

**Kingdom of Cambodia
Ministry of Public Works and Transport**

**ADB LOAN(SF) 2373-CAM:
GREATER MEKONG SUBREGION SOUTHERN COASTAL CORRIDOR
PROJECT**

Detailed Design and Implementation Services



**PROGRESS REPORT No.9
June 2010**



In Association With

Khmer Associates Consulting Engineers Co. Ltd.

Key Consultants Cambodia

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SBK Research and Development, and VIDO Engineering Consultant Co. Ltd

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ABBREVIATIONS

ADB	–	Asian Development Bank
CBF	–	cross-border facilities
CBTA	–	cross-border trade agreement
DCCA	–	District Committee for the Control of AIDS
DDIS	–	detailed design and implementation services
EA	–	executing agency
EIRR	–	economic internal rate of return
EMP	–	environmental management plan
EMOP	–	environment monitoring plan
GDPW	–	General Department of Public Works
GMS	–	Greater Mekong Subregion
HAPP/HTPP	–	HIV/AIDS and human trafficking awareness and prevention program
HDM	–	highway development and management
IA	–	implementation agency
ICB	–	international competitive bidding
IEE	–	initial environment examination
IRC	–	Interministerial Resettlement Committee
IRM	–	independent resettlement monitor
KEXIM	–	Export-Import Bank of Korea
MPWT	–	Ministry of Public Works and Transport
NCB	–	national competitive bidding
NR	–	national road
PCCA	–	Provincial Committee for the Control of AIDS
PDPWT	–	Provincial Department of Public Works
PMU-3	–	Project Management Unit No.3
PPTA	–	project preparatory technical assistance
SCC	–	Southern Coastal Corridor
SEU	–	Social and Environment Unit
VOC	–	vehicle operating cost

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ADB Loan No. 2373(SF)-CAM**

PROGRESS REPORT No.9 – JUNE 2010

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EXECUTIVE SUMMARY

1. The Greater Mekong Subregion–Southern Coastal Corridor (GMS-SCC) Project extends from Kampot in Cambodia to Ca Mau in Viet Nam. At Appraisal, the road betterment program in Cambodia included: (i) NR33 upgrading between Kampong Trach and Lork-Ha Tien, (ii) upgrading bridges and drainage structures on NR33 between Kampot Track and Kampot, (iii) routine maintenance works on NR31 between Kampong Trach and the junction with NR3, and (iv) periodic maintenance works on the Kampot-Kampong Trach section. In addition to the road and bridge works, the Project¹ will develop cross border facilities (CBF) at Lork-Ha Tien at the Cambodia-Viet Nam border and at Koh Kong at the Cambodia-Thailand border. The Project will promote economic growth, reduce transport costs and travel times and will facilitate movements of persons and goods between Thailand, Cambodia and Viet Nam. The project environmental and social impacts will be addressed through the development and implementation of resettlement plans and environmental management plans; the HIV/AIDS, trafficking and gender issues will be tackled through awareness and prevention programs to be developed and implemented concurrently with the civil works. A team of consultants will assist with the detailed design and implementation (DDI) of the Project.

2. The Project will promote economic growth, reduce transport costs and travel times and will facilitate movements of persons and goods between Thailand, Cambodia and Viet Nam.

3. At Appraisal in 2006, the project cost was estimated at \$18.70 million. The financing plan consisted of a \$7.00 million loan from the Asian Development Bank (ADB), a \$8.00 million grant from the Government of Australia and a \$3.70 million contribution from the Government of Cambodia. The Project is scheduled to be completed by 30 June 2012 and the ADB loan closed by 31 December 2012.

4. Based on the detailed design quantities and updated unit costs, the DDI consultant reestimated the project cost at \$27.23 million. The 46% cost overrun is mainly due to price escalation in 2008 and increases in quantities of works to meet the actual requirements of the Project. To keep the project cost within the limit of available funds, i.e., \$18.7 million, there is a need to downsize the project scope. It is proposed to remove the NR33 bridge upgrading component from the original scope and to implement routine maintenance works on the NR3 instead of the originally planned periodic and routine maintenance on NR31 and NR33. The proposed revised project scope would consist of: (i) NR 33 upgrading between Kampong Trach and Lork-Ha Tien (15.8 km); (ii) construction of CBF at Lork-ha Tien and Koh Kong; and (iii) routine road maintenance on the NR3 between Kampot and Veal Renh.

5. The \$18.70 million project would be financed as envisaged at Appraisal. The proposed change in scope does not affect materially or fundamentally the anticipated project impact and outcome. The NR33 section upgrading and the two CBFs which are the main contributors to the project objectives will be implemented as originally anticipated. A reevaluation of the economic viability showed that the proposed revised project is economically viable and benefits quite robust. The measures and activities envisaged in the original project scope to mitigate social and environmental impacts are not affected by the proposed change; the proposed NR3 routine maintenance program will not require any land acquisition, nor will it require any particular environmental protection measures. As for the other civil works packages, an HIV/AIDS and trafficking program will be developed and implemented concurrently with the proposed NR3 routine maintenance works. The project performance monitoring and evaluation framework will be amended to incorporate the NR3

¹ In the present report "The Project" refers to the Cambodia section and components of the GMS-SCC Project only.

routine maintenance. The proposed revised project is expected to be completed by the end of the second quarter 2012.

6. The NR33 bridge component and the routine and periodic road maintenance proposed to be removed from the original scope will be implemented under a new project financed by the Government of Korea through the Export-Import Bank of Korea (KEXIM). In view of achieving fully the objectives of the as-appraised Project, ADB and the Government of Australia requested the Government to provide assurance that the environmental and social safeguard measures provided for under the proposed revised project will be implemented under the KEXIM financed project.

7. The DDI consultant prepared a comprehensive report on the proposed change in scope to enable ADB and AusAID's management to process the proposed change; the final version of the report incorporating financiers' comments was submitted to the ADB Mission of June 2010.² The ADB and AusAID's decision on the proposed change in project scope is expected in early July 2010.

8. As of 30 June 2010, the Project was about 17% complete. The project implementation is about 18 months behind schedule due mainly to (i) delayed recruitment of the DDI consultant, (ii) larger than anticipated design activities for the CBFs, and (iii) CBF site location issues.

9. The detailed design and bidding document for the NR33 section to be upgraded are complete; these were submitted to ADB for review in early May 2010 and ADB's comments were received on 25 June 2010. The call for tenders is expected to be launched in the first half of July 2010 and commencement of the 18-month works is scheduled in the first half of November 2010. Detailed design and bidding document are complete; they were submitted to PMU-3 on 27 June 2010. The call for tenders is scheduled in the second half of September and commencement of CBF works in early February 2011. The conceptual design for Koh Kong CBF is yet to be approved pending a final decision on the CBF location. The implementation of the road maintenance component has been postponed pending the financiers' approval of the revised project scope.

10. The resettlement plan (RP) prepared at Appraisal for the NR33 section to be upgraded and Lork CBF has been updated; the updated RP is being reviewed by the Government and ADB and expected to be approved by mid-July 2010. The RP cost has been reestimated at \$3.00 million against \$0.93 million at Appraisal; the cost overrun is mainly due to changes in the demographic characteristics of the affected households three years after the initial RP in 2006, increased value of land and affected structures and increased number of assets, entitlements and sets of assistance. The RP implementation is scheduled to be completed in the end of September 2010. The preparation of the RP for Koh Kong CBF is pending waiting a final decision on the CBF location.

11. The initial environmental examination (IEE) prepared at Appraisal for NR33 section to be upgraded and Lork CBF has been updated and environmental management plans (EMP) and environmental monitoring plans (EMoP) for both civil works packages have been prepared. The environmental impacts associated with the NR33 upgrading works occur mainly during construction; they will remain minor provided that mitigation measures identified in the IEE are implemented. No major environmental impacts are expected during construction of the facilities. Those resulting from CBF the operation, mainly due to wastewater and solid waste, have been addressed in the design; wastewaters will be treated through a water treatment plant and solid waste will be collected and disposed to the Lork

² The June ADB Mission was fielded from 15 to 21 June 2010.

garbage dumping site. An IEE has been prepared for Koh Kong CBF and submitted to PMU-3 on 2 June 2010.

12. The HIV/AIDS and trafficking awareness and prevention program will be implemented through three modules attached to the following civil works contract packages: (i) NR33 road section upgrading, (ii) Koh Kong CBF and (iii) road maintenance. The module to be implemented under the NR33 upgrading works will cover the road section between Kampong Trach and Lork and the CBF building works at Lork – Ha Tien. For each module, the awareness and prevention programs targeting the construction workers and the local communities bordering the construction sites will be implemented concurrently with the civil works by a service provider to be recruited under the civil works contract. Separate reports have been prepared by the DDI consultant to provide (i) an assessment of the social issues, HIV/AIDS, trafficking and gender, in the subproject areas (ii) the program outline and (iii) the module cost estimate. The cost of the Kampot module (NR33 upgrading and Lork CBF) is estimated at about \$73,000, while the cost of the module to be implemented concurrently with the Koh Kong CBF construction is estimated at about \$64,000. The report dealing with the awareness and prevention program associated with the road maintenance works is being prepared and expected to be submitted to PMU-3 in the end of July 2010.

13. Since June 2009 date of its mobilization, the consultant team's activities focused on the detailed design of the NR33 upgrading and CBFs, and associated activities and components, i.e., field works, environment, resettlement and HIV/AIDS and trafficking awareness campaign. As of 30 June 2010, international and national inputs stood at 15.51 person-months and 112.20 person-months respectively. The DDI staffing requirements have been updated to meet the design and procurement requirements of the proposed revised project scope until award of the last civil works contracts (including the maintenance contract) expected in the second quarter 2011. Over the remaining design period 6.82 person-months of international consultant and 25.00 person-months of national consultants would be required. Based on the above actual and anticipated inputs the remuneration costs over the entire project period have been re-estimated at €234,025 and \$1,146,804; it is proposed that these increased remuneration costs be compensated through savings under the provisional sums for investigations and surveys, and workshops and trainings; the total cost of DDI services would remain within the original contract amount of about \$2.12 million.

14. As part of the project monitoring and evaluation program, a project performance management system (PPMS) is being developed as a reporting tool producing monthly and quarterly reports. The project performance evaluation system will compare and analyze the values of a set of indicators in the pre- and post-project implementation phase. The baseline data related to traffic and vehicle operating costs have been collected; the socioeconomic baseline survey is being conducted. The baseline data report is expected to be issued by 20 July 2010.

15. To address the cost overrun issue there is a need to closely monitor the project cost; the cost estimate will be updated based on the actual contract price upon award of civil works contract. Cost overrun, if any, and implications on the financing will be analyzed and if required, the project scope will be reconsidered.

16. To avoid further implementation delay it is recommended to expedite the following activities:

- (i) Financiers' approval of the proposed change in scope;
- (ii) Site location of the Koh Kong CBF;
- (iii) Preparation of the resettlement plan for Koh Kong CBF;
- (iv) Government and financiers' approval of the resettlement plan for NR33 section upgrading and Lork CBF;

- (v) Implementation of the resettlement plan starting with the NR33 section to be upgraded;
- (vi) Implementation of the resettlement plan for Lork CBF; and
- (vii) Issuance of the bidding document for the NR33 section to be upgraded.

I. THE PROJECT AT APPRAISAL

A. Project Scope at Appraisal

1. The GMS-SCC Project extends from Kampot in Cambodia to the Cambodia-Viet Nam border at Lork-Ha Tien, to Ca Mau in Viet Nam. In Cambodia, the Project will rehabilitate and upgrade sections of the NR31 and NR33. At appraisal, the road betterment program in Cambodia included: upgrading of the Kampong Trach – Lork-Ha Tien NR33 section (15.8 kilometer [km]), upgrading bridges and drainage structures on NR33 between Kampong Trach and Kampot, periodic maintenance works on the Kampong Trach NR33 section, and routine maintenance works on NR31 between Kampong Trach and the junction with NR3. In addition to the road works, the Project will develop cross border facilities (CBF) at Lork-Ha Tien at the Cambodia-Viet Nam border and at Koh Kong at the Cambodia-Thailand border.

