priority given to cooperation in the transport sector is because of the poor state of the transport infrastructure in most of the GMS, which is a major constraint to economic growth, trade, and other forms of cooperation. The movement of both freight and passenger traffic through the GMS traffic is dominated by road. Although subregional traffic is still modest, the governments of the GMS countries—particularly Cambodia and Viet Nam—give high priority to the development of transport infrastructure links that will facilitate regional and international trade and economic cooperation, especially when such transport facilities also serve their respective domestic needs. In addition, the elimination of nonphysical barriers (regulations covering cross-border movements) to the movement of people and goods in the subregion is important to strengthen linkages among GMS countries.

2. The main thrusts of regional cooperation in the transport sector have been: (i) developing the north–south corridor between Kunming in Yunnan Province of the PRC to Ho Chi Minh City in the southern part of Viet Nam, and the east–west corridor from Thailand and the central coast of Viet Nam through Lao PDR; (ii) linking the capitals, other population centers, and major tourist destinations in the subregion; (iii) helping develop remote and low-income areas traversed by subregional road projects by improving access to markets, and social and economic services; (iv) providing access to the sea for landlocked Lao PDR, and alternative access to seaports for such areas as northeastern Thailand and Yunnan Province; and (v) reducing, with the objective of eliminating, nonphysical barriers (such as regulations covering border crossings) to the movement of people and goods in the subregion.

### B. GMS Transport Sector Strategy

3. The GMS transport sector strategy provides an overarching framework that is implemented through individual national strategies that often also involve subregional plans and agencies. Thus, each GMS member country has its own transport program developed for five-year plans and as a basis for year-to-year budgets. These programs are supported to varying degrees with sector policy statements, strategies, objectives, priorities, and individual project analyses. The programs incorporate consideration of the importance of undertaking GMS-related projects. While there are many regional and subregional cooperation groupings involved in transport in the GMS, the GMS framework allows initiatives to be endorsed at the highest levels of leadership. The GMS concept has rapidly established itself as an effective forum for international cooperation from the working level to the heads of government level. This has provided the GMS with a leading role in coordinating projects and in developing strategy.

<sup>1</sup> ADB. 2006. *Beyond Borders. The Greater Mekong Subregion Subregional Cooperation Strategy and Program Update, 2007–2009*. Manila.

4. Formulation of the GMS transport sector strategy for the period to 2015 took account of the need for the following.

- (i) **Sectoral focus** that identifies factors critical to intra-regional and transit trade and improved competitiveness (e.g., missing links in the transport network and critical common needs such as maintenance, logistics, and multimodal integration) and that are complementary to interregional and global trade.
- (ii) **Comprehensive inter-sectoral strategy** that identifies major socioeconomic trends and developments, and determines and prioritizes transport initiatives that respond to these needs; and that is a subset of a comprehensive GMS development plan, and encompasses country and regional transport and related development strategies.
- (iii) **Goal setting and results-oriented management plan** that identifies key goals of economic integration and regional cooperation for 2015 and beyond, and sets performance indicators and prioritizes GMS transport initiatives to best realize these goals, e.g., the GMS as a “growth bridge” between the PRC and India, capitalizing on the strategic location of the GMS, and the realization of Millennium Development Goals.

5. The GMS Transport Sector Strategy Study<sup>2</sup> financed by ADB identified five overarching goals for transport: (i) to exploit synergies in the GMS transport system; (ii) to move towards an open market for transport services; (iii) to facilitate economic efficiency to reduce transport costs; (iv) to complete the GMS network and improve links with South Asia; and (v) to encourage multi-modalism. The Project will support these objectives by completing a section of the GMS network, reducing the cost of transport along the Southern Coastal Corridor (SCC) and facilitating intermodal transport in the corridor.

### C. Border Crossing Points and Traffic/Trade Flows

6. At present, there are three main border crossing points between Cambodia and Viet Nam: (i) on national road (NH) 1 in Cambodia at Bavet/Moc Bai in Viet Nam; (ii) on NH7 in Cambodia via Kampong Cham on the Mekong River; and (iii) on NH2 in Cambodia, 111 kilometers (km) south of Phnom Penh via Tinh Bien to Chau Doc.

7. The Bavet/Moc Bai crossing on the direct route between Phnom Penh and Ho Chi Minh City is by far the most important in terms of expected future international trade between the two countries. At present, a twice-daily tourist bus service uses the route. In total, about 1,000 people pass through the crossing each day. Most are tourists, while others enter Cambodia to gamble at six casinos in Bavet that cater mostly for Vietnamese customers. The increase in transborder activities at Moc Bai measured both in terms of persons/vehicles crossing the border and in terms of import/export values started increasing around 2003 and 2004, soon after completion of the ADB-funded Phnom Penh to Ho Chi Minh City Highway Project.<sup>3</sup> The total value of trade through the Bavet/Moc Bai border post has increased by around 41% per annum from 2003 to 2006. The number of people crossing the border increased from 132,012 in 2003 to 472,026 in 2006, an average increase of 53% per annum. The number of vehicles crossing increased from 4,356 in 2003 to 11,406 in 2006, an average

<sup>2</sup> ADB. 2004. *Technical Assistance for the Greater Mekong Subregion Transport Sector Strategy Study*. Manila (TA 6195-REG).

<sup>3</sup> ADB. 1998. *Report and Recommendation of the President to the Board of Directors on a Proposed Loan to the Kingdom of Cambodia and to the Socialist Republic of Viet Nam for the Greater Mekong Subregion: Phnom Penh to Ho Chi Minh City Highway Project*. Manila (Loan 1659-CAM[SF] and Loan 1660-VIE[SF]).

increase of 38% per annum. Recorded flows of goods show that domestic appliances and clothes are the main items passing from Viet Nam to Cambodia, while electronics, wine, and cigarettes dominate the flow in the other direction. There are, however, significant unrecorded trade flows at all three border-crossing points between the two countries.

8. Economic diversification through the development of industrial parks at the Bavet/Moc Bai border crossing has been considerable since the implementation of the Phnom Penh to Ho Chi Minh City Highway Project. Trang Bang Industrial Park and Moc Bai Economic Zone are two large industrial zones in Viet Nam close to the Moc Bai border post that were specifically planned and developed as a direct result of the road improvement project. Similarly, a new industrial park has been developed and recently opened in Cambodia near the Bavet border post. These industrial parks have reinforced the increase in trade flows between Cambodia and Viet Nam.

#### **D. The Project Road**

9. The Transport Sector Strategy Study refined previously identified strategic transport corridors in the GMS, with nine corridors now used to guide planning of transport infrastructure and services in the region. Of particular note for the current project is the Southern Economic Corridor, which links central Thailand with Cambodia and southern Viet Nam. The SCC links Bangkok, in Thailand, with Nam Can, in Viet Nam, by a 924 km road. This road runs along the Gulf of Thailand through Koh Kong and Kampot provinces in Cambodia and Kien Giang and Ca Mau provinces in Viet Nam. At present, formal commercial transport is not permitted to use the border crossing between Cambodia and Viet Nam on the SCC, and some sections of the road provide limited accessibility because of poor road quality, limited road width, and bridges that can be narrow and have low load capacity. The Project covers a 53 km section of the SCC in Cambodia and about 96.1 km of the SCC in Viet Nam. Once the Project is completed for the first time, it will be possible for the SCC to be used as a continuous and reliable road corridor. The impact of the GMS-SCC Project will be to contribute towards economic diversification and development along the SCC through the reduction of transport costs and improved access for the movement of goods and people between the countries in the GMS, in particular Cambodia, Thailand, and Viet Nam.

10. With the implementation of the project road, a fourth border crossing point will be established at the southern end of the border between Cambodia and Viet Nam at Preak Chak–Xa Xia.<sup>4</sup> This will allow additional cross-border traffic flows for both passenger and freight traffic, as well as the possibility of diverted traffic (e.g., an informal taxi service is currently in operation between Chau Doc and Kampot). While the likely scale of the flow through the additional crossing is difficult to quantify with precision, because of the absence of a current formal crossing, taking account of regional population and industrial output suggests that future flows through the Preak Chak–Xa Xia crossing could be 10–30% of the concurrent traffic flows using the Bavet–Moc Bai crossing on the road linking Ho Chi Minh City and Phnom Penh. Traffic movements at the latter crossing have already shown significant increases since the improvements and rehabilitation of the Phnom Penh to Ho Chi Minh City road. It is expected that new industrial parks will develop at the Preak Chak–Xa Xia in a similar way to that which occurred at the Bavet–Moc Bai crossing. One such zone is already under construction close to Preak Chak. While the scale of the initial development of the zone of about 50 hectares (ha) is not large, it sits within an allotment of a total area of 200 hectares and it can be expected that this industrial zone will develop further once the project road is developed. New cement factories financed by PRC investors are presently in operation in Kampot province in Cambodia

<sup>4</sup> Also referred to as the Lork–Xa Xia or Preak Chak–Ha Tien border crossing.

and others are planned. The existing factory is expected to produce 2 million tons of cement annually when fully operational. An additional factory currently under planning will add a further 1 million tons output. With these developments, it is anticipated that Cambodia's production will exceed demand and that cement will be exported to Viet Nam. While much of this cement would be transported by boat, it is expected that some would also be moved by road transport along the project road.

11. By stimulating economic diversification and improving cross-border traffic flows and facilities, the project road is in line with the GMS strategy and ADB's Regional Cooperation Strategy and Program Update for the GMS. As in other ADB projects linking Cambodia and Viet Nam, the increase in subregional flows of both passengers and freight traffic has been increasing steadily. The project road is envisaged to have a similar effect and to increase subregional traffic flows between Cambodia and Viet Nam further.

### **E. The GMS Cross-Border Transport Agreement**

12. The GMS governments have recognized that providing subregional physical infrastructure is a necessary but not a sufficient condition for increased connectivity among the six GMS countries. Mitigating nonphysical barriers to the cross-border movement of goods and people is important to increase efficiency, reduce costs, and maximize the economic benefits of improved subregional transport infrastructure. In 1996, ADB provided technical assistance (TA)<sup>5</sup> to the six GMS countries to (i) identify and assess priority transport-related cross-border issues, (ii) assess the viability of existing international conventions or agreements as possible "solutions" or "responses" to the priority issues, (iii) identify and assess issues that existing international conventions or agreements do not address, and (iv) identify implementation requirements for addressing priority issues. The findings of the TA showed that the barriers to trade and the free movement of people between GMS countries were substantial. A number of nonphysical barriers impeding the free movement of vehicles, goods, and people across international borders in the subregion were identified, including: (i) restrictions on the entry of motor vehicles, often causing costly and time-consuming transshipment; (ii) different standards pertaining to vehicle size, weight, safety requirements, and driver qualifications; (iii) inconsistent and difficult formalities related to customs procedures, inspections, clearances, and assessment of duties; and (iv) restrictive visa requirements.

13. Bilateral agreements on cross-border movement exist between many GMS members. These agreements, however, only partly address critical cross-border facilitation issues; and hinder transit movement of vehicles, goods, and people to third countries. In addition, the bilateral agreements existing among pairs of GMS countries are not necessarily consistent with each other and run the risk of having gaps and overlaps, thereby making transport facilitation even more difficult. Therefore, a multilateral framework to facilitate the cross-border movement of goods and people on a subregion-wide and consistent basis is necessary to allow both interstate and transit traffic.

14. The GMS Cross-Border Transport Agreement (CBTA) is a multilateral instrument adopted by all GMS members to facilitate cross-border transport of goods and people. Formulated under an ADB-funded TA,<sup>6</sup> the CBTA provides a practical approach to streamline regulations and reduce nonphysical barriers in the GMS over the short to medium term, and includes measures such as more efficient inspection procedures and reciprocal traffic

<sup>5</sup> ADB. 1996. *Technical Assistance for the Mitigation of Nonphysical Barriers to Cross-Border Movement of Goods and People*. Manila (TA 5686-REG).

<sup>6</sup> ADB. 1999. *Technical Assistance for Facilitating the Cross-Border Movement of Goods and People in the Greater Mekong Subregion*. Manila (TA 5850-REG).

regulations. It incorporates the principles of bilateral or multilateral action, and flexibility in recognizing differences in procedures in each of the GMS countries. The CBTA includes references to existing international conventions that have demonstrated their usefulness in a broad range of countries. It also takes into account, and is consistent with, similar initiatives of the Association of Southeast Asian Nations (ASEAN), of which five of the six GMS countries are members. In this regard, ADB consults and coordinates extensively with the United Nations Economic and Social Commission for Asia and the Pacific and the ASEAN Secretariat to ensure the consistency of the CBTA with existing international conventions and regional agreements. ADB has also consulted with the United Nations Economic Commission for Europe to learn from its experience in promoting cross-border land transport facilitation in Europe.

15. The CBTA became effective in December 2003 with its ratification by all six GMS member countries. To achieve early results in trade and transport facilitation, the countries agreed to undertake the initial implementation of the CBTA at seven key border crossings from the longer list of designated border crossings included in the CBTA. The SCC crosses the Cambodia–Thailand at Koh Kong and the Cambodia–Viet Nam border at Preak Chak–Xa Xia. Both of these crossings have been included in the long list. On the Cambodian side of the borders at both Koh Kong and Preak Chak, the facility for customs and immigration is inadequate to handle cross-border freight and passenger traffic. In anticipation of the Project, Viet Nam has completed a new cross-border facility in Xa Xia. Development of appropriate facilities for Cambodia at Koh Kong and Preak Chak, and other measures to support joint inspection procedures, will facilitate the application of CBTA procedures.

16. Key challenges for the effective implementation of the CBTA include: (i) establishment of efficient management systems and associated capacity building; (ii) streamlining and harmonization of border control documents; (iii) preparation of revised manuals of operation at the border checkpoints and associated training; (iv) establishment of required infrastructure, and, in some cases, relocation and/or modification of layouts of border checkpoints as well as provision of common control areas to allow single-stop inspection and single-window inspection; and (v) mitigation of negative externalities associated with increased cross-border movement.

17. The major milestones for the future work on cross-border transport facilitation under the GMS program and their respective estimated time frame are as follows: (i) ratification by all GMS governments of the annexes and protocols (2004–2008); (ii) initial implementation of the CBTA and its annexes and protocols (2005–2007); and (iii) full implementation of the CBTA and its annexes and protocols (2008–2009). TA<sup>7</sup> to assist in the initial implementation of the CBTA at seven key crossings has been provided by ADB.<sup>8</sup>

<sup>7</sup> ADB. 2006. *Technical Assistance for Implementing the GMS Agreement on Facilitation of Cross-Border Transport of Goods and People*. Manila (TA6307-REG).

<sup>8</sup> These are the Dansavanh (Lao PDR)–Lao Bao (Viet Nam), Mukdahan (Thailand)–Savannakhet (Lao PDR), and Mae Sot (Thailand)–Myawaddy (Myanmar) border crossings along the East–West Economic Corridor; the Bavet (Cambodia)–Moc Bai (Viet Nam) and Aranyaprathet (Thailand)–Poipet (Cambodia) border crossings along the Southern Economic Corridor; and the Mae Sai (Thailand)–Tachilek (Myanmar) and Hekou (PRC)–Lao Cai (Viet Nam) border crossings along the North–South Economic Corridor.

## EXTERNAL ASSISTANCE

Table A3.1: External Assistance to Greater Mekong Subregion Road Subsector Projects

	Loan No.	Country	Project Name	Date Approved	Estimated Loan Closing Date	Total Project Cost (\$ million)	ADB	Cofinancing		
1.	1325	PRC	Yunnan Expressway	29 Sep 1994	06 Sep 2000	461.4	150.0			
2.	1369	Lao PDR	Champassak Road Improvement	31 Aug 1995	26 Jul 2001	60.1	48.0			
3.	1659	Cambodia	Phnom Penh–Ho Chi Minh City Highway	15 Dec 1998	30 Jun 2004	52.7	40.0			
4.	1660	Viet Nam	Phnom Penh–Ho Chi Minh City Highway	15 Dec 1998	30 Jun 2005	144.8	100.0			
5.	1691	PRC	Southern Yunnan Road Development	24 Jun 1999	31 Mar 2004	770.3	250.0			
6.	1727	Lao PDR	East–West Corridor Project	20 Dec 1999	30 Sep 2005	205.0	32.0	145.0	JICA and JBIC	
7.	1728	Viet Nam	East–West Corridor Project	20 Dec 1999	31 Dec 2004	387.0	25.0	290.0	JBIC and World Bank	
8.	1851	PRC	Guangxi Roads Development	09 Oct 2001	31 Oct 2006	455.2	150.0	110.4	EIB and China Development Bank	
9.	1945	Cambodia	GMS: Cambodia Road Improvement	26 Nov 2002	30 Jun 2007	77.5	50.0	10.0	OFID	
10	1989	Lao PDR	GMS: Northern Economic Corridor	20 Dec 2002	30 Jun 2007	95.8	30.0	58.5	Governments of PRC and Thailand	
11	2014	PRC	Western Yunnan Roads Development	28 Oct 2003	31 Mar 2008	582.0	250.0	157.9	Agence Française de Développement and domestic commercial bank	
12	2094	PRC	Guangxi Roads Development II	16 Sep 2004	30 Jun 2008	726.0	200.0	271.4	China Development Bank	
13	2222	Viet Nam	GMS Kunming–Haiphong Transport Corridor Noi Bai–Lao Cai Highway Technical Assistance	19 Dec 2005	30 Sep 2008	8.0	6.0			
<b>Total</b>						<b>4,025.8</b>	<b>1,331.0</b>	<b>1,043.2</b>		

ADB = Asian Development Bank, EIB = European Investment Bank, GMS = Greater Mekong Subregion, Lao PDR = Lao People's Democratic Republic, JBIC = Japan Bank for International Cooperation, JICA = Japan International Cooperation Agency, OFID = OPEC Fund for International Development, PRC = People's Republic of China.

Source: ADB.

## SUMMARY OF PROPOSED CIVIL WORKS

### A. Project Scope

1. The scope of the GMS-SCC Project extends from Kampot in Cambodia, to the Cambodia–Viet Nam border at Preak Chak–Xa Xia, to Ca Mau in Viet Nam. Under the Cambodian component, the Project will improve and rehabilitate sections of national road (NR) 31 and NR33. This will include periodic maintenance work on the Kampot–Kampong Trach section, upgrading of the Kampong Trach–Preak Chak section, and routine maintenance works of NR31 between Kampong Trach and the junction with NR3. Border facilities at the Cambodia–Thai border at Koh Kong, and the Cambodia–Viet Nam border at Preak Chak–Xa Xia,<sup>1</sup> will be improved under the Project. Under the Viet Nam component, the Project will comprise development of stage 1 of the Greater Mekong Subregion Southern Coastal Corridor (GMS-SCC) Project which includes improvement of a short section of national highway (QL) 80 between the border at Xa Xia and Ha Tien, and development of the corridor between Minh Luong and the access road to the Khanh An Industrial Zone west of Ca Mau city.

### B. Cambodian Component

#### 1. Road Improvement and Cross-Border Facility

2. In the Cambodian component of the Project, improvement works are divided into three subprojects:

- (i) improvement of NR33 between Preak Chak and Kampong Trach (15 kilometers [km]);
- (ii) repair and widening of bridges between Kampong Trach and Kampot (37 km), and
- (iii) development of new cross-border facilities at Preak Chak and Koh Kong.

3. NR33 will be improved to the required standard for a national road (i.e., 2 x 3.5 m wide traffic lanes, 2 x 1.5 m wide sealed shoulders, and 2 x 0.5 m wide verges) from the steel bridge in the center of the Viet Nam–Cambodia border neutral zone to the intersection with NR31 in Kampong Trach. The civil works comprise widening of the existing embankment, construction of subbase and base courses, and application of a double bituminous surface treatment. Drainage structures will be replaced or widened as needed. The intersection with NR31 will be enlarged to accommodate turning traffic and improve safety. Apart from the intersection, no realignment is required.

4. Sections of NR33 between Kampong Trach and Kampot have been improved under the World Bank Flood Rehabilitation Project. Two of the existing Bailey bridges are to be replaced—these being a bridge near Kampot that collapsed in 2006, with government funding, and the short bridge in Kampong Trach, which has been proposed for funding from the Government of Japan. The remaining 24 bridges and culverts between Kampong Trach and Kampot are narrow and in poor condition. These bridges will be repaired and widened or replaced, depending on the findings and recommendations of the consultants providing detailed design and implementation services.

5. New cross-border facilities will be constructed at Preak Chak at the Cambodia–Viet Nam border, and Koh Kong at the Cambodia–Thailand border. At Preak Chak, the existing buildings will be demolished and a 4 hectare (ha) site will be developed between the neutral zone and

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<sup>1</sup> Also known as Lork–Xa Xia or Preak Chak–Ha Tien.

Preak Chak village. New immigration, customs, CAMCONTROL,<sup>2</sup> and quarantine, administration and staff quarters buildings will be constructed totaling about 5,000 square meters (m<sup>2</sup>). Parking areas and access roads will be constructed on either side of NR33 to separate truck activities and freight inspections from buses and cars. The new facilities for the Cambodian side of the Koh Kong border crossing will be located immediately behind the existing border post, in a site about 100 meters (m) x 60 m. The land belongs to the existing border post facilities and the site lies between the border and a hotel/casino complex built in Cambodia. Adequate lighting, power supply, water and sanitation services, and truck weighing facilities will be provided at both new facilities.

## 2. Road Maintenance Component

6. One of the major issues in the road sector in Cambodia is poor maintenance of road assets. The Project will contribute to the development of road maintenance by providing technical support to the Ministry of Public Works and Transport (MPWT) as follows:

- (i) **Maintenance planning.** The identification of the most effective maintenance regime on a road requires an understanding of the tools available to analyze the options. The objective is to determine the most economically efficient regime that will keep the road in a maintainable condition throughout its economic life.
- (ii) **Maintenance implementation.** Of the maintenance undertaken to date, most has been implemented through force account using the resources of the Provincial Departments of Public Works and Transport (PDPWTs). It has been proposed that this system needs to be changed to implementation through competitively bid contracts to improve efficiency and to determine market rates for work, instead of negotiated rates.

7. The condition of NR33 between Kampong Trach and Kampot varies: the first 14 km from Kampong Trach and short sections towards Kampot have been improved under the World Bank Flood Rehabilitation Project. The bridges and culverts will be repaired and widened or replaced as part of the road improvement works described in paragraph 4 above. The remaining length (about 23 km) requires a program of heavy periodic maintenance to restore it to a maintainable condition. The entire length of NR33 from Preak Chak to Kampot will then require a sustainable program of routine maintenance, and periodic maintenance in future.

8. The Project will include a component for maintenance planning and implementation of contracts for periodic and routine maintenance for the Kampot and Kampong Trach road. Under consulting services for the Project, tasks will be included to (i) undertake a condition survey of NR33, (ii) identify potential maintenance regimes, (iii) determine the regime that is economically optimum using standard software packages such as the Highway Design and Maintenance Model, (iv) undertake an assessment of the capacity of existing Cambodian contractors to undertake contracts for routine and periodic maintenance, (v) prepare model bidding documents for routine and periodic maintenance for use under competitive bidding procedures, and (vi) based on the results of (iii) and (iv) identify and prepare contract documents to implement the first 3 years of the optimum maintenance regime.

9. The output of the above component will be a demonstration project on (i) maintenance planning, (ii) implementation of routine and periodic maintenance through competitive bidding contracts, (iii) exposure of Cambodian contractors to contracts for routine and periodic maintenance, (iv) exposure of MPWT and PDPWT staff to maintenance planning and

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<sup>2</sup> The Cambodia Import Export Inspection and Fraud Repression Department (CAMCONTROL) is responsible for inspecting traded goods to ensure that they are legal and meet required quality standards.

implementation of this plan through competitively bid contracts, and (v) establishment of market rates for maintenance work that can be used to evaluate and standardize maintenance costs.

## **C. Viet Nam**

### **1. Road and Bridge Works**

10. The Project comprises development of stage 1 of the GMS-SCC, which includes improvement of a short section of QL80 between the border at Xa Xia and Ha Tien, and completion of the transport corridor between Minh Luong and the access road to the Khanh An Industrial Zone west of Ca Mau city.

11. QL80 between the Cambodia border at Xa Xia and the start of the Ha Tien bypass will be widened on the existing alignment by improving embankments, laying an aggregate subbase, and overlaying the old pavement with asphaltic concrete base and surface courses. Cross-drainage structures will be widened or replaced as needed. There is a newly constructed customs and immigration building at Xa Xia spanning QL80. Parking areas for cars, buses, and trucks will be constructed on either side of building to facilitate passenger and cargo inspections and processing.

12. QL63 between Minh Luong and the start of the Tac Cau Bypass will be widened on the existing alignment by improving embankments, laying an aggregate subbase, and overlaying the old and new pavement with asphaltic concrete base and surface courses. Cross-drainage structures will be widened or replaced as needed.

13. A 6.4 km bypass around the Tac Cau ferry will be constructed about 1 km south and east of QL63. The bypass has four bridges, including two large bridges across the Cai Be River (about 600 m total length) and Cai Lon River (about 680 m total length) with sufficient navigation clearances. The present Ministry of Transport (MOT) design calls for the main spans to be a tied arch design. Options will be reviewed during detailed design.

14. QL63 between the end of the Tac Cau bypass and Thu Bay runs very close to the Song Trem–Song Cai Lon Canal and has a recently constructed serviceable 7 m concrete carriageway. The project works include construction of sealed shoulders, protective measures to prevent erosion of the canal bank and road foundation, and pedestrian safety measures such as barriers on sections with a high density of houses and shops. Five new bridges have recently been constructed on this section but approaches joining the bridge decks to the concrete carriageway need to be reconstructed. Kien Giang Provincial Department of Transport is carrying out other improvement works on this section, including replacement of the remaining four single-lane Bailey bridges, construction of a bypass around An Bien town, and completion of the northern part of the Thu Bay Bypass.

15. The south part of the Thu Bay Bypass will be completed under the Project. Works include completion of the bridge across the Thu Bay Canal connecting the north and south parts of the bypass and construction of about 1.3 km of new road connecting to Kien Giang provincial road (TL)7 south of Thu Bay town.

16. The existing road between Thu Bay and the crossing over the Nga Bac Canal (about 21 km) will be widened and improved. Bridge and other drainage structures will be improved or replaced as necessary. A new road will be constructed between Nga Bac Canal and the access road to Khanh An Industrial Zone west of Ca Mau city. This new road (about 41 km long) will follow the alignment of the existing access track. Works will include site preparation and construction of embankment, aggregate subbase and base courses, and the application of a

double bituminous surface treatment. Bridgeworks include construction of 30 small or medium bridges across feeder canals and nine large bridges. The embankment for the existing access track will not be disturbed to avoid potential instability of canal banks.

## **2. Intermodal Transport**

17. The Project will identify key locations along roads to be improved under the Project where there is particular potential for transfer between road and water transport, prepare recommendations for development of intermodal facilities at them, and implement high priority proposals. Improvements will focus on existing public landings and will include (in descending order of priority) improved links between landings and the neighboring road network, storage facilities, rice drying and similar facilities, and rehabilitation of landing stages. Improvements in physical infrastructure will be complemented by enhanced management of landings and associated infrastructure under the guidance of Provincial People's Committees (PPCs), with priority given to use of community-based organizations for management of landings to facilitate sustainability. This work will coordinate with the proposed Mekong Transport Infrastructure Development Project (to be undertaken by the World Bank with cofinancing from the Government of Australia) which will consider the development of intermodal transport infrastructure and services in the Mekong Delta in more detail.