2. The project environmental and social impacts will be addressed through the development and implementation of resettlement plans and environmental management plans; the HIV/AIDS, trafficking and gender issues will be tackled through awareness and prevention programs to be developed and implemented concurrently with the civil works. A team of consultants will assist with the detailed design and implementation of the Project

B. Project Impact and Outcome

3. 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, namely Viet Nam and Thailand, and increasing competitiveness. The project outcome 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 Thailand, Cambodia and Viet Nam. The original design and monitoring framework is in **Appendix 1**.

C. Detailed Project Scope and Components

1. Road Improvement and Cross-Border Facilities

4. The road improvements works to be implemented under the Cambodian component were divided into four subprojects:

- (ii) upgrading of a 15.8 km section of the NR33 between Kampong Trach and Lork- Ha Tien;
- (iii) repair and widening of 24 bridges between Kampong Trach and Kampot; and
- (iv) development of new cross-border facilities (CBF) at Lork-Ha Tien and
- (v) development of new cross border facilities at Koh Kong.

5. The NR33 section from the steel bridge in the center of the Cambodia-Viet Nam border to the intersection with NR31 in Kampong Trach will be improved to national road standards, i.e., 2x3.5 m lanes, 2x1.5 m sealed shoulders and 2x0.5 m wide verges. The civil works comprise widening of the existing embankment, construction of subbase and base courses, and application of a double surface bituminous treatment. Drainage structures will be replaced or widened as needed. The intersection with NR31 will be widened to accommodate turning traffic and improve road safety. Apart from the intersection, no realignment was anticipated at Appraisal.

6. The sections of the NR33 between Kampong Trach and Kampot were improved under the World Bank Flood Rehabilitation Project. Along this section two Bailey Bridges have been repaired, the remaining 24 bridges and culverts are narrow and in poor condition; at Appraisal these bridges were to be repaired, widened or replaced as required under the Project.

7. New CBFs will be constructed at Lork-Ha Tien at the Cambodia-Viet Nam border and Koh Kong at the Cambodia-Thailand border. At Lork-Ha Tien a four hectare site will be developed between the neutral zone and Lork village. New immigration, customs, CAMCONTROL and quarantine, administration and staff quarters buildings will be constructed totaling about 5,000 m². Parking areas and access roads will be constructed on either side of NR33 to separate truck activities and freight inspection from buses and cars. The new facilities at Koh Kong will be developed on a site of about 6,000 m². Adequate lighting, power supply, water and sanitation services, and truck weighing facilities will be provided at both new CBF sites. Both CBFs will be designed in compliance with the requirements of the GMS Cross-Border Transport Agreement (GMS CBTA).

2. Road Maintenance Component

8. In addition to the road improvement packages, 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 whose objective is to identify and develop the most effective maintenance systems both routine and periodic, to maintain quality road standards and pavement conditions throughout the road economic life; and
- (ii) Implementation of road maintenance works through contracts to be awarded through competitive bidding to improve efficiency and determine market rates for road maintenance.

9. In addition to the bridge works to be undertaken under the NR33 bridge component (para. 5), a 28 km section of the NR33 requires heavy periodic maintenance to restore it to maintainable condition. Also, a routine maintenance program will have to be developed and implemented over the entire length of NR33 between Kampot and Lork-Ha Tien.

10. To complement the maintenance planning component (para 7, (i)), routine and periodic maintenance works will be implemented under the Project. At Appraisal, the maintenance works were scheduled to be implemented along the Kampot-Kampong Trach section of the NR33 and the NR31 section between Kampong Trach and the junction with NR3.³

11. The detailed design and implementation (DDI) consultants to be recruited under the Project will (i) undertake a condition survey of the relevant sections of NR 33 and NR31, (ii) identify potential maintenance regimes, (iii) determine the regime that is economically optimum using standard software packages such as Highway Development and Management (HDM) model, (iv) undertake a capacity of the Cambodian contractors to undertake routine and periodic road maintenance, (v) prepare model bidding documents complete with technical specifications, and (vi) based on the findings under (iii) and (iv) identify and prepare maintenance contract documents to implement the first three years of the optimum maintenance regime.

12. The output of the planning and design exercise 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 routine and periodic maintenance contracts, (iv) exposure of MPWT and provincial departments of Public works and Transport (PDPWT) to maintenance planning and maintenance contracts, and (v) establishment of market rates for road maintenance works.

³ Loan 2373(SF)-CAM: GMS Southern Coastal Corridor, Report and Recommendation of the President (RRP), November 2007, para.27.

3. Consulting Services

13. The detailed design and implementation services (DDIS) consultant will be recruited by MPWT to prepare the project detailed design and supervise its implementation.

4. HIV/AIDS and Trafficking Awareness and Prevention Program

14. The Project will address the risk of exposure to HIV/AIDS during construction and the potential for increased human trafficking through an HIV/AIDS and trafficking awareness and prevention campaign. The campaign will be designed to supplement ongoing programs and implemented in liaison with concerned agencies and non-government organizations (NGO) with the assistance of the DDIS consultants. Campaign components include advocacy actions on HIV/AIDS and trafficking, information and education campaigns on HIV/AIDS and trafficking, and provision of comprehensive HIV/AIDS medical packages to clinics and medical centers along the road.

D. Project Cost and Financing Plan

15. At Appraisal, the project cost was estimated at \$18.70 million, of which \$10.92 million for civil works, \$2.28 million for consulting services, \$0.93 million for resettlement and \$4.57 million for taxes, project administration cost, financing charges during implementation and contingencies. Further cost details are provided in Table 1.

16. The \$7.0 million equivalent ADB loan from the Special Funds resources will finance \$5.40 million of the estimated civil works costs (49.45% of \$10.92 million excluding \$1.33 million taxes and duties) and \$0.30 million of the Government administration cost; the \$1.3 million balance is for contingencies and financing charges. The Government of Australia will provide an \$8.00 million equivalent grant to finance 41.85% of the civil works costs and 100% of the DDIS consultant costs. The \$3.7 million balance will be financed by the Government.

Table 1: Project Cost Estimate and Financing Plan at Appraisal
\$ million – In mid-2006 Prices

Item	Cost	ADB		Government of Australia		Government of Cambodia	
		Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category
A. Investment Costs							
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. Design and Implementation	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
Subtotal (A)	15.46	5.40	34.93	6.79	43.92	3.27	21.15
B. Recurrent Costs							
1. Project Administration	0.34	0.30	88.24	0.00	0.00	0.04	11.76
Subtotal (B)	0.34	0.30	88.24	0.00	0.00	0.04	11.76
Total Base Cost	15.80	5.70	36.08	6.79	42.97	3.31	20.95
C. Contingencies	2.56	1.16	45.31	1.01	39.45	0.39	15.23
D. Financing Charges During Implementation	0.34	0.14	41.18	0.20	58.82	0.00	0.00
Total Project Cost	18.70	7.00		8.00		3.70	
% Total Project Costs	100		37		43		20

Source: RRP, Appendix 6

E. Implementation Arrangements

1. Project Management

17. MPWT is 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. 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 implementation of the HIV/AIDS and trafficking awareness and prevention program with the assistance from the DDIS consultant. PMU-3 will make equivalent arrangements as needed with regard to the development of the Koh Kong border facilities.

2. Implementation Period

18. At Appraisal the Project was scheduled to be completed over a five-year period stating with the recruitment of the DDIS consultant in the third quarter of 2007 and ending by 30 June 2012. Detailed designs and bidding documents were expected to be completed by late 2008 enabling procurement to be completed and construction to commence in mid 2009. The 18-month construction period was scheduled to end in June 2012. It was anticipated that the periodic maintenance works for NR33 from Kampong Trach to Lork-Ha Tien would be implemented over an 18-month period ending in December 2010. The routine maintenance works on the NR31 and NR33 were scheduled over a three-year period ending in June 2012.

3. Procurement

19. The four civil works contract packages excluding the maintenance component were to be procured through international competitive bidding (ICB) procedures. Civil works under the maintenance component are to be packaged in several contracts with prices ranging from \$100,000 to \$1.0 million; these contracts were to be procured through national competitive bidding (NCB) procedures acceptable to ADB. Post-qualification will be used for both ICB and NCB procedures. All procurement activities will be managed by GDPW with the assistance of the DDIS consultants.

4. Project Performance Monitoring and Evaluation

20. The project implementation agencies with the assistance of the DDIS consultants will develop a comprehensive project performance and analysis to be implemented throughout the project life. Pre-project social and economic living conditions of the direct project beneficiaries will be established through baseline data surveys to be conducted at the commencement of the Project. A second survey will be carried out on project completion and a third survey after a period of not less than five years after project completion. The baseline and impact surveys will include appropriate control areas and will assess all activities under the Project, including resettlement, and other safeguard activities and measures. A set of indicators on transport costs, tariffs and mobility will be developed to evaluate the impacts of improved access to the project area.

F. Project Benefits and Impacts

1. Project Benefits and Beneficiaries

21. At Appraisal the economic internal rate of return (EIRR) for the Cambodia project components was estimated at 14.0% based on project benefits mainly deriving from vehicle operating costs (VOC) savings and travel time savings. The results of the sensitivity testing and risk analysis indicated that the project economic performance is robust with a very low risk of the EIRR falling below the minimum acceptable EIRR of 12%.

22. The main beneficiaries of the Project will be the residents of the project area whose living conditions highly rely on road transport. By reducing travel time and VOC, the Project will promote economic activities along the road corridors and at cross-border areas, provide employment opportunities and improve access to social services.

2. Project Impacts

23. **Social and Gender.** The Project has been formulated to minimize potential risks. The road and CBF improvement will lower transport costs and improve access to markets and social services. Improved roads and open border will boost the development of tourism. The Project will contribute to economic growth, which may expand economic opportunities to the poor. Also, improved roads will create job and small business opportunities for women and will facilitate access to social services. There are no ethnic minority people in the project area in Cambodia.

24. **Resettlement.** Full resettlement plans have been prepared during the ADB loan processing for the to-be-upgraded section of the NR33 and the CBF at Lork-Ha Tien. Based on the data provided in the original resettlement plans, 337 households will be affected by the Project (excluding Koh Kong CBF). It will require relocation of 83 houses and 58 small businesses and shops. Eight households will lose their entire productive landholdings because of expansion of border facilities at Lork-Ha Tien.

25. The resettlement impact will be minimized by giving the 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. These options will give affected persons the best opportunities for avoiding or minimizing impacts on roadside livelihood. Project-affected persons will also be given the option of moving right out of the right-of-way at the commencement of the project or in the future, with all entitlements.

26. **Environment.** An initial environmental examination has been prepared for the NR33 section and CBF at Lork-Ha Tien. In southern Cambodia, there are no designated forests, wildlife, or rare and endangered species or habitats in the project corridor. Vehicle related air and noise pollution is not a major environmental issue along the corridor. However, during dry seasons, lateritic dust from passing vehicles affects the quality of life of the residents in the vicinity of the earth roads. By paving roads and shoulders the Project will eliminate the dust issue. During road construction the contractors will be requested to water the base and subbase courses to minimize the dust impact on air quality. Wastewater and solid waste generated by the operation of the CBFs have been identified as potential environmental issues which need to be addressed through the environmental management plan (EMP) and the environmental monitoring plan to be implemented through the CBF civil works contracts.

II. PROPOSED REVISED PROJECT SCOPE

A. Updated Project Cost Estimate

27. At Appraisal the project cost was estimated based on price conditions prevailing in mid-2006. The DDIS consultants updated the project cost estimate based on (i) refined estimates of quantities of works resulting from the detailed design of the NR33 road section and CBFs and (ii) first quarter 2010 price conditions.