## **3. Design Standards**

18. Roads will be designed based on the following Viet Nam standards: road geometry TCVN 4054-2005; flexible pavement design 22TCN 211-93; soft soil treatment 22TCN 262-2000; and road safety and sign codes 22TCN 237-01.

19. New roads will be designed to management class III–technical class 60 km/h or 80 km/h geometric standard. The cross-section elements are 2 traffic lanes (3.5 m wide), 2 sealed shoulders (2.0 m wide for technical class 60km/hr or 2.5 m wide for technical class 80 km/h), and 2 unsealed shoulders (0.5 m wide). Sight distances, horizontal and vertical alignments, and lateral and vertical clearances will conform to TCVN 4054-2005. Bridge cross-sections will be a 11 m bridge deck and 2 x 0.5 m wide parapet providing a matching cross-section with technical class 60 km/h roadway.

20. Existing roads will be widened to management class III–technical class 60 km/h cross-section on their existing alignment either by widening both sides or one side and displacing the centerline. Sight distances and alignments will be changed where necessary to correct safety hazards but improving existing roads to the full geometric standards prescribed in TCVN 4054-2005 is too costly and would require relocation of a very large number of affected households, and is impractical.

## **4. Soft Soil Treatment**

21. The new road sections cross areas with soft soils requiring special ground treatment methods as outlined in 22TCN 262-2000. Extensive geotechnical field surveys will be required prior to preparation of pavement design. Various treatment methods will be required depending on site conditions, including dredging and replacement of soft soils, use of geotextiles, preloading with sand drains, and use of reinforced concrete piles in the worst cases.

## SUMMARY RESETTLEMENT PLAN

### A. Scope of Land Acquisition and Resettlement

1. Three full resettlement plans (RPs) have been prepared based on the preliminary design available: one for national road (NR) 33 in Cambodia, and one each for Ca Mau Province and Kien Giang Province in Viet Nam. In Viet Nam, 3,775 households will be affected by loss of residential, commercial, or agricultural land within the corridors of impact of project roads and border crossings. Of these, 677 houses and 513 small businesses and shops will be displaced, and 680 households will be severely affected by loss of productive assets. In Cambodia, 337 households will be affected by the Project. This will require relocation of 83 houses and 58 small businesses and shops. Eight households from the expansion of border facilities will lose their entire total productive landholdings.

### B. Legal and Policy Framework

2. The policy framework and entitlements of the Project have been based upon the relevant laws and regulations in Cambodia and Viet Nam, and the Asian Development Bank's (ADB's) *Involuntary Resettlement Policy* (1995), *Policy on Indigenous Peoples* (1998), *Policy on Gender and Development* (1998), *Accountability Mechanism* (2003), and *Public Communications Policy* (2005). In Cambodia, the Land Law, 2001, is the relevant legal basis for resettlement, and procedures on ADB-financed projects are generally consistent with ADB's policies. In Viet Nam, with the promulgation of Decree 197/CP (2004) and Decree 17 (2006), the Government's legal framework towards resettlement has moved much closer to ADB's policies. Key strategies to reconcile the differences are included in the RPs. Policies adopted in the project RPs will supersede the provisions of laws and regulations currently in force in Cambodia and Viet Nam, wherever a gap exists.

### C. Project Entitlements

3. The overall objective of the Project with respect to land acquisition and resettlement is to ensure that all people affected by the Project, irrespective of tenure status, are able to maintain and, preferably, improve their pre-project living standards and income-earning capacity through compensation for the loss of physical and nonphysical assets and, as required, other assistance and rehabilitation measures. The absence of a formal legal title to land is not a bar to project entitlements. All compensation is based on the principle of replacement cost. Table A5 presents the summary entitlements for both countries. Detailed project impacts and project entitlements are set out in the RPs in Supplementary Appendix D.

### D. Ethnicity, Vulnerability, and Gender Issues

4. There are no ethnic minorities in the project area in Cambodia. In the project areas in Viet Nam, there are 13 ethnic Khmer within Ca Mau area and 339 ethnic Khmer within Kien Giang project area. The ethnic Khmer speak both Vietnamese and Khmer (especially the men); they are well integrated into the main stream, maintain religious practice without interference from the Vietnamese (Kinh), and are classified nonpoor. The Project will not affect the Khmer people differently than the Vietnamese, so no ethnic minority development plan is required. However, to ensure project benefits to the Khmer people, ethnic minority specific activities are included in the RPs. Special attention will be given to identifying and addressing any special needs of other vulnerable groups such as the landless, the poor, women-headed households, the disabled, and war veterans by carrying out separate consultation meetings and by ensuring that they benefit from the rehabilitation measures. In Viet Nam, 23% of affected

households are headed by women and 5% are below the poverty line; in Cambodia, women head 25% of affected households and 11% are below the poverty line. A project gender strategy has been prepared and resettlement related gender actions have been included in the RPs. The gender strategy is discussed separately (Appendix 12).

**Table A5: Summary Entitlement Matrix for Viet Nam and Cambodia**

Impact	Project Entitlements	
	Viet Nam	Cambodia
1. Permanent acquisition of land	For legal and legalizable owners of land that will be permanently acquired, replacement land or cash compensation at replacement cost (i.e., current market value, productive value, and similar location attributes). Non-titled APs are entitled to compensation for non-land assets and various options of resettlement assistance. Landless APs will not be displaced from affected land until the commune allocates alternative land for them within the same or neighboring commune.	Replacement land or cash at replacement cost (which is the current market prices for land of similar type and productive capacity). Cash assistance for loss of land use to APs within the corridor of impact and ROW. Compensation at replacement cost for non-land assets within the corridor of impact and ROW. Landless APs will be provided with land by the Government free of charge.
2. Structures, crops, and trees (irrespective of tenure status)	All owners of structures will be paid based on current market prices of materials and labor with no deduction for depreciation or salvageable materials. Unharvested crops will be compensated based on current market value while trees will be paid based on type, age, and productive capacity.	All owners of structures will be compensated at replacement cost based on current market prices of materials, materials transport, and labor without deduction for depreciation or salvageable materials. Unharvested crops will be compensated based on current market value while trees will be paid based on type, age, and productive capacity.
3. Temporary impacts (during construction)	Payment of rent for the use of land during temporary use. Compensation for non-land assets at replacement cost caused by construction activities. Return of land to pre-project conditions or better.	Payment of rent for the use of land during temporary use. Compensation for non-land assets at replacement cost caused by construction activities. Return of land to pre-project conditions or better.
4. Relocating APs and APs losing more than 10% of total productive assets	Various allowances (in cash or kind) will be provided such as materials transport allowance, life and production stabilization allowance, infrastructure development allowance, special allowance for poor and vulnerable APs. Appropriate rehabilitation program will be designed and implemented in consultation with APs during implementation.	Various allowances (in cash or kind) will be provided such as materials transport allowance, cost of living allowance, special cash assistance to poor and vulnerable APs. Appropriate income restoration program will be designed and implemented in consultation with APs during implementation.
5. Business Disruption	Unregistered business, cash assistance for loss of income based on the minimum wage in the respective province for the duration that the business/income-generation activity is disrupted. For registered business, cash assistance for loss of income based on net income (tax receipts) for the duration of disruption of business activities. Average net income based on tax receipts for the past 12 months. For employees/laborers, cash assistance for lost wages or salary equal to current wages or salary for each day (or month) they cannot work.	Unregistered business, cash assistance for actual amount of income if it can be confirmed, or equivalent to a living allowance of 20 kg rice per 5 persons per month from 1–2 months. For registered business, cash compensation equivalent to the daily net income (as reflected in tax receipts) multiplied by the days of business disruption. For employees/laborers, cash assistance for lost wages or salary equal to current wages or salary for each day APs cannot work while business is reestablishing.

AP= affected person, kg = kilogram, ROW = right-of-way.

Source: Asian Development Bank staff.

## **E. Resettlement and Income Restoration Strategies**

5. A special feature in Cambodia is that, while all affected persons who must move out of the corridor of impact of the project road will be compensated for loss of land use in the corridor of impact, they have the option of moving back into the remaining right-of-way (ROW) if there is sufficient land available, or completely out of the ROW. They will be permitted to stay within the remaining ROW for at least 5 years, or longer if the Government does not require the ROW for roadworks, but will be restricted from building permanent structures (i.e., using materials such as concrete). When the affected persons decide to move, whether for this Project or in the future, they will be compensated for loss of ROW land use and all other entitlements in accordance with the RP. Forty affected persons who have no other land outside the ROW, and are thus landless, will be given replacement land free of charge. The main income impacts in Cambodia will be from displaced businesses, but most impacts will be minimized by moving nearby within the remaining ROW. In Viet Nam, three group resettlement sites are planned for about 400 of the 677 affected persons whose houses will be displaced. Individual or group market sites will also be available for affected businesses and shops. In Viet Nam, income losses will be minimized by allocating alternate commercial sites with comparable commercial advantage. Appropriate livelihood restoration programs will be designed during RP updating in consultation with affected persons. Transitional assistance will also be provided.

## **F. Institutional Arrangements**

6. In Cambodia, the Social and Environment Unit of the Ministry of Public Works and Transport (MPWT) with guidance from the Interministerial Resettlement Committee (IRC) at the Ministry of Economy and Finance (MEF) will be responsible for updating, implementing, and internal monitoring of resettlement activities. Project supervision consultants will be engaged for both supervision and capacity building to ensure the effective updating and implementation of resettlement activities. The project supervision consultant team will include one international resettlement specialist and one national resettlement/gender specialist. An independent monitoring organization (IMO) will be recruited and mobilized before commencement of any resettlement activities, including the detailed measurement survey. Resettlement subcommittees at the provincial and district levels will be established during loan implementation, and will include women members.

7. In Viet Nam, the Executing Agency for the Project is Viet Nam Road Administration (VRA), and My Thuan Project Management Unit (PMU-MT) has been delegated responsibility for planning and implementation. PMU-MT will ensure that provincial resettlement committees (if needed, based on Project needs) are established for each province under the direction of the Provincial People's Committee (PPC)—as well as district compensation, assistance, and resettlement boards; and commune resettlement task forces. The provincial resettlement committees (if needed); compensation, assistance, and resettlement boards; and commune resettlement task forces will be responsible to PMU-MT for updating and implementing the RPs. Representatives of the Women's Union and/or the Farmers' Association will participate actively in the resettlement program. PMU-MT will recruit a project supervision consultant and IMO to assist in and monitor the planning and implementation of the RPs.

## **G. Public Consultation and Disclosure**

8. Affected persons have been closely consulted and provided with opportunities to participate during the resettlement planning to date, and this will continue during detailed planning and implementation of land acquisition and resettlement. The Executing Agency and

project management units in each country will oversee the activities of resettlement committees at the provincial, district, and commune levels to carry out information dissemination and public consultation programs during all stages of the land acquisition and resettlement process; the detailed design and implementation services consultants and IMO will participate in the preparation and monitoring of the implementation of these programs. Affected persons have participated in public information meetings, and in inventory of losses and socioeconomic surveys. The draft RPs were disclosed to affected persons during 2–6 July 2007 in both Cambodia and Viet Nam, and final RPs will be placed in project and commune offices.

#### **H. Complaints and Grievances**

9. The Project will ensure that affected persons have clear and accessible mechanisms and procedures to address complaints and grievances about any aspect of land acquisition, compensation, and resettlement. In both countries, grievance redress mechanisms include: (i) conciliation and resolution of complaints and grievances at the local level, if possible; (ii) appeal to district and/or provincial authorities if the grievance is not resolved at the local level or if the affected person is not satisfied with a decision; and (iii) final appeal through the courts. Affected persons may seek assistance to lodge a complaint or grievance from third parties, and there will be no charges to affected persons lodging a complaint or grievance. The IMOs will monitor all aspects and activities involved in the lodging, hearing, and resolution of complaints and grievances.

#### **I. Monitoring and Evaluation**

10. The Project will ensure internal and external monitoring of land acquisition, compensation, and resettlement activities. In each country, the Executing Agency and its designated project management unit are responsible for internal monitoring. The IMOs will conduct external monitoring and evaluation, focusing on the social impacts of the Project and whether affected persons are able to improve or at least restore their pre-project living standards, incomes, and productive capacity. Sample surveys of affected persons will be carried out biannually during implementation of the RP, as well 6–12 months after completion of all resettlement activities.

#### **J. Cost Estimates**

11. The total cost for resettlement is estimated at \$37.21 million. It covers costs of compensation, resettlement, rehabilitation, administration costs, internal and external monitoring, and physical and price contingencies. Compensation rates have been determined through replacement cost studies which will be updated during RP updating. The governments have committed to ensuring timely provision of counterpart funds for resettlement and to meeting any unforeseen obligations in excess of the RP budgets to satisfy resettlement objectives.

#### **K. Implementation Schedule**

12. The RP will be updated following detailed design and will be disclosed to APs prior to submission to ADB for review and approval. All resettlement activities will be coordinated with the civil works schedules. Civil works contractors will not be issued a notice of possession for a geographic area until, in accordance with the approved the RP, (i) compensation payment and relocation to new sites has been satisfactorily completed for that area, (ii) agreed rehabilitation assistance is in place, and (iii) the area is free of all encumbrances.

## DETAILED COST ESTIMATES AND FINANCING PLAN

**Table A6.1: Detailed Cost Estimate by Expenditure Category**  
(\$ million)

Item	Costs		
	Cambodia	Viet Nam	Total
<b>A. Investment Costs<sup>a</sup></b>			
1. Civil Works	10.92	105.75	116.67
2. Resettlement	0.93	26.11	27.04
3. Consultants			
a. Project Management	2.22	14.30	16.52
b. Resettlement Monitoring	0.06	0.37	0.43
4. Taxes and Duties	1.33	13.67	15.00
<b>Subtotal (A)</b>	<b>15.46</b>	<b>160.20</b>	<b>175.66</b>
<b>B. Recurrent Costs</b>			
1. Administration Costs	0.34	3.06	3.40
<b>Subtotal (B)</b>	<b>0.34</b>	<b>3.06</b>	<b>3.40</b>
<b>Total Base Cost</b>	<b>15.80</b>	<b>163.26</b>	<b>179.06</b>
<b>C. Contingencies</b>			
1. Physical <sup>b</sup>	1.24	15.80	17.04
2. Price <sup>c</sup>	1.32	25.84	27.16
<b>Subtotal (C)</b>	<b>2.56</b>	<b>41.64</b>	<b>44.20</b>
<b>D. Financing Charges During Implementation</b>			
1. Interest During Implementation	0.14	3.30	3.44
2. Administration Fee	0.20	0.50	0.70
<b>Subtotal (D)</b>	<b>0.34</b>	<b>3.80</b>	<b>4.14</b>
<b>Total Project Cost (A+B+C+D)</b>	<b>18.70</b>	<b>208.70</b>	<b>227.40<sup>d</sup></b>

<sup>a</sup> In mid-2006 prices.

<sup>b</sup> Physical contingencies computed at 10% for civil works.

<sup>c</sup> Price contingencies computed as follows: (i) Cambodia—at 11% for civil works based on an international cost escalation factor of 1.9% and a domestic cost escalation factor of 3.5%; and (ii) Viet Nam—at 17.5% for civil works based on an international cost escalation factor of 1.9% and a domestic cost escalation factor of 6%; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

<sup>d</sup> Including \$500,000 and \$200,000 from the Government of Australia to cover the administration fee.

Source: Asian Development Bank estimates.

**Table A6.2: Cambodia - Detailed Cost Estimate by Financier**  
(\$ million)

Item	Cost	ADB		Government of Australia		Government of Cambodia	
		Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category
<b>A. Investment Costs<sup>a</sup></b>							
1. Civil Works	10.92	5.40	49.45	4.57	41.85	0.95	8.70
2. Resettlement	0.93	0.00	0.00	0.00	0.00	0.93	100.00
3. Consultants							
a. Detailed Design and Implementation Services	2.22	0.00	0.00	2.22	100.00	0.00	0.00
b. Resettlement Monitoring	0.06	0.00	0.00	0.00	0.00	0.06	100.00
4. Taxes and Duties	1.33	0.00	0.00	0.00	0.00	1.33	100.00
<b>Subtotal (A)</b>	<b>15.46</b>	<b>5.40</b>	<b>34.93</b>	<b>6.79</b>	<b>43.92</b>	<b>3.27</b>	<b>21.15</b>
<b>B. Recurrent Costs</b>							
1. Project Administration	0.34	0.30	88.24	0.00	0.00	0.04	11.76
<b>Subtotal (B)</b>	<b>0.34</b>	<b>0.30</b>	<b>88.24</b>	<b>0.00</b>	<b>0.00</b>	<b>0.04</b>	<b>11.76</b>
<b>Total Base Cost</b>	<b>15.80</b>	<b>5.70</b>	<b>36.08</b>	<b>6.79</b>	<b>42.97</b>	<b>3.31</b>	<b>20.95</b>
<b>C. Contingencies</b>	<b>2.56</b>	<b>1.16</b>	<b>45.31</b>	<b>1.01</b>	<b>39.45</b>	<b>0.39</b>	<b>15.23</b>
<b>D. Financing Charges During Implementation</b>	<b>0.34</b>	<b>0.14</b>	<b>41.18</b>	<b>0.20</b>	<b>58.82</b>	<b>0.00</b>	<b>0.00</b>
<b>Total Project Costs</b>	<b>18.70</b>	<b>7.00</b>	<b>37.00</b>	<b>8.00<sup>b</sup></b>	<b>43.00</b>	<b>3.70</b>	<b>20.00</b>
<b>% Total Project Costs</b>	<b>100</b>		<b>37</b>		<b>43</b>		<b>20</b>

ADB = Asian Development Bank.

<sup>a</sup> In mid-2006 prices.

<sup>b</sup> This amount also includes ADB's administration fee, audit cost, bank charges and provision for foreign exchange fluctuations (if any), to the extent that these items are not covered by the interest and investment income earned on this grant, or any additional grant contribution by the Government of Australia. In this case, Australia will provide \$200,000 specifically for the administration fee.

Source: ADB estimates.

**Table A6.3: Viet Nam - Detailed Cost Estimate by Financier**  
(\$ million)

Item	Cost	ADB		Government of Australia		Government of the Republic of Korea		Government of Viet Nam	
		Amount	% of Cost	Amount	% of Cost	Amount	% of Cost	Amount	% of Cost
			Category		Category		Category		Category
<b>A. Investment Costs<sup>a</sup></b>									
1. Civil Works	105.75	59.26	56.04	12.31	11.64	34.18	32.32	0.00	0.00
2. Resettlement	26.11	0.00	0.00			0.00	0.00	26.11	100.00
3. Consultants									
a. Detailed Design and Implementation Services (ADB and Government of Australia)	9.83	0.00	0.00	9.83	100.00			0.00	0.00
b. Detailed Design and Implementation Services (Republic of Korea)	4.47					4.47	100.00	0.00	0.00
c. Independent Resettlement Monitoring	0.37	0.00	0.00			0.00	0.00	0.37	100.00
4. Taxes and Duties	13.67	0.00	0.00			0.00	0.00	13.67	100.00
<b>Subtotal (A)</b>	<b>160.20</b>	<b>59.26</b>	<b>36.99</b>	<b>22.14</b>	<b>13.82</b>	<b>38.65</b>	<b>24.13</b>	<b>40.15</b>	<b>25.06</b>
<b>B. Recurrent Costs</b>									
1. Project Administration	3.06	0.00	0.00			0.00	0.00	3.06	100.00
<b>Subtotal (B)</b>	<b>3.06</b>	<b>0.00</b>	<b>0.00</b>			<b>0.00</b>	<b>0.00</b>	<b>3.06</b>	<b>100.00</b>
<b>Total Base Cost</b>	<b>163.26</b>	<b>59.26</b>	<b>36.30</b>	<b>22.14</b>	<b>13.56</b>	<b>38.65</b>	<b>23.67</b>	<b>43.21</b>	<b>26.47</b>
<b>C. Contingencies</b>	<b>41.64</b>	<b>13.79</b>	<b>33.12</b>	<b>2.86</b>	<b>6.87</b>	<b>10.00</b>	<b>24.02</b>	<b>14.99</b>	<b>36.00</b>
<b>D. Financing Charges During Implementation</b>	<b>3.80</b>	<b>1.95</b>	<b>51.32</b>	<b>0.50</b>	<b>13.16</b>	<b>1.35</b>	<b>35.53</b>	<b>0.00</b>	<b>0.00</b>
<b>Total Project Costs</b>	<b>208.70</b>	<b>75.00</b>	<b>35.94</b>	<b>25.50<sup>b</sup></b>	<b>12.22</b>	<b>50.00</b>	<b>23.96</b>	<b>58.20</b>	<b>27.89</b>
<b>% Total Project Costs</b>	<b>100%</b>		<b>36</b>		<b>12</b>		<b>24</b>		<b>28</b>

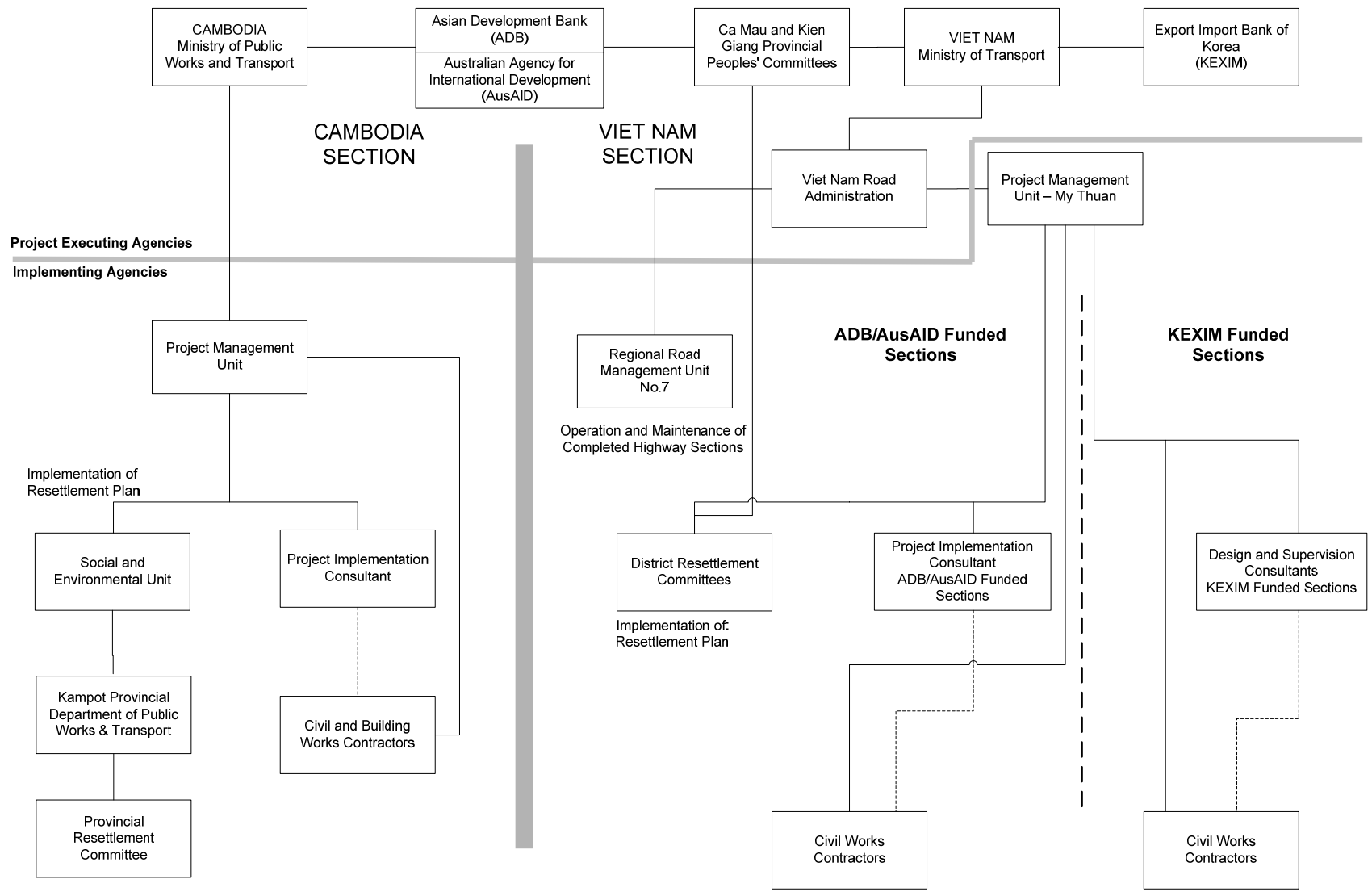
ADB = Asian Development Bank.

<sup>a</sup> In mid-2006 prices.

<sup>b</sup> This amount also includes ADB's administration fee, audit cost, bank charges and provision for foreign exchange fluctuations (if any), to the extent that these items are not covered by the interest and investment income earned on this grant, or any additional grant contribution by the Government of Australia. In this case, Australia will provide \$500,000 specifically for the administration fee.

Source: ADB estimates.

### PROJECT ORGANIZATION AND IMPLEMENTATION ARRANGEMENTS



ADB = Asian Development Bank.  
 Note: 'ADB/AusAID Funded Sections' refers to the Project component funded by ADB and the Government of Australia.  
 Source: ADB.

## IMPLEMENTATION SCHEDULE

**Table A8.1: Implementation Schedule for Cambodian Component**

Activity	2007		2008				2009				2010				2011				2012	
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
<b>A. ADB Loan Processing</b>																				
1. Board Consideration		◆																		
2. Signing of Loan Agreement		◆																		
3. Loan Effectiveness			◆																	
<b>B. Detailed Design, Resettlement, and Maintenance Planning</b>																				
1. Recruitment of Consultants	■	■	■	■	■															
2. Project Implementation Consultant Starts				◆																
3. Field Surveys, Final Designs				■	■	■														
4. Maintenance Planning				■	■	■														
5. Update Resettlement Plans and Implementation							■	■	■											
<b>C. Civil Works and Periodic Maintenance Procurement (ICB)</b>																				
1. Preparation of Bid Documents and Approval by ADB				■	■															
2. Invitations for Bids					■	■														
3. Government of Cambodia Evaluation of Bid Evaluation and Approval by ADB						■	■													
4. Contract Negotiations, Signing, Notice to Proceed							■	■												
<b>D. Routine Maintenance Works Procurement (NCB)</b>																				
1. Preparation of Bid Documents and Approval by ADB					■	■														
2. Invitations for Bids						■	■													
3. RGC Evaluation of Bid Evaluation and Approval by ADB							■	■												
4. Contract Negotiations, Signing, Notice to Proceed								■	■											
<b>E. Construction and Maintenance Implementation</b>																				
1. Construction Supervision <sup>a</sup>										■	■	■	■	■	■	■	■	■	■	■
2. UXO Clearance										■	■	■	■	■	■	■	■	■	■	■
3. Civil Works Construction										■	■	■	■	■	■	■	■	■	■	■
4. Periodic Maintenance																				
5. Routine Maintenance																				

ADB = Asian Development Bank, ICB = international competitive bidding, UXO = unexploded ordnance.

<sup>a</sup> intermittent services during period of routine maintenance activities only.

Source: Asian Development Bank Estimates.