28. Due to significant price escalation in 2008 and larger than expected quantities of works, mainly for the CBFs,⁴ the cost of the civil works excluding taxes and duties has been re-estimated at \$17.62 million, i.e., 61% above the estimate at Appraisal.

Table 2: Updated Civil Works Cost Estimate – Base Costs
\$ million

Civil Works Package	Estimated Cost ^a		
	At Appraisal ^b Mid-2006	At Project Inception ^c Mid-2009	Increase Percentage %
NR 33 Improvement - Kampong Trach-Lork-Ha Tien	2.84	4.33	52
Kampong Trach-Kampt Bridges and Culverts	1.20	2.95	146
Cross-border Facilities at Lork-Ha Tien ^d	1.39	2.75	98
Cross-border Facilities at Koh Kong ^d	1.39	2.75	98
Road Maintenance	4.10	4.84	18
Total	10.92	17.62	61

^a Costs excluding taxes and duties

^b In mid-2006 price conditions

^c First quarter 2010 price conditions – DDI consultant estimates

^d Facilities to be provided under the Project meet the minimum requirements to ensure operation as required by the GMS-CBTA.

29. The estimated costs for resettlement and project administration are likely to increase as well. Pending a complete update of the resettlement plans for the NR33 road section and the two CBFs, the DDIS consultant re-estimated the resettlement cost at \$1.5 million. Likewise pending a detailed reevaluation of the administration cost, a 10% increase has been applied to the as-appraised administration cost.

30. Based on the above updated estimates for the civil works and assumptions for the other component cost, the total project cost has been re-estimated at \$27.23 million, about 46% over the appraisal estimate of \$18.70 million.

⁴ The CBF at Lork Ha Tien is to be relocated in a depressed area consisting of compressible soils; as a result the quantity of fill materials has increased significantly. Besides, the preliminary functional design of the facilities showed that the buildings requirements would be more than anticipated. For Koh Kong the cost overrun is due to a significant cost increase in materials and additional works.

Table 3: Updated Project Cost Estimate
\$ million – First Quarter 2010 Prices

Item	Cost Estimate at Appraisal	Updated Cost Estimate	Increase %
A. Investment Costs			
1. Civil Works	10.92	17.62	61
2. Resettlement	0.93	1.50	62
3. Consultants			
a. Design and Implementation	2.22	2.22	00
b. Resettlement Monitoring	0.06	0.06	00
4. Taxes and Duties	1.33	2.15	61
Subtotal (A)	15.46	23.55	52
B. Recurrent Costs			
1. Project Administration	0.34	0.38	12
Subtotal (B)	0.34	0.38	
Total Base Cost	15.80	23.93	51
C. Contingencies	2.56	2.96	16
D. Financing Charges During Implementation	0.34	0.34	00
Total Project Cost	18.70	27.23	46

B. Proposed Revised Project Scope

31. Since increasing the project financing to cover the cost overrun is unlikely, be it from external sources or Government's contribution, there would be a need to downsize the project scope to keep the project cost within funds available, i.e., \$18.7 million.

32. The as-appraised project scope consisted of five major civil works components of which three have to be implemented as originally designed as they highly contribute to the achievements of the project objectives; these are (i) the NR33 upgrading between Kampong Tach and Lork-Ha Tien, (ii) the CBF at Lork-Ha Tien and (iii) the CBF at Koh Kong. The remaining two, repair and widening of the NR33 bridges between Kampong Trach and Kampot and the routine and periodic maintenance on the NR31 and NR33, would be the components proposed to be removed from the original scope; as advised by PMU3 these components remain in the agenda of MPWT and their implementation is expected to be financed by the Government of Korea through the Export-Import Bank of Korea (KEXIM).

33. Based on the above considerations, it is proposed to (i) remove from the original project scope the NR33 bridge repair and widening and (ii) redesign the maintenance works to be implemented under the demonstration project (para.12). While the maintenance planning phase anticipated at Appraisal would remain unchanged, the road maintenance to be implemented under the proposed revised project would consist of routine maintenance works along NR3 between Kampot and Veal Renh (about 54 km starting 2 km away from Veal Renh and ending in Kampot). The proposed revised project scope would consist of the following components:

- (i) Upgrading of NR 33 between Lork-Ha Tien and Kampong Trach (15.8 km)
- (ii) Cross-border facilities at Lork-Ha Tien and Koh Kong; and
- (iii) Routine road maintenance on NR3 between Kampot and Veal Renh.

34. The HIV/AIDS and human trafficking awareness and prevention program as well as all other activities and measures addressing social and environmental issues in compliance with ADB safeguard policy remain under the Project as envisaged at Appraisal.

C. Proposed Revised Project – Impact and Outcome

35. The proposed change in project scope does not affect the project impact and outcome anticipated at Appraisal. Through NR33 upgrading and development of CBFs, the project impact is still to promote economic growth in the project area and the GMS by strengthening connectivity between Cambodia, Thailand and Viet Nam and increasing competitiveness.

36. The outcome of the proposed revised project will be to reduce transport times and costs within the GMS southern coastal corridor and induce more efficient movement of passengers and goods within the project area and between the GMS countries. The design and monitoring framework has been amended to reflect the proposed changes in project scope.

D. Outputs

1. Rehabilitation of Transport Infrastructures, Development of Cross-border Facilities

37. The proposed downsizing of the original road maintenance component and removing of the NR33 bridge upgrading program will not significantly affect the anticipated outputs; the key roadwork component, NR33 section upgrading, will be implemented as anticipated at Appraisal. Likewise the development of CBFs at Lork-Ha Tien and Koh Kong is not affected by the proposed change in scope. Those will be designed and implemented in accordance with the original program.

2. HIV/AIDS and Trafficking Awareness and Prevention Program

38. As originally envisaged, the HIV/AIDS and trafficking awareness and prevention program will be implemented concurrently with the civil works packages by service providers to be recruited under the civil works contracts.

3. Road Maintenance

39. The downsizing of the original road maintenance activities affects only partly the anticipated outputs. As originally designed the Project was to develop the concept of road maintenance through competitively bid contracts and have it implemented through demonstration projects. The maintenance planning component (para.8,(i)) remains under the proposed revised project. The proposed changes affect the scope of the demonstration contract from periodic and routine maintenance to routine maintenance only. Such a change should be regarded as minor since the key project output, standard contracts for routine and periodic road maintenance, are still to be prepared by the DDI consultants.

E. Proposed Revised Project – Cost and Financing Plan

1. Civil Works – Revised Cost Estimate

40. Based on the unit prices prevailing in the first quarter 2010 and quantities of works estimated during the detailed design phase, the total base cost of the four civil works components of the proposed revised project scope is estimated at \$ 10.93 million as detailed in Table 4.

Table 4: Revised Civil Works Cost Estimate – Base Costs
\$ million – First Quarter 2010 Prices

Civil Works Component	Estimated Cost ^a
NR 33 Improvement - Kampong Trach-Lork Ha Tien	4.33
Cross-border Facilities at Lork Ha Tien ^b	2.75
Cross-border Facilities at Koh Kong ^b	2.75
Routine Maintenance on NR3 ^c	1.10
Total	10.93

Source: DDI consultant estimates

^a Base costs excluding taxes and duties, and contingencies

^b Facilities to be provided under the Project meet the minimum requirements to ensure operation as required by the GMS-CBTA.

^c Routine maintenance along a 54km section of the NR3 between Kampot and Veal Renh

2. Proposed Revised Project – Cost Estimate

41. The updated cost and financing plan of the proposed revised project is detailed in Table 5. The taxes and duties provision and the physical and price contingencies have been reworked out based on the updated cost estimate of the proposed four civil works packages. As mentioned earlier, the resettlement cost has been re-estimated at \$1.5 million and the administration cost at \$0.34 million; cost increases under these two items would be covered from the contingency provision.

Table 5: Revised Project Cost and Financing Plan
\$ million – First Quarter 2010 Prices

Item	Cost	ADB		Government of Australia		Government of Cambodia	
		Amount	% of Cost Category	Amount	% of Cost Category	Amount	% of Cost Category
A. Investment Costs^a							
1. Civil Works	10.93	5.65	51.69	4.81	44.01	0.47	8.70
2. Resettlement	1.50	0.00	0.00	0.00	0.00	1.50	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	1.27	0.00	0.00	0.00	0.00	1.33	100.00
Subtotal (A)	15.98	5.65	35.35	7.03	44.00	3.30	20.65
B. Recurrent Costs							
1. Project Administration	0.38	0.34	88.24	0.00	0.00	0.04	11.76
Subtotal (B)	0.38	0.34	88.24	0.00	0.00	0.04	11.76
Total Base Cost	16.36	5.99	36.61	7.03	42.97	3.34	20.42
C. Contingencies	2.00	0.87	43.50	0.77	38.50	0.36	18.00
D. Financing Charges							
During Implementation	0.34	0.14	41.18	0.20	58.82	0.00	0.00
Total Project Cost	18.70	7.00	37.44	8.00^b	42.78	3.70	19.78
% Total Project Costs	100		37.4		42.8		19.8

ADB = Asian Development Bank

^a Based on first quarter 2010 prices.

^b 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 the Government of Australia will provide \$200,000 specifically for the administration fee.

Source: DDIS consultant estimates.

42. The ADB and Government of Australia financing contributions would remain unchanged at \$7.00 million and \$8.00 million respectively. It is proposed to reallocate the \$3.7 million Government's contribution to reduce its contribution under the civil works category to offset the resettlement cost increase which is to be fully financed by the Government. The loan and grant allocations under each cost items and the ensuing financing percentages have been slightly adjusted to reflect the reduced contribution of the Government to the civil works.

F. Proposed Revised Project – Implementation Arrangements

1. Implementation Period

43. While the civil works packages are unlikely to be completed by 31 June 2012, the anticipated physical completion date due to longer than expected design period, the proposed changes in scope do not affect directly the implementation period. Starting with the mobilization of the DDI consultants in June 2009 and ending with completion of the routine maintenance works, the Project is expected to be completed in the second half of 2012.

2. Procurement

44. The civil works contracts for NR33 section upgrading and development of the two CBFs will be procured through international competitive bidding (ICB) procedures. The proposed change in scope would only affect the contract packaging for the maintenance component; it is expected that the NR3 routine maintenance demonstration project will be implemented through one ICB contract. The procurement plan has been amended to reflect the changes resulting from the proposed revised project scope.

3. Project Performance Monitoring and Evaluation

45. The monitoring and evaluation framework developed by the DDI consultant will be amended to reflect the proposed changes in scope and incorporate the NR3 routine maintenance as a new component. Likewise the baseline data will also be amended to address the pre-project socio-economic conditions in the area served by the NR3 between Kampot and Veal Renh.

G. Proposed Revised Project – Benefits and Impacts

1. Project Benefits and Beneficiaries

46. The economic viability of the proposed revised project has been reevaluated based on updated investment costs and traffic data and considering VOC and travel time savings as well as time and offloading savings at the borders with Thailand and Viet Nam.⁵ The EIRR for the entire proposed revised project, i.e., NR33 section upgrading, routine maintenance on NR3 and two CBFs, has been reestimated at 25%. Without taking into account the savings in cross-border operations, the EIRR stands at 21% consistent with the 23% EIRR estimated in the 2006 project preparatory technical assistance (PPTA) report.⁶ Overall the results of the updated analysis are consistent with those of the 2006 PPTA but differ from those established at Appraisal.⁷ The VOC and travel time savings, and savings in offloading operations and processing time at the borders used in calculating the as-appraised 14% EIRR have been reviewed and reevaluated by the DDI consultants based on recent traffic forecasts and found higher than anticipated at Appraisal; the savings resulting from the Project, those related to VOC in particular, offset the increase in investment costs and bring the EIRR to the level estimated during the PPTA.

⁵ The economic viability of the proposed downsized project was evaluated in February 2010.

⁶ ADB, 2006. *Technical Assistance for preparation of the GMS Southern Coastal Corridor Project*. Manila (TA 6235-REG, December 2006)

⁷ RRP, Appendix 11

47. Sensitivity tests show that the EIRR for the entire proposed revised project stands at 22% with a 20% increase in costs and 21% with a 20% decrease in benefits. A 20% increase in costs combined with a 20% decrease in benefits would bring down the EIRR to 18%. The quantified economic benefits are quite robust and the proposed revised project is economically viable.

2. Project Impacts

48. **Social and Gender.** The measures envisaged at Appraisal to address the potential adverse impacts of the Project on the social environment will still be implemented under the proposed revised project. The proposed change in scope will not affect the benefits anticipated at Appraisal (para.22).

49. **Resettlement.** The resettlement activities from preparation of resettlement plans (RP) to implementation of the same remain unchanged under the proposed revised project scope. RPs for the NR33 section upgrading, and the CBFs are being finalized. The proposed demonstration project for routine maintenance on NR3, to be considered by location a new project component, will not require any land acquisition or resettlement; the proposed routine maintenance works will be carried out along the existing road alignment within the existing right-of-way. Routine maintenance consisting mainly of road pavement patching, cleaning road shoulders, and cleaning road ditches and cross drainage structures, does not require any land acquisition even temporary, nor does it affect built up areas.

50. **Environment.** The addition of the NR3 routine maintenance component to the project scope does not result in any environmental issues. The routine maintenance will have a positive impact on the environment as it will restore and maintain the capacity of the drainage system and structures thus facilitating water flows and mitigate flooding resulting from structures partially blocked by silt or solid waste.

H. Proposed KEXIM-financed Project

51. As mentioned earlier, the components proposed to be removed from the project scope, i.e., NR33 bridge works and NR31 and NR33 road maintenance, are proposed to be rescheduled under a KEXIM-financed project. Should this approach be confirmed, the original scope of the Project would be implemented through two projects, one financed by ADB-AusAID, the other by KEXIM. The rescheduling impacts on the as-appraised project objectives, implementation arrangements and safeguards associated with the Project are expected to be minor. Minimizing the impacts and ensuring consistency between both projects would require that the optional KEXIM-financed project be developed and implemented based on principles and criteria, especially with regard to the safeguards, similar to those that governed the ADB-AusAID-financed project.

52. The environmental and social safeguard measures associated with the ADB-AusAID-financed project should be implementable under the optional KEXIM-financed project in accordance with KEXIM safeguard policy. The environmental impacts of bridge widening and road maintenance works are limited and can be easily mitigated. Bridge and road maintenance works will be implemented along the existing alignment and within the existing right-of-way and thus land acquisition and resettlement would not be required. The social issues, i.e., HIV/AIDS, human trafficking and gender, should be addressed through awareness and prevention programs attached to the civil works contracts. These programs should be developed and implemented in association with provincial and district Government agencies and non-government organizations currently tackling these issues.

III. PROJECT IMPLEMENTATION

A. Overall Implementation Progress

53. As of 30 June 2010 the Project was about 17% complete (**Appendix 2**). The implementation is about 18 months behind schedule mainly due to (i) delayed recruitment of the DDI consultant, (ii) larger than anticipated design activities for the CBFs, and (iii) CBF site location issues.⁸ The Project is at detailed design phase. The detailed design and draft bidding document for the NR33 section to be upgraded and the Lork – Ha Tien CBF have been submitted to PMU-3 and ADB; comments from ADB received on 25 June 2010 are being incorporated. The detailed design of the Koh Kong CBF is progressing but completion is conditioned by the confirmation of the CBF location site which is yet to be acquired. An updated project implementation schedule is in **Appendix 3**.

B. Implementation Progress by Component

1. NR33 Road Upgrading

54. Based on the topographical survey, the total length of the NR33 section to be upgraded between Kampong Trach and Lork – Ha Tien at the Cambodia-Viet Nam border is 15.83 km, slightly more than the 15.10 km estimated at project appraisal. The existing embankment will be widened to 11.0 m to accommodate a 7.0 m wearing course, 1.5 m wide sealed shoulders and 0.5 m wide verges.

55. As of 30 June 2010 the detailed design and the bidding documents were complete. All field works, i.e., topographical survey, soil investigations and material testing, identification of borrow pits, have been completed. The cross and longitudinal drainage structures have been designed based on the results of the hydraulic studies. The alignment of the future paved road will follow the existing earth road, while the vertical profile will be raised by about 1 m on average to meet hydraulic requirements. The pavement structure that meets the Cambodian Pavement Standards consists of a sub-grade layer (20cm), sub-base (32.5cm), base course (20cm) and double bituminous surface treatment as wearing course. The existing 23 drainage structures (17 pipe culverts and 6 box culverts) will be replaced and three new pipe culverts will be built. The existing steel bridge at the border will be replaced by a 3-cell box culvert.

56. The NR33 section upgrading works will be procured through international competitive bidding using postqualification of bidders. The contract will be established based on the ADB standard form of contract for small works. The draft bidding documents along with drawings, technical specifications, bills of quantities and general and particular conditions of contract were first submitted to PMU-3 at the end of February 2010. Subsequently these were amended to incorporate preliminary comments from the ADB Mission of April 2010. A complete set of documents were resubmitted to PMU-3 on 10 May and to ADB for review on 12 May 2010. Final ADB's comments on the draft bidding document were received on 25 June 2010; the bidding document will be revised accordingly in early July 2010; the call for tender is expected to be launched in the first half of July 2010 with bid submission in the first half of August.⁹ Contract signing, issuance of the notice to proceed to contractor and commencement of the 18-month works are scheduled in the first half of November 2010.

57. Based on a comprehensive unit rate analysis and the detailed design quantities the cost of the NR33 upgrading works have been estimated at about \$4.73 million excluding taxes and duties and contingencies.

⁸ To meet the requirements of the Cross-Border Trade Agreement the CBF buildings are significantly larger than expected (about 12,200 m² against 5,000 m² anticipated at Appraisal). The Lork CBF plot of land identified at Appraisal was no longer available at project inception; the Koh Kong CBF site location was not delimited during project preparation.

⁹ Given the straightforward nature of the works ADB approved a bidding period of 42 days.

2. Lork – Ha Tien – Cross-border Facilities

58. At Appraisal in 2006 the facilities at Lork – Ha Tien were expected to be developed on a 4 ha plot of land located between the neutral zone and Lork village. Since then the ground conditions have significantly changed. The neutral zone has been removed and the border line between Cambodia and Viet Nam has been established and marked out by a monument. A large hotel/casino and other private structures are being constructed along the road, outside and inside the former neutral zone. Since demolishing these structures is unlikely, the proposed new cross-border facilities have to be relocated. It is proposed to relocate the facilities on a plot of land of about 4 ha within the former neutral zone; the conceptual design has been prepared and approved by the Government on 2 February 2010. As of 30 June 2010 the detailed design of the Lork CBF along with bidding documents was completed. The draft documents were submitted to PMU-3 on 27 June 2010. The CBF works will be procured through international competitive bidding using postqualification of bidders.

59. Based on the detailed design quantities of works the base cost¹⁰ of the Lork CBF has been reestimated at about \$3.3 million which is about 20% above the estimate (\$2.75 million) considered in revising the project scope¹¹ and much higher than the estimate at Appraisal (\$1.39 million). The cost overrun is mainly due to increases in: (i) fill quantities for reclaiming the land of the new CBF location, (ii) civil works costs as a result of inflation and (iii) structures and facilities to meet the minimum requirements of the GMS Cross-border Trade Agreement. With regard to the latter, the CBF floor area is about 12,200 m² against 5,000 m² at Appraisal.

60. Following Government's review, the draft bidding documents are expected to be approved by ADB in the second half of September 2009. Civil works contract signing is scheduled in the end of January 2011 and the commencement of the 18-month works in early February 2011.

3. Koh Kong Cross-border Facilities

61. The conceptual design of the CBF at Koh Kong was not prepared during project appraisal; likewise the location of the future facilities was not identified. It is proposed to develop the Koh Kong border facilities on a plot of land belonging to a private resort located some 100 m to the south of the border line between Cambodia and Thailand. Consultations were held with the landowner in early June 2010. The original CBF draft conceptual design was discussed during the meeting and the landowner suggested that the CBF site location be slightly shifted to the west.

62. As of 30 June 2010 the Koh Kong conceptual design is yet to be approved by the Government. Pending this approval the DDI consultant proceeded with the detailed design of the facilities based on the proposed draft concept. The Koh Kong CBF detailed design is about 30% complete.

63. To ensure timely completion of the design and bidding documents and timely procurement of the civil works there is a need to expedite the review and Government's formal approval of the proposed CBF location and conceptual design.

4. Road Maintenance

64. Pending ADB's approval of the change in project scope, the implementation of the road maintenance component has been postponed; with ADB's approval expected in early

¹⁰ Cost excluding taxes, duties and contingencies.

¹¹ Proposed Revised Project Scope Report, June 2010, para. 40

July 2010, the mobilization of DDI consultant maintenance team is scheduled in the end of July 2010 to undertake the maintenance planning phase (para. 8 (i)); the planning phase would be completed by mid-November 2010 with the issuance of the bidding document.

5. Environment

65. At Appraisal an initial environmental examination (IEE) was carried out for the upgrading of the NR33 section between Kampong Trach and Lork – Ha Tien and the CBF at the Viet Nam border. The environmental impacts associated with the NR33 upgrading works occur mainly during construction; they will remain minor provided that mitigation measures identified in the IEE are implemented. An environmental management plan (EMP) and environmental monitoring plan (EMoP) have been prepared and will be implemented during road construction. Relevant specifications have been incorporated in the tender documents and special conditions of contract to ensure implementation of the EMP by the contractor. The EMP and EMoP have been attached to the bidding documents.

66. An EMP and EMoP have been prepared for the Lork – Ha Tien CBF and submitted to PMU-3 on 3 June 2010. No major environmental impacts are expected during construction of the facilities. Those resulting from CBF the operation, mainly due to wastewater and solid waste, have been addressed in the design; wastewaters will be treated through a water treatment plant and solid waste will be collected and disposed to the Lork garbage dumping site. The EMP and EMoP have been attached to the bidding document and relevant specifications have been incorporated in the conditions of contract.

67. An IEE has been prepared for Koh Kong CBF and submitted to PMU-3 on 2 June 2010 and ADB on 17 June 2010. EMP and EMoP are being finalized and will be attached to the Koh Kong CBF bidding document.

6. Resettlement

68. The resettlement plan (RP) prepared at Appraisal for the NR33 section to be upgraded and CBF at Lork – Ha Tien have been updated. Table 6 summarizes the project impacts in terms of resettlement.

**Table 6: NR33 section Upgrading and Lork-Ha Tien Cross-Border Facilities
Updated Resettlement Plan**

Affected Households/Businesses	NR 33 Section Upgrading	Lork-Ha Tien CBF
Affected households	623	15
Houses to be relocated	65	1
Businesses to be relocated	116	0

CBF = cross-border facilities

69. The updated RP submitted to PMU-3 on 22 April 2010 is being reviewed by the Interministerial Resettlement Committee. The Government's approval of the RP is expected in early July 2010 and ADB's endorsement by mid-July 2010. The RP cost for NR33 upgrading and Lork CBF has been reestimated at \$3,00 million against \$0.93 million at Appraisal. The cost overrun is mainly due to changes in the demographic characteristics of the affected households three years after the initial RP in 2006, increased value of land and affected structures and increased number of assets, entitlements and sets of assistance.

70. The RP implementation including moving of affected households and businesses is scheduled to be completed in the end of September 2010.