No.	Activity	2011				2012				2013				2014			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>A. Loan Processing</b>																	
	1. Board Consideration																
	2. Signing of Loan Agreement																
	3. Loan Effectiveness																
<b>B. Detailed Design ADB Sections and Resettlement All Sections</b>																	
	1. Recruitment of Consultants																
	2. Project Implementation Consultant Starts																
	3. Field Surveys, Final Designs																
	4. Update Resettlement Plans and Implementation - ADB/Korea Sections																
<b>C. Civil Works Procurement ADB Sections</b>																	
	1. Preparation of Bid Documents and Approvals																
	2. Invitations for Bids																
	3. Bid Evaluation and Report																
	4. Contract Negotiations, Signing, Notice to Proceed																
<b>D. Construction ADB Sections</b>																	
	1. Construction Supervision <sup>a</sup>																
	2. Civil Works Construction																
	3. Civil Works Defects Liability Period																
<b>E. Detailed Design Korea Sections</b>																	
	1. Recruit Design and Supervision Consultants																
	2. Korea Design Consultant Starts																
	3. Field Surveys, Final Designs																
<b>F. Civil Works Procurement and Construction Korea Sections</b>																	
	1. Bid Documents, Procurement, and Award of Contract																
	2. Construction Supervision <sup>a</sup>																
	3. Civil Works Construction																
	4. Civil Works Defects Liability Period																

ADB = Asian Development Bank.

<sup>a</sup> Intermittent services only required during defects liability period.

Note: ADB section refers to components funded by ADB and the Government of Australia.

Source: Asian Development Bank estimates.

## PROCUREMENT PLAN

### A. Cambodia

**Table A9.1: Procurement Plan (Cambodia)**

#### Project Information

Country	Kingdom of Cambodia
Name of Borrower	Government of Cambodia
Project Name	Greater Mekong Subregion Southern Coastal Corridor Project
Loan Reference	Loan: tbd
Date of Effectiveness	tbd
Amount \$:	ADB loan \$13 million, Government of Australia grant \$7.8 million.
Of which Committed, \$	Loan not yet approved
Executing Agency:	Ministry of Public Works and Transport
Approval Date of Original Procurement Plan	Not yet approved
Approval of most recent Procurement Plan	10 September 2007
Publication for Local Advertisements	Not decided
Period Covered by this Plan	2007–2008

ADB = Asian Development Bank, tbd= to be determined.

#### Procurement Thresholds, Goods and Related Services, Works, and Supply and Installation

Procurement Method	To be used above (Value \$)
ICB Works	>1 million
NCB Works	<1 million

ICB = international competitive bidding, NCB = national competitive bidding.

#### Procurement Thresholds, Consultants Services

Procurement Method	To be used above (Value \$)
Quality-and Cost-Based Selection	>200,000
Least-Cost Selection	<100,000
<b>Exceptional Methods</b>	
Independent resettlement monitor consultants to be recruited using Government of Cambodia recruitment procedures (fully funded by government)	Government guidelines will apply

**Table A9.2: List of Contract Packages and Mode of Procurement (Cambodia)**

Reference	Contract Description	Estimated Cost (\$ million)	Procurement Method	Expected Date of Advertisements	Prior Review
<b>A. Civil Works<sup>a</sup></b>					
CW1	Improvements to NR33	3.48	ADB-ICB	April 2008	Yes
CW2	Cross-Border Facilities (Lork)	1.70	ADB-ICB	April 2008	Yes
CW3	Cross-Border Facilities (Koh Kong)	1.70	ADB-ICB	April 2008	Yes
CW4	Kampong Trach–Kampot Bridges and Culverts	1.47	ADB-ICB	April 2008	Yes
CW5	Maintenance Contracts (multiple)	5.01	ADB-ICB/NCB	April 2008	Yes
<b>Subtotal (A)</b>		<b>13.35</b>			
<b>B. Resettlement and Social Mitigation</b>					
R1	Payment of resettlement and social allowances, entitlements, and compensation and funding income restoration program	1.10	Government Guidelines/ Resettlement Plan	Not applicable	No <sup>b</sup>
<b>C. Consulting Services</b>					
CS1	Detailed design and implementation services	2.22	ADB Guidelines– QCBS	June 2007	Yes
CS2	Independent resettlement monitor	0.06	Government Guidelines	February 2008	Yes
<b>Subtotal (C)</b>		<b>2.28</b>			
<b>Total</b>		<b>16.74</b>			

ADB = Asian Development Bank, CW = civil works, CS = consulting services, ICB = international competitive bidding, NCB = national competitive bidding, NR = national road, QCBS = quality-and cost-based selection, R = resettlement.

Note: Totals may not be exact because of rounding.

<sup>a</sup> Including physical contingencies and price escalation, taxes, and duties.

<sup>b</sup> Payment of compensation and allowances arising from resettlement activities will be in accordance with procedures set out in ADB approved resettlement plans.

Source: Asian Development Bank estimates.

## 1. Procurement and Recruitment Procedures: Cambodia

### a. Civil Works

1. For both international competitive bidding (ICB) and national competitive bidding (NCB) contracts, the procurement documentation will be based on the Asian Development Bank's (ADB's) standard bidding documents for the single stage, one envelope system, with post-qualification. For each ICB contract, a full set of bid documents will be submitted to ADB for review and approval before issuance to prequalified bidders. The first draft English language version of the procurement documents will be submitted for ADB review and approval regardless of the estimated contract amount; for subsequent contracts, ADB will review the documents post-award. ADB-approved procurement documents will be used as a model for all succeeding NCB contracts financed by ADB for the Project. For all contracts, ADB will review the bid evaluation report and proposal for award of contract on a prior review basis.

### b. Recruitment of Consultants

2. For ADB funded contracts, quality and cost-based selection (QCBS) will be applied. Full technical proposals will be required. To calculate the firms' total scores, the technical proposals will be given a weight of 80% and the financial proposals will be given a weight of 20%. For

contracts fully funded by the Government, recruitment documents and procedures will follow government guidelines.

## B. Viet Nam

**Table A9.3: Procurement Plan (Viet Nam)**

### Project Information

Country	Socialist Republic of Viet Nam
Name of Borrower	Socialist Republic of Viet Nam
Project Name	Greater Mekong Subregion Southern Coastal Corridor Project
Loan Reference	Loan: tbd
Date of Effectiveness	tbd
Amount \$:	ADB loan \$75 million, Government of Australia grant \$25 million, Government of Republic of Korea loan \$50 million
Of which Committed, \$	Loan not yet approved
Executing Agency:	Ministry of Transport/Viet Nam Road Administration
Implementation Agency:	My Thuan Project Management Unit
Approval Date of Original Procurement Plan	Not yet approved
Approval of most recent Procurement Plan	1 October 2007
Publication for Local Advertisements	Not decided
Period Covered by this Plan	2007–2008

ADB = Asian Development Bank, tbd = to be determined.

### Procurement Thresholds, Goods and Related Services, Works, and Supply and Installation

Procurement Method	To be used above (Value \$)
ICB Works	>2 million
NCB Works	<2 million

ICB = international competitive bidding, NCB = national competitive bidding.

### Procurement Thresholds, Consultants Services

Procurement Method	To be used above (Value \$)
Quality-and Cost-Based Selection	>200,000
Least-Cost Selection	<100,000
<b>Exceptional Methods</b>	
Independent resettlement monitor (fully funded by government)	Government guidelines will apply

**Table A9.4: List of Contract Packages and Mode of Procurement (Viet Nam)**

Reference	Contract Description	Estimated Cost (\$ million)	Procurement Method	Expected Date of Advertisements	Prior Review
<b>A. Civil Works<sup>a</sup></b>					
CW1	Xa Xia–Ha Tien Bypass and Border Facilities	1.71	ADB-NCB	April 2008	Yes
CW2	Minh Luong–Start Ta Cau Bypass	1.75	Republic of Korea	April 2008	No
CW3	Ta Cau Bypass	28.60	Republic of Korea Guidelines	April 2008	No
CW4	End Ta Cau Bypass–Start Thu Bay Bypass	2.06	Republic of Korea Guidelines	April 2008	No
CW5	Thu Bay Bypass–An Minh Bypass	8.94	Republic of Korea Guidelines <sup>b</sup>	April 2008	No
CW6	An Minh Bypass–Nga Bac Canal	13.18	ADB-ICB	April 2008	Yes
CW7	Nga Bac Canal–Ca Mau	71.71	ADB-ICB	April 2008	Yes
	<b>Subtotal (A)</b>	<b>127.95</b>			
<b>B. Resettlement and Social Mitigation</b>					
R1	Payment of resettlement and social allowances, entitlements, and compensation and funding income restoration program	31.33	Government of Viet Nam Guidelines/ Resettlement Plan	Not applicable	No <sup>c</sup>
<b>C. Consulting Services</b>					
CS1	Detailed design and implementation services – ADB and Government of Australia	9.83	ADB Guidelines QCBS	July 2007	Yes
CS2	Detailed design and implementation services – Government of the Republic of Korea	4.47	Republic of Korea Guidelines	July 2007	No
CS3	Independent resettlement monitor	0.37	Government of Viet Nam Guidelines	April 2008	Yes
	<b>Subtotal (C)</b>	<b>14.67</b>			
	<b>Total</b>	<b>173.95</b>			

ADB = Asian Development Bank, CW = civil works, CS = consulting services, ICB = international competitive bidding, NCB = national competitive bidding, QCBS = quality-and cost-based selection, R = resettlement.

<sup>a</sup> Including physical contingencies and price escalation, taxes and duties.

<sup>b</sup> Civil works for part of this section of the Project may be financed from the Government of the Republic of Korea proceeds as an additional component. This will be determined jointly among ADB, the Government of the Republic of Korea, and the Government of Viet Nam once the detailed designs are completed. If the Government of the Republic of Korea funds are to be used, the Republic of Korea procurement guidelines shall apply.

<sup>c</sup> Payment of compensation and allowances arising from resettlement activities will be in accordance with procedures set out in ADB-approved resettlement plans.

Source: ADB estimates.

## **1. Procurement and Recruitment Procedures: Viet Nam**

### **a. Civil Works**

3. For ICB contracts, the procurement method to be used will be single stage, one envelope system, with prequalification. For this purpose, the invitation for prequalification and all related documents (including the proposed prequalification factors, methodology, and criteria) will be reviewed and approved by ADB before they are issued. The prequalification invitation is to be advertised in accordance with ADB's *Procurement Guidelines* (2007, as amended from time to time). ADB's approval of the evaluation results, including the recommendation for prequalified and disqualified applicants, will be obtained before they are communicated to the applicants. For each ICB contract, a full set of bid documents should be submitted to ADB for review and approval before issuance to prequalified bidders. For NCB contracts, documents will be modeled on those developed for NCB under previous ADB-funded projects. This model is a single stage, one envelope model with post-qualification. The first draft English language version of the procurement documents will be submitted for ADB review and approval regardless of the estimated contract amount; for subsequent contracts, ADB will review the documents post-award. ADB-approved procurement documents will be used as a model for all succeeding NCB contracts financed by ADB for the Project. For all contracts, ADB will review the bid evaluation report and proposal for award of contract on a prior review basis.

### **b. Recruitment of Consultants**

4. For ADB-funded contracts, QCBS will be applied. Full technical proposals will be required. To calculate the firms' total scores, the technical proposals will be given a weight of 80% and the financial proposals will be given a weight of 20%. For contracts fully funded by the Government, recruitment documents and procedures will follow government guidelines.

## SUMMARY OF TERMS OF REFERENCE FOR CONSULTANTS

### A. Cambodia: Consulting Services for Detailed Design and Implementation Services

#### 1. Introduction

1. To assist in the implementation of the Cambodian component of the Greater Mekong Subregion Southern Coastal Corridor (GMS-SCC) Project, it is intended that part of the proceeds of the Government of Australia grant will be applied to eligible payments for a single consulting services contract for the detailed design and implementation services (DDIS) consulting services. The DDIS services will cover engineering investigations, detailed design, resettlement implementation, bid documents, procurement, and construction supervision. The Ministry of Public Works and Transport (MPWT) will be the Executing Agency (EA) for the Project. MPWT will establish a project implementation unit (PIU) to be responsible for implementation of the Project.

#### 2. Scope of Work

2. The scope of work of the DDIS consulting services will include the following:

- (i) to assist the PIU to confirm the scope of improvements to be funded under the Project;
- (ii) to prepare detailed engineering and architectural designs, cost estimates, and bid documents suitable for either international competitive bidding (ICB) or national competitive bidding (NCB), as appropriate to the estimated cost, and to assist in the evaluation of bids;
- (iii) to assist the Social and Environment Unit in the finalization and implementation of the resettlement plan;
- (iv) to function as “the Engineer” in administering all civil works contracts and ensuring completion of construction in accordance with the contract provisions;
- (v) to assist the Social and Environment Unit in the implementation of an HIV/AIDS/sexually transmitted infection (STI) and trafficking awareness and prevention program;
- (vi) to assist the PIU in ensuring compliance with Asian Development Bank’s (ADB’s) Environmental Assessment Guidelines<sup>1</sup> and environmental mitigation plans;
- (vii) to assist MPWT and Provincial Department of Public Works and Transport (PDPWTs) in the planning and implementation of a maintenance demonstration project on national road (NR) 33, including periodic maintenance of existing road sections and a sustainable routine maintenance program for the entire NR33.
- (viii) to provide on-job-training to MPWT staff in civil works construction administration, implementation of resettlement plans, and monitoring of environmental management plans.

#### 3. Reports

3. The consultant will submit the following reports in five copies to the PIU and three copies each to ADB and the Government of Australia at the times indicated in Table A10.1.

4. The consultant will provide other reports necessary to support project planning, approval, and implementation activities, including road conditions, traffic, bridge and culvert condition, economic evaluation, safety audits, resettlement plans, ethnic minorities development plans, environmental management plans, soils and materials investigations, etc.