71. The preparation of the RP for Koh Kong CBF is pending waiting for the Government decision on the CBF site location; Government's decision is expected in early July 2010 and following ADB's endorsement of the RP, the land acquisition and resettlement is scheduled

to be completed including moving of affected households and businesses in the end of December 2010.

7. HIV/AIDS and Trafficking Awareness and Prevention Program

72. The HIV/AIDS and trafficking awareness and prevention program will be implemented through three modules attached to the following civil works contract packages: (i) NR33 road section upgrading, (ii) Koh Kong CBF and (iii) road maintenance. The module to be implemented under the NR33 upgrading works will cover the road section between Kampong Trach and Lork and the CBF building works at Lork – Ha Tien.

73. For each module, the awareness and prevention programs targeting the construction workers and the local communities bordering the construction sites will be implemented concurrently with the civil works by a service provider to be recruited under the civil works contract. Technical specifications and bill of quantities will be attached to the civil works bidding document. Also, the bidders will be requested to submit with their bids the service provider name, references and a form of association agreement. The DDI consultant as part of construction supervision duties will assist the social and environment unit (SEU) of PMU-3 in monitoring the implementation of the awareness and prevention program. The Provincial and District Committee for the Control of AIDS will be closely associated to the program detailed development and implementation.

74. Separate reports have been prepared by the DDI consultant to provide (i) an assessment of the social issues, HIV/AIDS, trafficking and gender, in the subproject areas (ii) the program outline and (iii) the module cost estimate. The reports for Kampot Province and Koh Kong Province were submitted to PMU-3 on 7 and 10 May respectively; following the ADB and AusAID's review the reports are being revised to incorporate the financiers' comments. The cost of the Kampot module (NR33 upgrading and Lork CBF) is estimated at about \$73,000, while the cost of the module to be implemented concurrently with the Koh Kong CBF construction is estimated at about \$64,000. The report dealing with the awareness and prevention program associated with the road maintenance works is being prepared and expected to be submitted to PMU-3 in the end of July 2010.

8. Consulting Services

75. The consulting services for detailed design and implementation were contracted to Egis-Bceom International in association with Khmer Associates Consulting Engineers Co. Ltd., Key Consultants Cambodia, Khmer Consultant Engineering Corporation Ltd., SBK Research and Development, and VIDO Engineering Consultant Co. Ltd. The contract was signed on 21 May 2009 for a total amount of \$1,988,400 equivalent (€252,617 and \$1,807,930). The consultant team was mobilized on 15 June 2009 with the fielding of the team leader. At the request of PMU-3 the mobilization of the bridge engineers and maintenance team was postponed pending a decision on the proposed change in scope.

76. The DDI consultant will assist PMU-3 with the implementation of the Project. Consulting services will cover: detailed design of the project facilities, preparation of bidding documents, assistance with procurement of civil works contracts, planning and implementation of a maintenance demonstration project, construction supervision and, development and implementation of a monitoring and evaluation program. Also, the consultant will assist PMU-3 with resettlement planning and implementation, development and implementation of environmental mitigation plans and development and implementation of an HIV/AIDS and human trafficking awareness and prevention program.

77. At contract signing the consultant staff inputs consisted of (i) 20.00 person-months of international consultants and 112.00 person-months of national consultants for the design phase and (ii) 27.00 person-months of international consultants and 214.00 person-months of national consultants for the construction supervision phase.

78. Since June 2009, the consultant team's activities focused on the detailed design of the NR33 upgrading and CBFs and associated activities and components, i.e., field works, environment, resettlement and HIV/AIDS and trafficking awareness campaign. **Appendix 4** summarizes the actual international and national consultant's inputs as of 30 June 2010; international and national inputs stood at 15.51 person-months and 112.20 person-months respectively.

79. The DDI staffing requirements have been updated to meet the design and procurement requirements of the proposed revised project scope (excluding the original bridge repair and widening component, para.4(ii)) until award of the last civil works contracts (including the maintenance contract) expected in the second quarter 2011. Over the remaining design period 6.82 person-months of international consultant and 25.00 person-months of national consultants would be required. Based on the above actual and anticipated inputs the remuneration costs over the entire project period have been re-estimated at €234,025 and \$1,146,804; it is proposed that these increased remuneration costs be compensated through savings under the provisional sums for investigations and surveys, and workshops and trainings; the total cost of DDI services would remain within the original contract amount of about \$2.12 million (**Appendix 5**).

80. By 30 June 2010, the following reports were prepared by the DDI consultant and submitted to PMU-3.

Table 7: Report Submission

Report	Submission to PMU-3
Proposed Revised Project Scope	4 May 2010
Revised Inception Report (Version E)	9 June 2010
NR33 Upgrading – Bidding document	10 May 2010
Lork – Ha Tien CBF – Bidding Document	21 June 2010
Updated Resettlement Plan – NR33 and Lork – Ha Tien CBF	22 April 2010
NR33 – EMP and EMoP	10 May 2010
Lork – Ha Tien – EMP and EMoP	3 June 2010
Koh Kong CBF – Initial Environmental Examination	2 June 2010
HIV/AIDS and Trafficking Prevention Program – Kampot Province	7 May 2010
HIV/AIDS and Trafficking Prevention Program –Koh Kong Province	10 May 2010
Monitoring and Evaluation Program	6 May 2010

CBF = cross-border facilities, EMP = environmental management plan, EMoP = environmental monitoring plan

9. Project Monitoring and Evaluation

81. With the assistance of the DDI consultant the Project will develop a project monitoring and evaluation system. The computerized project performance management system (PPMS) will provide information on project physical and financial progress and procurement processes. The evaluation program will be developed based on the pre- and post-project conditions with the objectives of assessing the project impact and likely outcome as anticipated at Appraisal as identified in the project design and monitoring framework.

82. The PPMS is being developed to monitor (i) the physical progress under each project component, identify implementation issues and follow up on remedial actions and (ii) the project and subproject cost, financial status of the project as a whole and for each project component, and the loan and grant funds. As of 30 June 2010, the computerized system is being developed as reporting tool producing monthly and quarterly reports.

83. The project performance evaluation system will compare and analyze the values of a set of indicators in the pre- and post-project implementation phase. A monitoring and evaluation (M&E) program along with a set of indicators has been prepared and submitted to PMU-3 on 6 May 2010. ADB and AusAID have reviewed the M&E report and their comments

will be incorporated in a revised report scheduled to be submitted by 15 July 2010. The baseline data related to traffic and vehicle operating costs have been collected; the socioeconomic baseline survey is being conducted; the baseline data report is scheduled to be issued by 20 July 2010.

84. As part of the monitoring and evaluation component, a website has been developed, www.mpwt.gov.kh/externalfund/SCCP. The site development is still in progress, the subpages starting with the revised project scope, have to be developed. Government's and ADB's decision on the proposed revised project scope are required to enable the consultant to further develop the website and capture information on project progress.

IV. ISSUES - RECOMMENDATIONS

85. The major issue the as-appraised Project is facing is a cost overrun of about 46% mainly due to price escalation and increased quantities of works. Keeping the project cost within the original financing scheme requires a downsizing of the project scope; the proposed change in project scope consists of removing from the original scope the NR33 bridge repair and widening component and redesigning the maintenance works to be implemented under the demonstration project. The cost of the proposed revised project is estimated at \$18.70 million of which \$15.00 million would be financed by ADB and the Government of Australia, the \$3.70 million balance being provided by the Government.

86. As of 30 June 2010, ADB and AusAID were processing the Borrower's request for a change in project scope; the financiers' decision on the proposed revised project is expected in early July 2010.

87. The cost of the proposed revised project is likely to increase further; based on detailed design quantities available in June 2010, the cost of the cross-border facilities at Lork – Ha Tien, and the NR33 and Lork CBF resettlement plan have been reestimated upward at \$3.30 million and \$3.00 million respectively.¹²

88. The project implementation is about 18 months behind schedule mainly due to (i) delayed recruitment of the DDI consultant, (ii) larger than anticipated design activities for the CBFs, and (iii) CBF site location issues.

89. To address the cost overrun issue there is a need to closely monitor the project cost; the cost estimate will be updated based on the actual contract price upon award of civil works contract. Cost overrun, if any, and implications on the financing will be analyzed and if required, the project scope will be reconsidered.

90. To avoid further implementation delay it is recommended to expedite the following activities:

- (viii) Financiers' approval of the proposed change in scope;
- (ix) Site location of the Koh Kong CBF;
- (x) Preparation of the resettlement plan for Koh Kong CBF;
- (xi) Government and financiers' approval of the resettlement plan for NR33 section upgrading and Lork CBF;
- (xii) Implementation of the resettlement plan starting with the NR33 section to be upgraded;
- (xiii) Implementation of the resettlement plan for Lork CBF; and
- (xiv) Issuance of the bidding document for the NR33 section to be upgraded.

¹² Against \$2.75 million CBF estimated cost in April 2010 and \$0.93 million for the RP cost estimate at Appraisal.

**GREATER MEKONG SUBREGION – SOUTHERN COASTAL CORRIDOR PROJECT
ORIGINAL DESIGN AND MONITORING FRAMEWORK**

Design Summary	Performance Targets/Indicators	Data Sources/ Reporting Mechanisms	Assumptions and Risks
Impact <ul style="list-style-type: none"> Promotion of economic growth in the project area and GMS by strengthening connectivity with neighboring countries and increasing competitiveness. 	<ul style="list-style-type: none"> Average per capita income in Project-affected provinces will reach the national average within 5 years of Project completion; Total trading volume between Cambodia and Viet Nam will double 5 years after Project completion. 	<ul style="list-style-type: none"> National and regional economic data and statistics. International trade statistics. Baseline and ex-post surveys of household income levels in project-affected areas; Project completion report and benefit monitoring and evaluation 	Assumption <ul style="list-style-type: none"> GMS CBTA is fully implemented
Outcome <ul style="list-style-type: none"> Reduce transport times and costs, and induce more efficient movement of passengers and goods within the Project area and between GMS countries. 	<ul style="list-style-type: none"> Reduction in passenger and freight vehicle operating costs by an average of 30%, in real terms, within 5 years of Project completion Traffic on improved roads increases by 40% from 2008 baseline within 2 years of project completion Cross-border processing times of under 0.5 hours for passengers and under 2.0 hours for freight by project completion Maintenance budgets based on market rates for activities 	<ul style="list-style-type: none"> Baseline traffic and transport cost data Traffic counts at border crossings and strategic points in the transport network Customs statistics Field surveys and interviews of road transport operators and road users Road maintenance budget allocation and expenditure reports 	Assumptions <ul style="list-style-type: none"> GMS CBTA is implemented at pilot sites Reciprocal operating permits are granted to commercial passenger and goods vehicles Risks <ul style="list-style-type: none"> Harmonized cross-border inspection procedures are not implemented effectively Lack of maintenance funds and capacity to plan and manage road maintenance effectively
Outputs <ol style="list-style-type: none"> Completion of the road and bridge improvements enabling unrestricted passenger and freight transport Border facilities constructed HIV/AIDS and trafficking awareness and prevention programs completed on the project road Cambodia Maintenance Demonstration Project completed 	<ul style="list-style-type: none"> Improve 15 km of NR33; replace 24 bridges and culverts on NR33; and construct border facilities at Koh Kong and Lork-Ha Tien Finalization, approval, and implementation of resettlement plans and environmental management plans without delays Civil works contracts awarded within 9 months of invitation for bids Project-specific web pages established and procurement information made available to the public Unexploded ordnance (UXO) cleared prior to start of civil works Completion of civil works contracts on schedule, in compliance with conditions of contract and all defects rectified by end of defects liability period All vulnerable groups and contractor personnel have participated in HIV/AIDS and Trafficking Awareness and Prevention Programs 	<ul style="list-style-type: none"> Resettlement monitoring reports Civil works bid evaluation and award of contract reports Monthly and quarterly progress reports Project completion report ; 	Assumptions <ul style="list-style-type: none"> Procurement processes ensure bidders are qualified Quality management and cost control of civil works are effective Provincial authorities have the capacity to manage resettlement, environmental management, and social action plans Risks <ul style="list-style-type: none"> Insufficient number of bids are received from qualified, eligible bidders Major risk of corruption and fraud in the procurement process Delays in completion of procurement or resettlement delay start of construction