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<sup>1</sup> ADB. 2003. *Environmental Assessment Guidelines*. Manila

**Table A10.1: DDIS Reporting Requirements**

<b>Report</b>	<b>Required by<sup>a</sup></b>
Inception Report	end of month 1
Progress Reports	monthly
Cross-Border Facility Concept Report	end of month 3
Prequalification Documents	end of month 4
Draft Final Engineering Designs and Bid Documents	end of month 6
Resettlement Plan	end of month 6
Final Engineering Designs and Bid Documents	end of month 8
Maintenance Component Report and Bid Documents	end of month 8
Project Completion Report	end of services

DDIS = detailed design and implementation supervision.

<sup>a</sup> From date of commencement of services

Source: Asian Development Bank.

#### **4. Staffing**

5. The services will require about 409 person-months of input, comprising about 47 person-months from international experts and about 362 persons-months of national experts. Expertise will be required in project management, procurement, construction supervision, surveying, quantity surveying, materials, and project management systems; highway, bridge (including hydrology and drainage engineering), and pavement design; environmental impact management, social impact (including social development, gender, HIV/AIDS, and human trafficking) and resettlement planning; architecture and electrical and mechanical engineering; maintenance planning and economics; road safety awareness and audits; and project monitoring and evaluation.

### **B. Viet Nam, ADB and Government of Australia Funded Component: Consulting Services for Detailed Design and Implementation Services**

#### **1. Introduction**

6. To assist in the implementation of the Vietnamese component of the Project, it is intended that part of the proceeds of the Government of Australia grant will be applied to eligible payments for a single consulting services contract for the DDIS consulting services. These services will cover engineering investigations, detailed design, resettlement implementation, bid documents, procurement, construction supervision, and feasibility studies of additional road sections to be improved in subsequent stages of the Project. The EA will be Viet Nam Road Administration (VRA) under the Ministry of Transport (MOT). My Thuan Project Management Unit (PMU-MT) will be the Implementing Agency and will be responsible for selection of an international consulting firm (the Consultant) for the DDIS consulting services. The Consultant will be engaged by PMU-MT.

#### **2. Scope of Work**

7. The scope of work of the DDIS consulting services for the ADB and Government of Australia funded component will include the following:

- (i) to assist PMU-MT to confirm the scope of improvements;
- (ii) to prepare detailed engineering designs, cost estimates, and bid documents suitable for ICB. For the cross-border facilities at Xa Xia, this work will include architectural designs, as appropriate;
- (iii) to assist PMU-MT in the finalization of resettlement plans of all road sections in the Project, including the Republic of Korea component;

- (iv) to appraise a feasibility study carried out by PMU-MT of the proposed Ca Mau Ring Road (9.3 km) to enable the Government of Viet Nam to seek financing for implementation;
- (v) to carry out feasibility studies of constructing a new road parallel to national highway (QL) 63 between Minh Luong and Thu Bay and parallel provincial road (TL) 7 between Thu Bay and the Nga Bac Canal instead of widening these roads;
- (vi) to assist PMU-MT in the prequalification and bidding process and bid evaluations of the civil works contracts in the ADB component;
- (vii) to function as “the Engineer” in administering all civil works contracts in the ADB and Government of Australia funded component and ensuring completion of construction in accordance with the contract provisions;
- (viii) to assist PMU-MT and Kien Giang and Ca Mau provinces in the implementation of resettlement plans for all contracts in all Project components within Viet Nam.
- (ix) to assist PMU-MT in the implementation of an HIV/AIDS/STI and trafficking awareness and prevention program and a human trafficking prevention program for all Project components within Viet Nam;
- (x) to assist PMU-MT in ensuring compliance with ADB’s *Environmental Assessment Guidelines* and environmental mitigation plans in contracts in the ADB and Government of Australia funded component; and
- (xi) to provide on-job-training to PMU-MT staff in civil works construction administration, implementation of resettlement plans, and monitoring of environmental management plans.

### 3. Reports

8. The Consultant will submit the following reports in five copies to PMU-MT and three copies to each of the ADB and Government of Australia at the times indicated in Table A10.2.

9. The Consultant will provide other reports necessary to support project planning, approval, and implementation activities, including road conditions, traffic, bridge and culvert condition, economic evaluation, safety audits, resettlement plans, ethnic minorities development plans, environmental management plans, soils and materials investigations, etc.

**Table A10.2: ADB and Government of Australia DDIS Reporting Requirement**

Report	Required by <sup>a</sup>
Inception Report	end of month 1
Progress Reports	monthly
Detailed Quarterly Progress Reports	quarterly
QL63 Widening Options Report for Republic of Korea Component	end of month 2
TL7 Widening Options Report	end of month 4
Ca Mau Bypass Feasibility Report	end of month 4
Prequalification Documents	end of month 6
Draft Final Engineering Designs and Bid Documents	end of month 9
Final Engineering Designs and Bid Documents	end of month 12
Resettlement Plans for ADB Component	end of month 12
Resettlement Plans for Republic of Korea Component	end of month 12
Project Completion Report	end of services

ADB = Asian Development Bank, DDIS = detailed design and implementation supervision, QL = national highway, TL = provincial road.

<sup>a</sup> From the date of commencement of services.

Source: ADB.

#### **4. Staffing**

10. For this contract, about 1,643 person-months of input will be required, comprising about 137 person-months from international experts and about 1,506 of national experts. The consultants will have expertise in project management, procurement, construction supervision, surveying, quantity surveying, materials, transport planning and economics, and project management systems; highway, bridge (including hydrology and drainage engineering), and pavement design; environmental impact management, social impact (including social development, gender, HIV/AIDS, and human trafficking) and resettlement planning; architecture and electrical and mechanical engineering; maintenance planning and economics; road safety awareness and audits; and project monitoring and evaluation.

### **C. Viet Nam, Government of the Republic of Korea Funded Component: Consulting Services for Detailed Design and Implementation Supervision**

#### **1. Introduction**

11. To assist in the implementation of the Vietnamese component of the Project, it is intended that part of the proceeds of a loan from the Government of the Republic of Korea will be applied to eligible payments for a single consulting services contract for the Government of the Republic of Korea DDIS consulting services. These services will cover engineering investigations, detailed design, bid documents, procurement, and construction supervision. The EA will be VRA under MOT. PMU-MT will be the Implementing Agency, and will be responsible for selection of an international consulting firm (the Consultant) for the Government of the Republic of Korea DDIS consulting services. The Consultant will be engaged by PMU-MT.

#### **2. Scope of Work**

12. The scope of work of the Government of the Republic of Korea DDIS consulting services will include the following:

- (i) For civil works preparation, to (a) undertake, based on Viet Nam's Prevailing Survey and Measurement Standards, comprehensive surveys on topographical, geotechnical, and hydro-geological conditions and other technical features to prepare the engineering designs of the three above-mentioned subprojects under the Government of the Republic of Korea component; and (b) prepare, based on Viet Nam's Prevailing Road and Bridge Standards, detailed engineering designs and cost estimates, and bid packaging and documents suitable for Republic of Korea guidelines and procedures on competitive bidding for civil work contracts of these three Government of the Republic of Korea subprojects; and
- (ii) For component implementation, to (a) assist PMU-MT in the prequalification and bidding process and bid evaluations of the civil works contracts in the Republic of Korea component; and (b) function as "the Engineer" in administering all civil works contracts in the Government of the Republic of Korea component and ensuring completion of construction in accordance with the contract provisions.

#### **3. Reports**

13. The Consultant will submit the following reports in five copies to PMU-MT, three copies to Government of the Republic of Korea, and two copies to ADB at the times indicated in Table A10.3.

**Table A10.3: Government of the Republic of Korea DDIS Reporting Requirement**

<b>Report</b>	<b>Required by<sup>a</sup></b>
Inception Report	end of month 1
Progress Reports	monthly
Detailed Quarterly Progress Reports	quarterly
Prequalification Documents	end of month 6
Draft Final Engineering Designs and Bid Documents	end of month 9
Final Engineering Designs and Bid Documents	end of month 12
Project Completion Report	end of services

DDIS = detailed design and implementation supervision.

<sup>a</sup> From date of commencement of services.

Source: Asian Development Bank.

14. The Consultant will provide other reports necessary to support project planning, approval and implementation activities, including road conditions, traffic, bridge and culvert conditions, economic evaluation, safety audits, soil and material investigations, etc.

#### **4. Staffing**

15. The services will require about 1,348 person-months of input comprising about 109 person-months from international experts and about 1,239 person-months of national experts. Expertise will be required in project management, procurement, construction supervision, surveying, quantity surveying, materials, and project management systems; highway, bridge (including hydrology and drainage engineering), and pavement design; and environmental impact management.

## SUMMARY OF ECONOMIC ANALYSIS

### A. Introduction

1. The Great Mekong Subregion Southern Coastal Corridor (GMS-SCC) is an important corridor in the GMS Strategy. However, limited availability of funds means that it is not possible to implement improvements to the complete length of the corridor from Cambodia at Kampong Trach to the border crossing with Viet Nam at Preak Chak–Xa Xia and on to Ca Mau city in southern Viet Nam. Nevertheless, to obtain the benefits of the improvements it is important to open the corridor to traffic. The Project has been formulated to achieve this within the limitations of the current availability of funds. The Project will improve the section from Kampong Trach to the border crossing with Viet Nam at Preak Chak–Xa Xia (15.1 kilometers [km]) and the section of road in Viet Nam from Minh Luong to Ca Mau (96.1 km). The road section from Ha Tien to Minh Luong in Viet Nam will be maintained at its existing condition. Upgrading of the Ha Tien to Minh Luong section will be undertaken when funds become available.

2. The economic analysis was carried out for each country component and for the Project as a whole by using the Highway Design and Maintenance Model developed by the World Bank. The benefits to road users were estimated by comparing the differences between the costs in the with- and without-project scenarios. The improved road will reduce transport costs, which will lead to a stimulus in economic growth. The model compared the annual streams of economic capital and operating costs and benefits, and computes the net present value (NPV) and the economic internal rate of return (EIRR). All costs and benefits were expressed in 2006 constant prices. The economic prices are expressed using the world price numeraire. The analysis period is for the construction period followed by 20 years of operation.

### B. Road Condition and Traffic

#### 1. Road Condition

3. The existing road condition has been investigated by topographic survey, pavement condition survey, and roughness survey. Following a review of the physical surveys, homogeneous sections were defined based on traffic volumes derived from the traffic analysis, roughness observed during the surveys, and altitude and gradient of the road. Average surface roughness levels in accordance with the International Roughness Index (IRI)<sup>1</sup> for each section of the existing road range from IRI 4.0 meters (m)/km to IRI 6.0 m/km. The rate of road deterioration used in the economic analysis is based on the levels of surface roughness that existed before the Project was implemented (without-project case) which are compared with the roughness values in the with-project case, and the calculation of vehicle operating cost (VOC) savings caused by the road improvement are calculated.

#### 2. Traffic Volume

4. Classified traffic volumes on the project road were determined from traffic surveys undertaken in November 2005 at 3 locations in Cambodia and 11 locations in Viet Nam. Traffic counts were undertaken for a period of 2 days along with origin-destination surveys. These survey results were normalized through the application of seasonal factors to obtain annual average daily traffic (AADT) for the base year. The traffic counts were split into motorized traffic (cars, pickup [utility], buses, trucks, and motorcycles) and nonmotorized traffic (bicycles and animal-drawn vehicles). Traffic volumes on the project road sections ranged from 2,796 vehicles per day to 13,608 vehicles per day for motorized traffic, and from 773 vehicles per day to 2,115

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<sup>1</sup> The IRI is measured in meters per kilometer.

vehicles per day for nonmotorized traffic in Viet Nam. In Cambodia, traffic ranged from 813 vehicles per day to 2,849 vehicles per day for motorized traffic and from 1,056 vehicles per day to 2,677 vehicles per day for nonmotorized traffic. The average traffic composition showed that there was about 81% motorized vehicles and 19% nonmotorized vehicles.

### **3. Traffic Growth Rate Assumptions**

5. Traffic growth rates were based on an analysis of various parameters. These included an analysis of past trends and forecasts of economic growth by the governments' gross domestic product (GDP) forecasts at the national, regional, and provincial level; population growth; and growth in per capita income. The income elasticity of transport demand was used to determine the future traffic growth rate for each vehicle category. A range of elasticity values have been employed in previous studies in Cambodia and Viet Nam over the last decade ranging from 1.2 to 1.5 for estimating demand growth for passenger transport, and between 1.0 and 1.4 for freight transport growth. Motorcycle demand has regularly been based on an elasticity of 2.0. The traffic growth rates adopted varied from 6% per annum to 12% per annum, depending on the vehicle type and the year. An allowance has been made in the risk analysis (para. 11) for variations of traffic growth to take account of possible variations in the values of the elasticity of demand selected. Given the above, the values adopted for elasticity of demand are considered appropriate.

### **C. Costs**

6. The Project's economic costs were derived from the financial costs and include the cost for construction, maintenance costs, and social costs arising from land acquisition and resettlement compensation. The project road cost estimates are to improve the road from its existing average width of 5–7 m with unsealed shoulders to a carriageway width of 7 m with 2 m shoulders. Economic costs exclude price contingencies, taxes, duties, and interest during construction. A standard conversion factor of 0.90 was applied to the financial costs of non-traded inputs to calculate economic prices. The project road is expected to have an average economic life of 20 years.

### **D. Benefits**

7. The major economic benefits of the Project were quantified in terms of VOC savings arising from a reduction in the operating cost of vehicles because of an improvement in the road surface condition. VOC savings accrue to normal traffic (which would continue to use the road even if the improvement had not been made) and also to generated traffic (which did not travel before, but decides to travel as a result of the improvement of the road as it finds a benefit in doing so). The benefits that will accrue to generated traffic are considered to be 50% of the savings due to normal traffic. Time savings have been calculated for both normal and generated traffic. Shadow wage rates were applied for both rural unskilled and skilled labor. The average shadow wage rate of 0.75 was applied to estimate the person-time value of \$0.25 per hour for working time and one third of this rate for nonworking time.

8. The benefits to road users were estimated from the differences between the costs in the with- and without-project scenarios. The Highway Design and Maintenance Model was used to estimate the benefits over time. The model predicts pavement deterioration and estimates yearly VOCs over the life of the investment. In both the with- and without-project cases, the road roughness level varies from year to year according to traffic movement and maintenance applied. The roughness level, expressed in terms of the IRI, has a direct impact on the VOC and hence on the level of benefits. The model then compares life cycle costs for the with-project

situation with the costs for the without-project situation, and computes the NPV and estimates the EIRR.

### **E. Results of Economic Analysis**

9. The EIRR was 14.0% for the Cambodia component and 16.8% for the Viet Nam component. The EIRR for the Project as a whole has been calculated as 16.7%, with a NPV of \$55.68 million, using a 12% discount rate. Table A11.1 presents the base case calculation for the Project. Details on the individual economic evaluations for each country and for the project road as a whole are in Supplementary Appendix B. At 16.8%, the EIRR is slightly lower than that obtained for other similar projects in the same geographical area. A number of factors contributed to this result but the most significant are that traffic levels for this Project are generally low and construction costs are high given (i) soft ground requiring extensive improvement works, and (ii) a dense network of canals and other waterways that require numerous small bridges to be constructed.

### **F. Sensitivity Analysis and Risk Analysis**

10. The sensitivity of the project road was analyzed with respect to changes in the benefit and cost streams. Several sensitivity test cases were examined: (i) a 20% increase in construction costs, (ii) a 20% decrease in benefits, (iii) a 20% decrease in the base year traffic estimate, (iv) a 20% decrease in traffic growth rates, (v) a 20% reduction in generated traffic, (vi) no time saving benefits, and (vii) a combination of a 20% increase in capital costs and a 20% reduction in benefits. Table A11.2 shows the results of the sensitivity tests, which demonstrate that the quantified economic benefits are quite robust to the various sensitivity tests and the Project remains economically viable. Switching values (the values that render the Project economically infeasible) were determined for capital costs and economic benefits. The capital cost would have to increase by 56% to reduce the EIRR to 12%. The benefit level would have to decrease by 36% to achieve the same effect on the EIRR. The estimate of the benefits from generated traffic would have to fall by 77% for the EIRR to fall to 12%. Eliminating passenger time savings does not reduce net benefits to the point of infeasibility.

11. A risk analysis was also undertaken for the project road using the @Risk computer software program. The risk analysis enables an analysis to be made based on the uncertainty present in the estimates of the input parameters. The risk analysis was based on triangular probability distributions for the main input parameters. The risk analysis runs a simulation, in which possible values of the variables were randomly sampled 5,000 times using a Monte Carlo non-stratified technique. Risk analysis then uses this information to analyze every possible outcome, executing hundreds of what-if scenarios. In each scenario, random inputs following the defined input probability distribution are generated, and the resulting frequency distributions presented in graphical form. The results from the analysis indicated that the probability of the EIRR for the Project falling below 12% is 10.6%. The probability of the EIRR falling below 12% is based on extremely pessimistic probabilities, i.e., no generated traffic, only 50% of the estimated traffic growth rate, capital costs increasing by 50%, etc. Even at these extreme possibilities, the probability of the EIRR falling below 12% is relatively small. The @Risk model calculated the new mean EIRR for the Project as 14.2%. The minimum value of the EIRR was calculated at 9.3% and the maximum value was 19.0%. A description of the methodology used in the risk analysis is in Supplementary Appendix B.

**Table A11.1: Economic Internal Rate of Return on the Project (\$ million)**

Year	Project Costs <sup>a</sup>	Maintenance Costs	VOC Savings	Time Savings	Net Benefits
2009	(68.62)				(68.62)
2010	(50.42)				(50.42)
2011	(53.75)	(0.01)	8.62	3.05	(42.09)
2012	0.05	(0.12)	10.18	3.43	13.55
2013	0.03	0.00	11.12	3.87	15.02
2014	(0.03)	(0.10)	12.98	4.36	17.21
2015	(0.03)	(0.16)	16.37	5.14	21.32
2016	(2.42)	(0.09)	18.60	5.65	21.74
2017	(0.03)	(0.15)	21.24	6.23	27.29
2018	(3.18)	0.45	24.59	6.90	28.76
2019	(0.03)	(0.18)	41.09	8.03	48.92
2020	3.06	(0.85)	48.84	8.96	60.00
2021	(0.03)	(0.11)	32.51	10.31	42.68
2022	(2.42)	(0.17)	36.53	11.32	45.27
2023	(0.03)	(0.12)	41.58	12.44	53.88
2024	0.22	(0.25)	50.81	14.28	65.06
2025	(0.03)	(0.25)	47.66	15.61	62.99
2026	(3.34)	0.23	55.90	17.25	70.04
2027	0.02	(0.31)	98.65	18.84	117.20
2028	(1.60)	(0.22)	115.65	20.30	134.14
2029	0.13	(0.43)	138.12	22.34	160.16
2030	28.21	(1.00)	151.98	22.77	201.96
				<b>EIRR</b>	16.7
				<b>NPV<sup>b</sup></b>	55.68

( ) = negative, EIRR = economic internal rate of return, NPV = net present value, VOC = vehicle operating cost.

<sup>a</sup> The positive amounts under project costs indicate savings in periodic maintenance costs in the without-project scenario.

<sup>b</sup> NPV discounted at 12%.

Source: Asian Development Bank estimates.

**Table A11.2: Results of Sensitivity Tests**

Section	EIRR (%)	Switching Value (%)
Base case	16.7	
Capital costs increase by 20%	14.7	56
Benefits reduced by 20%	14.2	(36)
Decrease in base year traffic by 20%	14.2	
Decrease in traffic growth rates by 20%	13.9	
Decrease in generated traffic by 20%	15.6	(77)
No time saving benefits	14.1	
Capital costs + 20% and benefits – 20%	12.4	

( ) = negative, EIRR = economic internal rate of return.

Source: Asian Development Bank estimates.

## G. Distribution Analysis and Poverty Impact Ratio

12. The economic benefits of the project road consist of road user benefits, i.e., VOC savings for normal and generated traffic and time saving benefits. The distribution analysis

disaggregates these economic benefits by passenger and freight users, vehicle owners/operators, labor,<sup>2</sup> and the Government.

13. It was necessary to estimate: (i) how much of the benefits for each vehicle category in the analysis will be passed on to the user of the vehicle, and (ii) the ownership of each vehicle category. To do this, field surveys with passengers, drivers, and farmers were undertaken in the project road area. From these surveys, a series of assumptions were made of what will be passed on to the user of the services. These assumptions are described in Supplementary Appendix B.

14. A distribution analysis was undertaken for each country component and for the project road as a whole, in accordance with ADB guidelines.<sup>3</sup> The distribution analyses were used to estimate a poverty impact ratio (PIR) for each country component and for the Project as a whole by determining how much of the benefits to each class of user in the distribution analysis are passed on to the poor. The assumptions made from the field surveys to undertake this are detailed in Supplementary Appendix B.

15. The estimated direct benefits of the Cambodia component, Viet Nam component, and the Project as a whole in present value terms and the calculation of the PIR was undertaken using a discount rate of 12%. The distribution of benefits and the PIR for the Project as a whole are in Table A11.3. The estimated direct benefits for the Project are \$155.61 million in present value terms, which represents the sum of the present value of benefits to passengers, freight users, vehicle owners, and the Government. The net benefit to the economy as a whole is \$55.68 million. The PIR for the Project as a whole was 0.38. This estimate is conservative because only direct benefits have been considered. Based on the somewhat uncertain assumptions in the calculation of the PIR, a risk analysis was undertaken on the Project's PIR. Several variables were considered to be subject to uncertainty: (i) the passenger share of VOC savings, (ii) the freight user share of VOC savings, (iii) the poor's share of public transport usage, (iv) the poor users' share of public freight transport usage, (v) the number of poor users who own their own mechanized transport, and (vi) net benefits. The results of the risk analysis show that the expected PIR based on the weighted average of all simulated combinations is 0.42. The PIRs in the risk analysis range from 0.11 to 0.75. The risk analysis undertaken is described in Supplementary Appendix B.

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<sup>2</sup> As some of the Project's capital expenditure and maintenance costs will be spent on local labor, unskilled laborers will gain net benefits to the extent that their paid wages are higher than their opportunity cost of labor.

<sup>3</sup> ADB. 1999. *Economic Analysis of Subregional Projects*. Manila.

**Table A11.3: Distribution of Net Benefits (\$ million)  
and Poverty Impact Ratio for the Project**

Item	Financial Present Value	Economic Present Value	Economic – Financial	Passenger Users	Freight Users	Vehicle Owners	Labor	Gov./ Economy	Net Benefits
<b>Benefits</b>									
Road User Benefits		123.949	123.949	23.686	21.104	79.160			
Time Saving Benefits		31.658	31.658	12.284		19.374			
<b>Cost</b>									
Capital less	(131.077)	(84.495)	46.583					46.583	
Capital Labor Maintenance less									
Maintenance Labor	(2.887)	(0.393)	2.494					2.494	
Capital Labor Maintenance Labor	23.131	(14.911)	(38.042)				(38.042)		
Net Present Value	(109.871)	55.678	165.548	35.970	21.104	98.534	(39.135)	49.077	
		<b>Gains and Losses</b>		35.970	21.104	98.534	(39.135)	(60.794)	55.678
		<b>Proportion of the Poor (%)</b>		0.318	0.231	0.130	0.039	0.100	
		<b>Net Benefits for the Poor</b>		11.422	4.877	12.763	(1.536)	(6.079)	21.447
							<b>Poverty Impact Ratio</b>		<b>0.38</b>

( ) = negative, Gov. = government.

Note: The net loss to government/economy is calculated as  $-109.871 + 49.077 = -60.794$ .

Source: Asian Development Bank estimates.

## SUMMARY POVERTY REDUCTION AND SOCIAL STRATEGY

### A. Linkages to the Country Poverty Analysis

<b>Is the sector identified as a national priority in country poverty analysis?</b>	<input checked="" type="checkbox"/> Yes  <input type="checkbox"/> No	<b>Is the sector identified as a national priority in country poverty partnership agreement?</b>	<input checked="" type="checkbox"/> Yes  <input type="checkbox"/> No
<p><b>Contribution of the sector or subsector to reduce poverty in Viet Nam and Cambodia</b></p> <p>The Greater Mekong Subregion Southern Coaster Corridor (GMS-SCC) is a transport corridor running along the Gulf of Thailand coast from Bangkok through Thailand, Cambodia, and Viet Nam to Ca Mau City in the south. The corridor's length on existing roads is about 924 kilometers (km). The Project comprises improvements to the GMS SCC from Kampong Trach in Cambodia to Ca Mau in Viet Nam. It is one of several strategic transport corridors being developed to facilitate cross-border trade and support economic development in the GMS countries.</p> <p><b>Viet Nam.</b> Viet Nam's economic growth over the last decade had been remarkable. During 2001–2005, its economy recorded a relatively high growth rate of about 7.5% per annum (p.a.). Rapid economic growth in economic output, investment in business, infrastructure, and the private sector—combined with the Government's targeted poverty reduction interventions—has resulted in a sharp decline in poverty. Poverty incidence fell from about 58% in 1993 to 24.1% in 2004, with an increase in gross domestic product (GDP). To sustain economic growth, attract private investment, and take full advantage of the benefits of regional integration, infrastructure development must be accelerated.</p> <p><b>Cambodia.</b> The country's infrastructure was destroyed during decades of civil war and conflict, and its socioeconomic indicators are low when compared to other countries in the region. According to census data for 2004, the population of Cambodia is 12.8 million and 35% of the population lived below the poverty line. The incidence of poverty has declined only modestly over the last several years. This is due to range of factors, including shortage of existing sources for growth, backward linkages of the domestic economy, and exclusion of the poor from the mainstream economy. An improvement of basic infrastructure in Cambodia is critical for its economic development.</p> <p>The Project will assist the governments of Cambodia and Viet Nam to stimulate economic growth in the southern coastal provinces in both countries by improving transport infrastructure between the countries and providing access to markets, employment opportunities, and better access to social services for the people. The main purpose of the Project is to reduce transport costs and induce more efficient movement of passengers and goods. The Project will complete the development of the GMS SCC from Bangkok through Koh Kong and Kampot provinces in Cambodia, and Kien Giang and Ca Mau provinces in Viet Nam. In the project provinces in Viet Nam (Kien Giang and Ca Mau) that are directly affected by the Project, the GDP increased at 12% p.a during 2002–2005. Forecasts of future economic growth in the two provinces is greater than projections for the Mekong Delta as a whole (i.e., 13% p.a. for Kien Giang and 12% p.a. for Ca Mau to 2010). As a result of this economic growth (2002–2005), traffic throughout the corridor is expected to continue. The road improvement throughout the project area will relieve transport bottlenecks, which currently restrict movement in the area and high economic growth potential. The improved road will allow for development of industrial parks and factories planned in the area.</p> <p>The project road user survey in Viet Nam and Cambodia identified that 27.5% of road users are poor, so project benefits will accrue to about 420,000 poor beneficiaries. It is expected that the road improvement will bring a high degree of economic development to the area, resulting in increased income sources and more job opportunities. Poverty impact analyses show that the poor will benefit from lower freight cost, lower passenger fares, and time savings. The road improvement would lead to lower transport cost, increased competitiveness, expansion of economic opportunities and farm to market facilities, and diversification of rural employment opportunities for the poor.</p> <p>The Project would aid economic activities, nonagricultural diversification, and growth of off-farm income opportunities which are needed to address increasing landlessness among the poor in the project area. Farmers would benefit from lower input price because of lower freight rates. Fishing and agriculture are important growing industries in the project area. The improved road would allow refrigerated trucks to access fishing communities and shrimp farms, which would lower the cost of transport for fish and shrimp farmers.</p> <p>The Project will also improve border control facilities on both sides of the Cambodia-Viet Nam border and on the Cambodian side of the Cambodia-Thailand border. These improvements will facilitate the cross-border transport of goods and people. The GMS Cross-Border Transport Agreement will apply at both border crossings. Tourism has started to develop in the project area and there is substantial potential for ecotourism. Tourism can flourish because of better road access. The improved roads and open border between Viet Nam and Cambodia will boost development in the tourism sector. Overall, the Project will contribute to economic growth, which may expand economic opportunities available to the poor and facilitate poverty reduction.</p>			

**B. Poverty Analysis****Targeting Classification: General intervention**

Following the Asian Development Bank's (ADB's) Enhanced Poverty Reduction Strategy (December 2004), projects classified general intervention no longer require project level poverty assessment. Following is a discussion on social impact and risks related to the Project.