**GREATER MEKONG SUBREGION – SOUTHERN COASTAL CORRIDOR PROJECT
ORIGINAL DESIGN AND MONITORING FRAMEWORK**

Design Summary	Performance Targets/Indicators	Data Sources/ Reporting Mechanisms	Assumptions and Risks
	<ul style="list-style-type: none"> • Road safety audits undertaken during detailed design and road safety awareness programs undertaken during construction period • Periodic and routine maintenance contracts awarded after competitive bidding and completed in Cambodia • Market rates established for maintenance activities in Cambodia 		<ul style="list-style-type: none"> • Increased construction and resettlement costs reduce the scope of work achievable within the Project • Contractors fail to perform as required; • Increased number and severity of road accidents

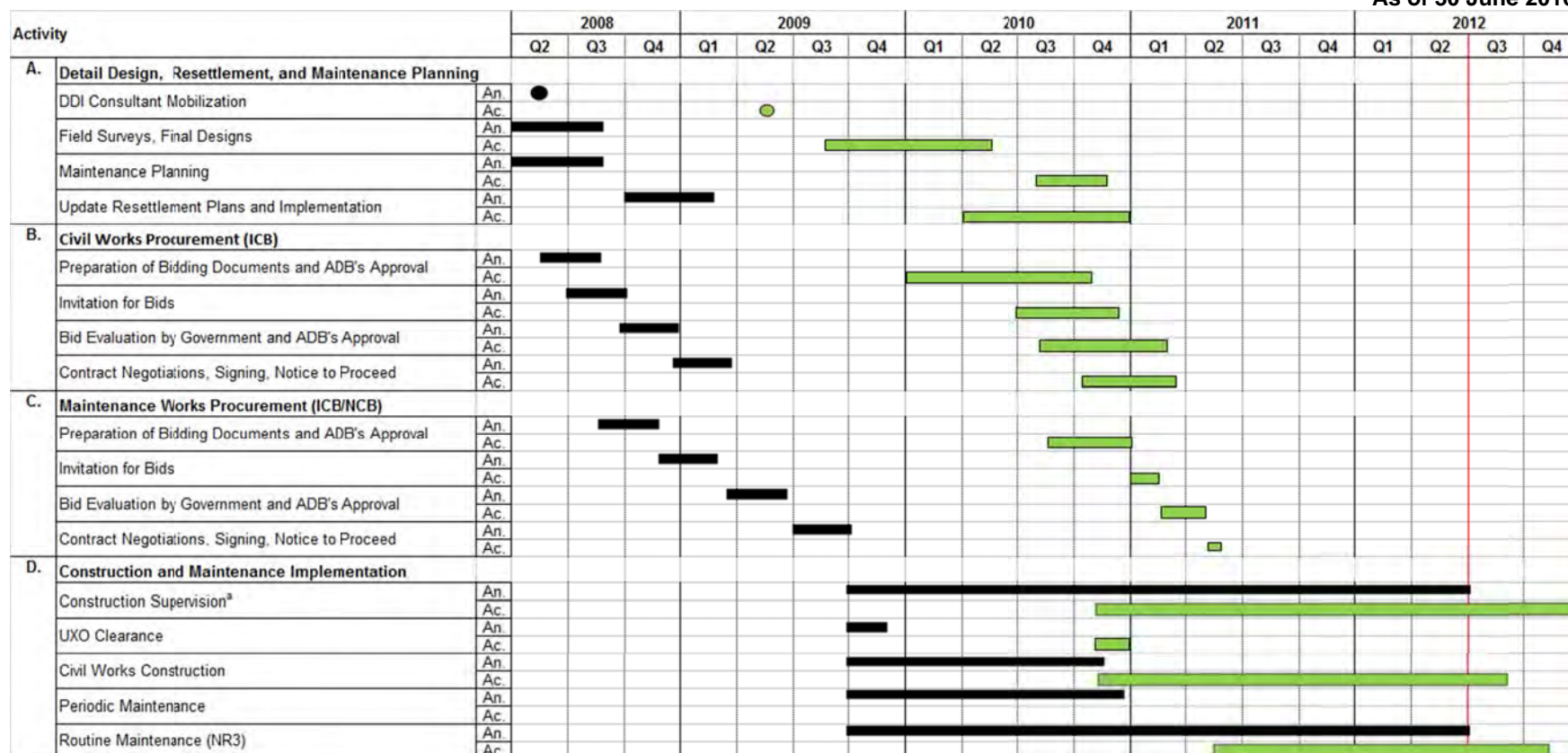
GREATER MEKONG SUBREGION – SOUTHERN COASTAL CORRIDOR PROJECT
Project completion Rate

As of 30 June 2010

	Weights			Completion Rate %	Weighted Completion Rates		
	Main Activity	Subactivity	Sub-Subactivity		Sub-Subactivity	Subactivity	Main Activity
Detailed Design, Resettlement	15					77.0	11.6
DDI Consultant's Mobilization		5		100		5.0	
Resettlement Plans and Implementation		10		60		6.0	
Surveys, Soil Investigations		10		100		10.0	
NR33 Upgrading Detailed Design		20		100		20.0	
CBF Lork - Ha Tien Detailed Design		20		100		20.0	
CBF Koh Kong Detailed Design		20		80		16.0	
Maintenance Planning		15		0		0.0	
Civil Works Implementation	85					6.6	5.6
NR 33 Upgrading		30			10.0	3.0	
Bidding Documents			10	100	10.0		
Bidding , Contract Award, Contract Signing, Notice to Proceed			15	0	0.0		
Civil Works Implementation			75	0	0.0		
CBF Lork - Ha Tien		25			9.5	2.4	
Bidding Documents			10	95	9.5		
Bidding , Contract Award, Contract Signing, Notice to Proceed			15	0	0.0		
Civil Works Implementation			75	0	0.0		
CBF Koh Kong		25			5.0	1.3	
Bidding Documents			10	50	5.0		
Bidding , Contract Award, Contract Signing, Notice to Proceed			15	0	0.0		
Civil Works Implementation			75	0	0.0		
Maintenance Works		20			0.0	0.0	
Bidding Documents			10	0	0.0		
Bidding , Contract Award, Contract Signing, Notice to Proceed			15	0	0.0		
Civil Works Implementation			75	0	0.0		
Overall Completion Rate							17.2

GREATER MEKONG SUBREGION – SOUTHERN COASTAL CORRIDOR PROJECT
Project Implementation Schedule

As of 30 June 2010



Loan closing date 31 December 2012

GREATER MEKONG SUBREGION – SOUTHERN COASTAL CORRIDOR PROJECT
Civil Works Packages – Implementation Schedule

As of 30 June 2010

Activity	2010				2011				2012				2013			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
NR33 Section Upgrading																
1 Bidding Document submission to PMU-3		▼	W1 may													
2 Endorsement of Bidding Document by ADB		▼	W4-Jun.													
3 Invitation to Bid		▼	W1-Jul													
4 Bidding period			■	W1-Aug												
5 Bid Evaluation by Government and ADB's Approval			■	W3-Oct												
6 Contract Negotiations, Signing, Notice to Proceed				■	W1-Nov											
7 Construction												■	W4-Apr			
8 Defects Liability Period															■	W4-Apr
Lork - Ha Tien Cross-border Facilities																
1 Bidding Document submission to PMU-3			▼	W4-Jun												
2 Endorsement of Bidding Document by ADB				▼	W3-Sep											
3 Invitation to Bid				▼	W4-Sep											
4 Bidding period				■	W4-Oct											
5 Bid Evaluation by Government and ADB's Approval					■	W2-Jan										
6 Contract Negotiations, Signing, Notice to Proceed					■	W4-Jan										
7 Construction													■	W4-Jul		
8 Defects Liability Period															■	W4-Jul
Koh Kong Cross-border Facilities																
1 Bidding Document submission to PMU-3			▼	W2-Aug												
2 Endorsement of Bidding Document by ADB				▼	W1-Nov											
3 Invitation to Bid				▼	W1-Nov											
4 Bidding period				■	W2-Dec											
5 Bid Evaluation by Government and ADB's Approval					■	W3-Feb.										
6 Contract Negotiations, Signing, Notice to Proceed					■	W2-Mar										
7 Construction													■	W1-Sep		
8 Defects Liability Period															■	W1-Sep

Loan closing date 31 December 2012

Detailed Design and Implementation Consultant – Staffing Schedule – International Consultants

No.	Position	Name		YEAR 2009								YEAR 2010												Original Contract	Actual	Total Actual	Planned	Total Planned	
				JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.							
INTERNATIONAL CONSULTANTS - Detailed Design																													
1	Team Leader / Highway Engineer	ROBINSON, David John	Contract																					4.00					
		Bernard Colin Mireau	Actual																							0.53	7.00		
		John Freezer																							0.07				
																									1.37				
		Jean Marie Lacombe																							1.60				
		Planned																							0.80				
																									0.33				
																									1.07				
																									0.23		1.00	2.00	
																										1.00			
2	Pavement Design Engineer	LEROLLE, Yves	Contract																					1.00					
		Benoit Ficherolle ¹¹	Actual																						0.10	0.00			
			Planned																										
3	Senior Bridge / Structural Engineer	DEBUISSY, Alain	Contract																					1.50					
			Actual																						0.00	0.00			
			Planned																										
			Contract																					2.00					
4	Road Maintenance Specialist	HEZELOT, Michel	Actual																						0.00	0.00			
			Planned																										
																											0.50		
																											0.25		
																											0.50	1.25	
5	Soils and Materials Engineer	PANUGALING, Alberto Bermundo	Contract																					1.00					
			Actual																						0.47				
			Planned																						0.53	1.00			
			Contract																					1.00					
6	Environmental Specialist	CALEDA, Marcelo R.	Actual																						0.53				
																									0.37				
			Planned																						0.33	1.23			
			Contract																					2.00			0.00	0.00	
7	Monitoring and Evaluation Specialist	VERZOLA, Ma Elizabeth	Actual																						0.43				
																									0.33				
			Planned																						0.33				
																											0.23		
																											0.50	0.73	
8	Social, Gender, HIV/AIDS and Trafficking Specialist	DEY, Rita	Contract																					2.00					
			Actual																						0.50				
																									0.50				
			Planned																						0.27	1.60			
																											0.23		
9	Procurement Specialist ^{2, 3, 14}	GOODYEAR, Robert G.	Contract																					1.50					
			Actual																						0.30	0.30			
			Planned																										
			Contract																					4.00			0.70	0.70	
11	Resettlement Specialist	CORPUZ, Angelito N.	Actual																						1.60				
																									1.23				
			Planned																						0.23	3.07			
																											0.50		
																											1.00	1.50	
1	Transport Economist ¹⁵	Francis Marc Turpin	Contract																										
			Actual																							0.23	0.23		
			Planned																										

Detailed Design and Implementation Consultant – Staffing Schedule – National Consultants

Detailed Design and Implementation Consultant
Egis-Bceom International in Association with KACE, KCC, KCEC, SBK R&D and VIDO EC

No.	Position	Name		YEAR 2009								YEAR 2010								Original Contract	Actual	Total Actual	Planned	Total Planned					
				JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.						OCT.	NOV.	DEC.		
NATIONAL CONSULTANTS - Detailed Design																													
1.	Geotechnical Engineer #1	SRAS, Muong (VIDO)	Contract																			3.00							
		Sethrungsok	Actual																				3.17	3.17	0.00	0.00			
2.	Geotechnical Engineer #2	MONY, Keo (SBK)	Contract																			3.00							
			Actual																				0.00	0.00	0.00	0.00			
3.	Surveyor/CAD Operator #1	SARITH, Luy (KCEC)	Contract																			4.00							
		NHAUCH, Lav	Actual																				8.20	8.20					
			Planned																							1.00	1.00		
4.	Surveyor/CAD Operator #2	PHALLY, Gniew	Contract																			4.00							
		KHEANG, Thai (KCEC)	Actual																				11.03	11.03					
			Planned																							3.00	3.00		
5.	Bridge and Road Inventory Engineer #1	BUNNARA, Em (VIDO)	Contract																			4.00							
			Actual																				0.00	0.00	0.00	0.00			
6.	Bridge and Road Inventory Engineer #2	SOMADY, Chan (KCEC)	Contract																			4.00							
			Actual																				0.00	0.00	0.00	0.00			
		SOVANARRA, Hieng (KCEC)	Contract																			12.00							
7.	Monitoring and Evaluation Specialist	Daren, Ouk	Actual																				4.60						
		SOVANARRA, Hieng	Actual																				1.87						
			Planned																				1.90	8.37					
																										1.00	1.00		
1.	UXO and Mine Expert ^{1, 4}	Duong Nay	Contract																				2.00	2.00	0.00	0.00			
			Actual																				4.00						
2.	Project Information Systems/Web Manager ^{4, 13, 14, 15}	Mot Song Heng	Contract																				0.50	4.50					
			Actual																							2.00			
			Planned 1																								2.00	4.00	
			Planned 2																										
8.	Highway Design Engineer / National Team Leader	KACKADA, Heng (KACE)	Contract																			12.00							
			Actual																				12.50	12.50					
			Planned																							5.00	5.00		
9.	Bridge Design Engineer #1	SOCHEAT, Srey (KCEC)	Contract																			6.00							
			Actual																				0.00	0.00	0.00	0.00			
10.	Bridge Design Engineer #2	CHEY, Kan (VIDO)	Contract																			6.00							
			Actual																				0.00	0.00	0.00	0.00			
11.	Hydrologist / Hydraulic Engineer	MUNTHA, Mak (SBK)	Contract																			3.00							
		Soeung, Hun	Actual																				3.00	3.00	0.00	0.00			
12.	Geotechnical Engineer	SRAS, Muong (VIDO)	Contract																			3.00							
		Sethrungsok	Actual																				0.47	0.47	0.00	0.00			
		Trek Penghy (KCEC)	Contract																			6.00							
13.	Architect	Bolero, Duong	Actual																				10.73	10.73					
			Planned																							1.00	1.00		
14.	Structural Engineer (For CBF)	Kong Ravuth	Contract																			4.00							
		MONY, Chhin	Actual																				8.20	8.20					
			Planned																							1.00	1.00		
15.	Electrical / Mechanical Engineer	CHAN, Ma (KCEC)	Contract																			4.00							
		WANNAK, Keo	Actual																				5.03	5.03					
			Planned																							2.00	2.00		
16.	Quantity Engineer / Quantity Surveyor	SITNARIT, Khagah	Contract																			5.00							
			Actual																				12.53	12.53					
			Planned																							5.00	5.00		
17.	Environmental	CHANTHY, Lay (SBK)	Contract																			6.00							
		San Vibol	Actual																				4.00	4.00	0.00	0.00			
18.	Senior Resettlement Specialist	BORA, Seang (KCC)	Contract																			6.00							
			Actual																				6.00	6.00					
			Planned																							0.50	1.50		
19.	Resettlement Specialist	SAMOEUN, Chap (KCC)	Contract																			6.00							
		MEL SOPHANNA	Actual																				3.93	3.93	0.00	0.00			
			Contract																			6.00							
20.	Social and Gender Specialist	THAY, Pen (KCEC)	Actual																				4.00						
			Planned																				0.53	4.53					
																										0.50	0.50		
21.	HIV/AIDS & Trafficking Specialist	VUTTHIKOL, Yong	Contract																			5.00							
		KONG, Sopheap (SBK)	Actual																				4.00	4.00	0.00	0.00			
				Contractual						Actual						Planned						Total - National Consultant - Detailed Design				112.00		112.20	25.00

Detailed Design and Implementation Consultant
Egis-Bceom International in Association with KACE, KCC, KCEC, SBK R&D and VIDO EC

Detailed Design and Implementation Consultant – International Consultants' Remuneration
Detailed Design Phase

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	Position	Contract Person-Month	Contract Unit Rate		Contract Prices		Actual Inputs as of 30 June 2010	Planned Input July-Dec. 2010	Actual Cost Jun.2009 - June 2010		Anticipated Remuneration July-Dec. 2010		Total Anticipated Inputs and Remuneration by 31 Dec.2010			Input and Cost Adjustment		
			Euro	US\$	Euro	US\$	Pers.-month	Pers.-month	Euro	US\$	Euro	US\$	Pers.-month	Euro	US\$	Pers.-month	Euro	US\$
INTERNATIONAL CONSULTANTS - Detailed Design																		
1	Team Leader/Highway Engineer	4.00	14,110.00	-	56,440.00		7.00	2.00	98,770.00		28,220.00		9.00	126,990.00		5.00	70,550.00	-
2	Pavement Design Engineer ^{1/}	1.00	17,325.00	-	17,325.00		-	-	-		-		-	-		(1.00)	(17,325.00)	-
3	Senior Bridge/Structural Engineer	1.50	14,025.00	-	21,037.50		-	-	-		-		-	-		(1.50)	(21,037.50)	-
4	Road Maintenance Specialist	2.00	11,550.00	-	23,100.00		-	1.25	-		14,437.50		1.25	14,437.50		(0.75)	(8,662.50)	-
5	Soils and Materials Engineer	1.00	-	12,750.00		12,750.00	1.00	-		12,750.00		-	1.00		12,750.00	-	-	-
6	Environmental Specialist	1.00	-	11,050.00		11,050.00	1.23	-		13,591.50		-	1.23		13,591.50	0.23	-	2,541.50
7	Monitoring and Evaluation Specialist	2.00	-	19,800.00		39,600.00	1.09	0.73		21,582.00		14,520.00	1.82		36,102.00	(0.18)	-	(3,498.00)
8	Social, Gender, HIV/AIDS & Trafficking Specialist	2.00	-	9,900.00		19,800.00	1.60	0.64		15,307.00		6,303.00	2.23		22,110.00	0.23	-	2,310.00
9	Procurement Specialist ^{2, 13, 14}	1.50	15,873.00	-	23,809.50		0.30	0.70	4,708.99		11,164.01		1.00	15,873.00		(0.50)	(7,936.50)	-
10	Resettlement Specialist	4.00		15,300.00		61,200.00	3.07	1.50		46,320.00		22,950.00	4.57		69,870.00	0.57	-	8,670.00
Total Detailed Design		20.00			141,712.00	144,400.00	15.28	6.82	103,478.99	110,550.50	53,821.51	43,773.00	22.10	157,300.50	154,423.50	2.10	15,588.50	10,023.50

^{1/} Actual field and home office inputs of 0.50 person-month not charged.

^{2/} Actual home office inputs of 0.25 person-month not charged.

^{3/} Total inputs also cover procurement phase after December 2010.

^{4/} It is proposed that during procurement phase the required input of 0.70 person-month covers 0.20 person-month of home office.

Detailed Design and Implementation Consultant – National Consultants' Remuneration Detailed Design Phase

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	Position	Contract Person-Month	Contract Unit Rate		Contract Prices		Actual Inputs as of 30 June 2010	Planned Inputs July-Dec. 2010	Actual Cost Jun.2009 - June 2010		Anticipated Remuneration July-Dec. 2010		Total Anticipated Input and Remuneration by 31 Dec.2010			Input and Cost Adjustment		
			Euro	US\$	Euro	US\$	Pers.-month	Pers.-month	Euro	US\$	Euro	US\$	Pers.-month	Euro	US\$	Pers.-month	Euro	US\$
NATIONAL CONSULTANTS - Detailed Design																		
1	Geotechnical Engineer #1	3.00	-	1,430.00		4,290.00	3.17	-		4,533.10		-	3.17	-	4,533.10	0.17	-	243.10
2	Geotechnical Engineer #2	3.00	-	1,820.00		5,460.00	-	-		-		-	-	-	-	(3.00)	-	(5,460.00)
3	Surveyor/CAD Operator #1	4.00	-	1,450.00		5,800.00	8.20	1.00		11,390.00		1,450.00	9.20	-	13,340.00	5.20	-	7,540.00
4	Surveyor/CAD Operator #2	4.00	-	1,450.00		5,800.00	11.03	3.00		15,393.50		4,350.00	14.03	-	20,343.50	10.03	-	14,543.50
5	Bridge and Road Inventory Engineer #1	4.00	-	1,490.00		5,960.00	-	-		-		-	-	-	-	(4.00)	-	(5,960.00)
6	Bridge and Road Inventory Engineer #2	4.00	-	1,520.00		6,080.00	-	-		-		-	-	-	-	(4.00)	-	(6,080.00)
7	Monitoring and Evaluation Specialist	12.00	-	2,210.00		26,520.00	8.37	1.00		18,497.70		2,210.00	9.37	-	20,707.70	(2.63)	-	(5,812.30)
8	UXO and Mine Expert ¹	-	-	1,220.00		-	2.00	-		2,440.00		-	2.00	-	2,440.00	2.00	-	2,440.00
9	Project Information Systems/ Web Manager ^{2, 3, 4}	-	-	1,710.00		-	4.50	4.00		7,595.00		6,840.00	8.50	-	14,535.00	8.50	-	14,535.00
10	Highway Design Engineer / National Team Leader- Design Phase	12.00	-	3,090.00		37,080.00	12.50	5.00		38,525.00		15,450.00	17.50	-	54,075.00	5.50	-	16,995.00
11	Bridge Design Engineer #1	6.00	-	1,490.00		8,940.00	-	-		-		-	-	-	-	(6.00)	-	(8,940.00)
12	Bridge Design Engineer #2	6.00	-	1,490.00		8,940.00	-	-		-		-	-	-	-	(6.00)	-	(8,940.00)
13	Hydrologist/Hydraulics Engineer	3.00	-	1,630.00		4,890.00	3.00	-		4,895.43		-	3.00	-	4,895.43	0.00	-	5.43
14	Geotechnical Engineer	3.00	-	1,430.00		4,290.00	0.47	-		572.10		-	0.47	-	672.10	(2.53)	-	(3,617.90)
15	Architect	6.00	-	1,490.00		8,940.00	10.73	1.00		15,387.70		1,490.00	11.73	-	17,477.70	5.73	-	8,537.70
16	Structural Engineer (CBF)	4.00	-	1,500.00		6,000.00	8.20	1.00		12,300.00		1,500.00	9.20	-	13,800.00	5.20	-	7,800.00
17	Electrical/Mechanical Engineer	4.00	-	1,490.00		5,960.00	5.03	2.00		7,499.67		2,980.00	7.03	-	10,479.67	3.03	-	4,519.67
18	Quantity Engineer/ Quantity Surveyor	5.00	-	1,460.00		7,300.00	12.53	5.00		18,293.80		7,300.00	17.53	-	25,593.80	12.53	-	18,293.80
19	Environmentalst	6.00	-	2,040.00		12,240.00	4.00	-		8,160.00		-	4.00	-	8,160.00	(2.00)	-	(4,080.00)
20	Senior Resettlement Specialist	6.00	-	2,420.00		14,520.00	6.00	1.50		14,520.00		3,630.00	7.50	-	18,150.00	1.50	-	3,630.00
21	Resettlement Specialist	6.00	-	2,420.00		14,520.00	3.93	-		9,510.60		-	3.93	-	9,510.60	(2.07)	-	(5,009.40)
22	Social and Gender Specialist	6.00	-	1,420.00		8,520.00	4.53	0.50		6,437.33		710.00	5.03	-	7,147.33	(0.97)	-	(1,372.67)
23	HIV/AIDS & Trafficking Specialist	5.00	-	1,620.00		8,100.00	4.00	-		6,480.00		-	4.00	-	6,480.00	(1.00)	-	(1,620.00)
Total Detailed Design		112.00	-			210,150.00	112.20	25.00		204,430.93		47,910.00	137.20	-	252,340.93	25.20	-	42,190.93

^{1/} Under the contract, inputs of UXO & Mine Expert were scheduled during construction phase only. To meet project requirements PMU-3 has instructed to mobilize the UXO & Mine Expert during the detailed design phase.