The road improvements would lead to lower transport costs and improved access of the poor to markets and social services. Both poor and nonpoor will benefit from lower costs of using their owned motorized vehicles, and travel time will be reduced. These benefits will not only accrue to economic activities but could also improve access to schools, medical facilities, and other social services. Moreover, the ability of the public sector to provide these services in a more cost-effective way would increase because of improved access to the road. Although an improved change in transport facilities will bring some positive benefits, the improvement of roads and upgrading international border crossings are likely to have some negative socioeconomic impacts for people living along the road. There will also be some negative impact for people directly affected by land acquisition and displacement. These negative impacts include: (i) displacement of local economic activities, including local businesses, markets, shopkeepers, and vendors; (ii) loss of agricultural land, garden land, forestland, and residential land; (iii) displacement of local activities for transport of goods from the border to markets by large commercial vehicles; (iv) escalating land prices caused by the road improvements, concentration of landownership near the border, and potential displacement of local residents from the area; (v) disruption of family, community, and other social networks by the displacement of people from the corridor of impact and right-of-way; (vi) increased traffic risks for people living and working along road because of large volumes of traffic and higher vehicle speeds along the improved road; (vii) increased risks of exposure to HIV/AIDS and trafficking of women and children during construction activities and because of large volumes of transit traffic along the road and border area; and (viii) increased flow of illegal drugs and number of drug users in the project area because of improved access.

Road safety and road accidents, especially for children traveling to school, will be a concern for local residents because of increased traffic and vehicle speeds. The road safety awareness program and proper signage for speed limits and road crossing will be included during construction and the post-construction phase.

Cambodia has the highest reported adult rate of people living with HIV/AIDS among countries in the Asia and Pacific region. In Viet Nam, despite the low prevalence rate, the large population translates into comparatively high numbers. Both provinces of Ca Mau and Keim Giang have official estimates of 3,000 cases. There is an increased risk of infection of HIV/AIDS during the construction and post-construction period. Construction road workers may affect the spread of HIV/AIDS and sexually transmitted infections (STIs) in the communities around the construction sites and to their communities of origin. As traffic increases along the SCC between the two countries, truck drivers may also contribute to accelerating the spread of HIV and STIs. Cambodia is source of, destination, and transit country for men, women, and children trafficked for sexual exploitation and forced labor. The improvements and opening up of the Preak Chak border will make this route more appealing to human traffickers who will shift their transport routes to this border crossing and may even increase the number of victims originating in the project area. The Project will include a HIV/AIDS and trafficking awareness and prevention program for Cambodia and Viet Nam that will include: (i) advocacy actions on HIV/AIDS/STIs and trafficking prevention, (ii) information and education campaigns, (iii) provision of HIV/AIDS and STI medical packages to clinics and medical centers along the road, and (iv) developing a project performance and management plan for HIV/AIDS/STIs and trafficking prevention. Details of the HIV/AIDS and trafficking awareness and prevention programs are included in the consulting services terms of reference in Supplementary Appendix A. The Project will include a monitoring plan to monitor social benefits, potential negative impact, and indirect benefits. The following are to be monitored: (i) employment during construction, (ii) reductions in freight rates and passenger fares, (iii) reduction costs by lowering the delivered price of inputs, (iv) improved transport services, (v) improved access to social services, (vi) improved road safety, (vii) improved roadside infrastructure, (viii) increased number of businesses, (ix) increased employment, (x) less out-migration, (xi) increased agricultural outputs, (xii) increased agriculture diversity, (xiii) increased STI, (xiv) establishment of community vigilance program, (xv) incidents of human trafficking, and (xvi) public awareness on road safety.

**C. Participation Process**

**Is there a stakeholder analysis?**  Yes  No

During the feasibility study of the Project, consultations were held with relevant stakeholders including the communities affected by the road. The community perspective on the Project, in terms of positive and negative impacts, was discussed. The community felt that roads to market and school might be more accessible because of the Project. Less vehicle damage was considered an important benefit because of the improved road. Road safety was noted as a serious concern of local residents.

**Is there a participation strategy?**  Yes  No

The HIV/AIDS and trafficking awareness and prevention program includes community participation during implementation.

**D. Gender Development****Strategy to maximize impacts on women:**

The following gender analysis related to the project area and likely impact of Project on women. The main sectors in which women are concentrated are agriculture; light industry (textile, garments); government; and social services. Women have been particularly disadvantaged by the trend in certain provinces in the Mekong Delta because of the change from rice farming to shrimp farming. While women undertook many tasks in rice cultivation, the construction of shrimp ponds is considered to be men's work. Shrimp farming requires less labor and is mostly managed by household labor. Women laborers are not hired for shrimp farming. The wages of women in the agriculture sector are less than two thirds those of men. Women carry a heavy burden both at home and in work outside the home, which has an impact on their lower health status and limits their education. Women from Khmer households in Mekong Delta are particularly disadvantaged. They lack access to health centers and services. Some women have not attended school and are either illiterate or have very little knowledge of the Vietnamese language. The language barrier has also affects their local decision making. They have little knowledge of local organizational structures, which limits their ability to access government programs.

In Cambodia, women in the project area are key players in the domestic and economic aspects of the households, and are also active in community affairs. Women of all ages make up half of the population living along the road and, on average, adult women head 25% of the households. In several communities, the proportion of female-headed households rises to 40%. The higher percentage of female-headed households is due to the civil war. Over 40% of female-headed household heads are engaged in some kind of business (small shop, petty trading) and this constitutes their main source of income. However, women earn less than men.

Cambodia is a source of, destination, and transit country for men, women, and children trafficked for sexual exploitation and forced labor. A significant number of Cambodian women are trafficked to Thailand and Malaysia for labor and commercial sexual exploitation. Cambodian men are primarily trafficked to Thailand for labor exploitation in the construction and agricultural sectors. Cambodian children are trafficked to Viet Nam and Thailand to work as street beggars. In recent years, the problem of women and children being trafficked from Viet Nam to Cambodia has increased. Vietnamese women are most likely trafficked through border points with Cambodia and then often trafficked to a third destination. The percentage of women HIV cases in the project area is higher than the average for Cambodia. In Kampot Province, instances of mother-to-child infection are far higher than those experienced nationwide. Gender relations and values, particularly traditional tolerance of prostitution, have posed a challenge to the battle against HIV/AIDS. In general, the public health system does not serve women well.

The resettlement activities pose a potential risk for women's work in agriculture, small businesses, and other productive activities. Resettlement can make women and children more vulnerable to exploitation. Women can face extra constraints in restoring income and livelihood activities.

The improved road would create new opportunities for women in the area of jobs, small businesses, and better access to social services. However, the extent to which women can take advantage of these opportunities depends on economic, social, and cultural factors. The improved road and cross-border facility pose an increased risk for women and children trafficking as well as HIV transmission. The following project-specific gender strategy is targeted to households affected by resettlement and communities that are at risk of increased HIV/AIDS transmission and human trafficking. The gender strategy would help women from affected households to secure better access to compensation resources, livelihood activities under the resettlement plan, and to minimize the potential risk of HIV/AIDS and human trafficking in the communities.

- The district resettlement committees and commune level resettlement committees will include representatives from the District Women's Union, Commune Women's Union, and women from affected households. One man and one woman representative from ethnic minority groups will be included in each of the resettlement committees.
- At the inception of the Project, a capacity building training program on resettlement activities will be designed for women and men commune officials, and women and men from affected households. Participation of poor women in the training will be ensured. The training will also include representatives from line agencies and the commune Women's Union, Youth Union (Viet Nam), and District Women's officials (Cambodia) involved in resettlement committees.
- The training will include information on resettlement activities, compensation, management of compensation money, grievance procedures, and the impact of the Project on livelihood activities related to loss of agricultural produce and other productive assets. The objective of the training is to provide affected communities with an understanding of resettlement issues and better access to compensation resources and information on grievance procedures.
- Capacity building training on resettlement issues will be conducted separately for ethnic minority groups. Separate training will be organized for men and women, and women-headed households from ethnic minority communities.
- During preparation of loss of inventory, men and women from affected households will participate in the discussion.
- Compensation money will be given to both men and women from affected households (including Vietnamese and Khmer). Livelihood activities will be planned with the active involvement of women. Consultation meetings will be held separately with affected women, ethnic minority women, and elderly women to plan livelihood activities.
- Specific attention will be provided for poor women-headed households (Vietnamese and ethnic minority women, elderly women) in paying compensation on time and developing relevant livelihood activities.
- Resettlement plans will include joint registration of land rights in the names of husband and wife (Vietnamese and Khmer) in instances where land is acquired.
- A HIV/AIDS and trafficking awareness and prevention program will be conducted during construction and the post-construction phase by the construction contractors and the Executing Agency with the active involvement of communities, relevant government agencies, and nongovernment organizations. The Women's Union, Youth Union, health workers, female community leaders and members, and women from affected households will be involved in monitoring the program at the local level. The educational materials, workshop, and campaign on the HIV/AIDS and trafficking awareness and prevention program will be conducted separately for ethnic minority women in their respective language.
- Gender sensitization training related to gender and resettlement, HIV/AIDS, and human trafficking will be conducted for resettlement committees, relevant staff from the Executing Agency, and staff of the project implementation unit.
- In Viet Nam, in accordance with the Labor Code (as amended in 2002) and in Cambodia, in accordance with the Labor Code, 1997, all employment for the Project will respect government commitments to gender equity including staffing in the project implementation unit and resettlement committees. Construction contractors will ensure that (i) no child will be used; (ii) no differential wages will be paid to men and women for work of equal value; (iii) basic facilities (water, sanitation) for men and women workers are provided in the construction camps; (iv) separate bathing and toilet facilities are provided for women workers; and (v) day care service will be provided for the children of women construction workers.
- Disaggregated monitoring indicators by gender and ethnic minority will be developed for monitoring of social benefits, economic opportunities in the project area, road safety, resettlement activities, and the HIV/AIDS and trafficking awareness and prevention program.
- Two national consultants on social development and gender (one for Viet Nam and one for Cambodia) will be included in the consulting services for the implementation of the above gender strategy.

Item	Significant/ Not Significant/ None	Strategy to Address Issues	Plan Required
<b>Resettlement</b>	<input checked="" type="checkbox"/> Significant <input type="checkbox"/> Not significant <input type="checkbox"/> None	<p>The most serious impact will be the loss of land caused by road widening or realignment. In Cambodia, 330 affected households have residential and/or commercial land assets in the national road (NR) 33 corridor of impact and the area required for the cross-border facility, and will require compensation and relocation. Another 265 affected households will be seriously affected by loss of rice-growing land in the road corridor of impact. A full resettlement plan (RP) has been prepared for Cambodia. In Viet Nam, two full RPs have been prepared—one for Kien Giang Province and one for Ca Mau Province. Several thousand APs will be displaced from their housing and/or small shops and others will be displaced from agricultural land. Survey work continues to define impacts to be addressed in the RPs.</p>	<input checked="" type="checkbox"/> Full <input type="checkbox"/> Short <input type="checkbox"/> None
<b>Affordability</b>	<input type="checkbox"/> Significant <input type="checkbox"/> Not significant <input checked="" type="checkbox"/> None		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Labor</b>	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	<p>In the construction campsites, labor standards will be maintained and basic facilities (water and sanitation) will be provided for the workers. Employment will be provided for poor households affected by the Project. No trafficked and child labor will be used for construction and maintenance.</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Indigenous Peoples</b>	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	<p>In the Viet Nam project area, the Khmer ethnic minority group accounts for about 2% of the population in Ca Mau Province and 12% of the population in Keing Giang Province, or about 7% in the project area overall. There are no ethnic minority people in the Cambodia project area. In Viet Nam, ethnic minority households (Khmer) in the project area speak both Vietnamese and Khmer (especially men). Khmer people are well integrated into the mainstream. Like the majority Kinh Vietnamese, rural ethnic Khmer cultivate rice and/or engage in shrimp farming. However, the total number of Khmer households engaged in wage labor is higher (13.6%) than the mainstream Kinh population (4.7%). Urban ethnic Khmer are shopkeepers or engaged in nonfarm activities. In both Kein Giang and Ca Mau, nearly all APs including ethnic minorities are classified nonpoor. However, in Ha Tien district of Kein Giang, 21% AP Khmer households are engaged as laborers. The Project will not have a differential impact on Khmer people than the mainstream Vietnamese and an ethnic minority development plan is not required.</p>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> In Viet Nam, To ensure Khmer ethnic minority groups receive project benefits and have access to fair compensation, and livelihood activities, specific activities have been included in the Resettlement Plans.
<b>Other Risks and/or Vulnerabilities</b>	<input checked="" type="checkbox"/> Significant <input type="checkbox"/> Not significant <input type="checkbox"/> None	<p>There is potential risk of HIV/AIDS and human trafficking because of the improved road connection and open border facility. The HIV/AIDS and trafficking awareness and prevention program includes tasks to address the needs of ethnic minorities.</p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <p>HIV/AIDS and trafficking awareness and prevention program is included in the Project.</p>