^{2/} Under the contract, inputs of Project Information System/Web Manager were scheduled during construction phase only. To meet project requirements PMU-3 has instructed to mobilize the Project Information System/Web Manager during the detailed design phase.

^{3/} The input of the Project Information System may need to be increased during construction phase by about 4 months.

Detailed Design and Implementation Consultant – Out-of-Pocket Expenses

Detailed Design and Implementation Consultant
Egis-Bceom International in Association with KACE, KCC, KCEC, SBK R&D and VIDO EC

Foreign Currency Costs

Item	Contract Quantity	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
		Contract Unit Rate	Contract Prices	Actual Costs as of 30 June 2010			Anticipated Costs July-Dec. 2010			Total Anticipated by 31 Dec.2012			Total Cost Adjustment					
				Amount	Amount	Amount	Quantity	Euro	US\$	Quantity	Euro	US\$			Quantity	Euro	US\$	
		Euro	US\$	Euro	US\$	Quantity	Euro	US\$	Quantity	Euro	US\$	Quantity	Euro	US\$	Euro	US\$		
I. FOREIGN COST																		
A. International Personnel - Per Diem																		
1. Detailed Design and Maintenance Planning																		
Team Leader/Highway Engineer	120.00		68.00	-	8,160.00	210.00		14,280.00	60.00		4,080.00	270.00	-	18,360.00	-	10,200.00		
Pavement Design Engineer	30.00		68.00	-	2,040.00	-		-	-		-	-	-	-	-	(2,040.00)		
Senior Bridge/Structural Engineer	45.00		68.00	-	3,060.00	-		-	-		-	-	-	-	-	(3,060.00)		
Road Maintenance Specialist	60.00		68.00	-	4,080.00	-		-	37.50		2,550.00	37.50	-	2,550.00	-	(1,530.00)		
Soils and Materials Engineer	30.00		68.00	-	2,040.00	30.00		2,040.00	-		-	30.00	-	2,040.00	-	-		
Environmental Specialist	30.00		68.00	-	2,040.00	36.90		2,509.20	-		-	36.90	-	2,509.20	-	469.20		
Monitoring and Evaluation Specialist	60.00		68.00	-	4,080.00	32.70		2,223.60	22.00		1,496.00	54.70	-	3,719.60	-	(360.40)		
Social, Gender, HIV/AIDS &	60.00		68.00	-	4,080.00	47.90		3,257.20	19.10		1,298.80	67.00	-	4,556.00	-	476.00		
Procurement Specialist	45.00		68.00	-	3,060.00	8.90		605.20	21.10		1,434.80	30.00	-	2,040.00	-	(1,020.00)		
Resettlement Specialist	120.00		68.00	-	8,160.00	92.00		6,256.00	45.00		3,060.00	137.00	-	9,316.00	-	1,156.00		
Sub-Total 1.	600.00				40,800.00	458.40		31,171.20	204.70		13,919.60	663.10	-	45,090.80	-	4,290.80		
2. Construction Supervision ¹																		
Project Manager	540.00		68.00	-	36,720.00	-	-	-	-		-	540.00	-	36,720.00	-	-		
Road Maintenance Specialist	90.00		68.00	-	6,120.00	-	-	-	-		-	90.00	-	6,120.00	-	-		
Senior Bridge / Structural Engineer	90.00		68.00	-	6,120.00	-	-	-	-		-	90.00	-	6,120.00	-	-		
Soils and Materials Engineer	90.00		68.00	-	6,120.00	-	-	-	-		-	90.00	-	6,120.00	-	-		
Sub-Total 2.	810.00				55,080.00	-	-	-	-		-	810.00	-	55,080.00	-	-		
Total Per Diem - International Personnel	1,410.00				95,880.00	458.40		31,171.20	204.70		13,919.60	1,473.10		100,170.80	-	4,290.80		
B. International Air Travel ¹																		
International Flights																		
Team Leader/Highway Engineer	49.00			23,400.00	31,800.00	6.00	7,597.12		3.00				51.00	11,497.12	-	2,397.12	1,700.00	
Pavement Design Engineer						-	-	-	-		-	-	-	-	-			-
Senior Bridge/Structural Engineer						-	-	-	-		-	-	-	-	-			-
Road Maintenance Specialist						-	-	-	3.00		3,900.00	-	-	-	-			-
Soils and Materials Engineer						2.00	1,225.00	-	-		-	-	-	-	-			1,225.00
Environmental Specialist						3.00	1,950.00	-	-		-	-	-	-	-			1,875.00
Monitoring and Evaluation Specialist						3.00	1,950.00	1.00			-	-	-	-	-			4,550.00
Social Development Specialist						4.00	4,800.00	1.00			-	-	-	-	-			6,000.00
Procurement Specialist						1.00	1,300.00	1.00			-	-	-	-	-			2,600.00
Resettlement Specialist						2.00	1,300.00	2.00			-	-	-	-	-			3,900.00
Project Manager						-	-	-	-		-	-	-	-	-			14,000.00
Road Maintenance Specialist						-	-	-	-		-	-	-	-	-			3,900.00
Senior Bridge / Structural Engineer						-	-	-	-		-	-	-	-	-			3,900.00
Soils and Materials Engineer	-	-	-	-		-	-	-	-	-	1,950.00							
Miscellaneous International Travel	49.00	220.00	-	10,780.00		21.00	4,620.00	-	11.00			51.00	11,220.00		440.00	-		
Total International Travel				34,180.00	31,800.00		13,517.12	11,225.00					37,017.12	33,500.00	2,837.12	1,700.00		
C. Communications																		
Design and Procurement Phase	11.00	-	250.00	-	2,750.00	11.50	-	2,875.00	6.00			17.50	-	4,375.00	-	1,625.00		
Construction Phase	19.00	-	150.00	-	2,850.00	-	-	-	-			19.00	-	2,850.00	-	-		
Defects Liability Period	1.00	-	1,200.00	-	1,200.00	-	-	-	-			1.00	-	1,200.00	-	-		
Total Communications					6,800.00			2,875.00						8,425.00	-	1,625.00		
D. Engineering Software																		
	1.00	-	1,000.00	-	1,000.00	-	-	-	-			(1.00)	-	-	-	(1,000.00)		
TOTAL FOREIGN COST				34,180.00	135,480.00		13,517.12	45,271.20					37,017.12	142,095.80	2,837.12	6,615.80		

Detailed Design and Implementation Consultant – Out-of-Pocket Expenses Local Costs

Detailed Design and Implementation Consultant
Egis-Bceom International in Association with KACE, KCC, KCEC, SBK R&D and VIDO EC

Item	1 Contract Quantity	2 3		4 5		6 7		8 9		10 11		12 13		14 15		16	
		Contract Unit Rate	Contract Prices	Actual Costs as of 30 June 2010		Anticipated Costs July-Dec. 2010		Total Anticipated by 31 Dec.2012		Total Cost Adjustment							
				Euro	US\$	Euro	US\$	Quantity	Euro	US\$	Quantity	Euro	US\$	Euro	US\$		
II. LOCAL COST																	
A. Equipment	P.S.	-	7,900.00		7,900.00		-	2,390.00	-		-	-	-	2,390.00	-	(5,510.00)	
B. Office Operation																	
Office O&M (Phnom Penh)																	
Design, Procurement and Construction Supervision Phase ¹	30.00	-	100.00		3,000.00	11.50	-	1,150.00	(12.50)		(1,250.00)	36.50	-	3,650.00	-	650.00	
Defects Liability Period	1.00	-	650.00		650.00	-	-	-	-		-	1.00	-	650.00	-	-	
Office Supplies (Phnom Penh)																	
Design and Procurement Phase	11.00	-	600.00		6,600.00	11.50	-	6,900.00	6.50		3,900.00	17.50	-	10,500.00	-	3,900.00	
Construction Phase	19.00	-	200.00		3,800.00	-	-	-	-		-	19.00	-	3,800.00	-	-	
Defects Liability Period	1.00	-	1,200.00		1,200.00	-	-	-	-		-	1.00	-	1,200.00	-	-	
Administrative Support Staff																	
Secretary ¹	30.00	-	670.00		20,100.00	11.50	-	7,705.00	(12.50)		(8,375.00)	36.50	-	24,455.00	-	4,355.00	
Translator ¹	30.00	-	670.00		20,100.00	-	-	-	(27.00)		(18,090.00)	15.00	-	10,050.00	-	(10,050.00)	
Sub-total B.					55,450.00			15,755.00			(23,815.00)			54,305.00	-	(1,145.00)	
C. Local Travel Cost																	
Vehicle Rental (Including Drivers and O&M Costs)																	
Design and Procurement Phase	11.00	-	1,100.00		12,100.00	11.50	-	12,650.00	6.50		7,150.00	17.50	-	19,250.00	-	7,150.00	
Construction Supervision Phase	19.00	-	1,100.00		20,900.00	-	-	-	-		-	19.00	-	20,900.00	-	-	
Other Local Transportation Costs																	
Design and Procurement Phase	11.00	-	250.00		2,750.00	11.50	-	2,875.00	6.50		1,625.00	17.50	-	4,375.00	-	1,625.00	
Construction Phase (Phnom Penh)	19.00	-	150.00		2,850.00	-	-	-	-		-	19.00	-	2,850.00	-	-	
Sub-total C.					38,600.00			15,525.00			8,775.00			47,375.00	-	8,775.00	
D. Out-of-Station Per Diem for Local Staff During Detailed Design	1,410.00	-	22.00		31,020.00	371.00	-	8,162.00	(863.00)		(18,986.00)	547.00	-	12,034.00	-	(18,986.00)	
E. Printing and Production of Bidding Documents	4.00	-	500.00		2,000.00	-	-	-	-		-	4.00	-	2,000.00	-	-	
F. Printing, Production and Shipment of Reports																	
Design and Procurement Phase	11.00	-	600.00		6,600.00	11.50	-	6,900.00	6.50		3,900.00	17.50	-	10,500.00	-	3,900.00	
Construction Phase	19.00	-	200.00		3,800.00	-	-	-	-		-	19.00	-	3,800.00	-	-	
Defects Liability Period	1.00	-	500.00		500.00	-	-	-	-		-	1.00	-	500.00	-	-	
Sub-total F.					10,900.00			6,900.00			3,900.00			14,800.00	-	3,900.00	
TOTAL LOCAL COST					145,870.00			48,732.00			(30,126.00)			132,904.00	-	(12,966.00)	

Detailed Design and Implementation Consultant – Out-of-Pocket Expenses

Detailed Design and Implementation Consultant
Egis-Bceom International in Association with KACE, KCC, KCEC, SBK R&D and VIDO EC

Provisional Sums

Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	Contract Quantity	Contract Unit Rate		Contract Prices		Actual Costs as of 30 June 2010			Anticipated Costs July-Dec. 2010			Total Anticipated by 31 Dec.2012			Total Cost Adjustment	
		Euro	US\$	Euro	US\$	Quantity	Euro	US\$	Quantity	Euro	US\$	Quantity	Euro	US\$	Euro	US\$
III. PROVISIONAL SUMS																
A. Visiting Experts																
Transport Economist - Francois Marc Turpin																
Remuneration ²	P.S.	-	80,000.00	-	80,000.00	0.23	-	5,160.65	-	-	-	-	-	-	-	-
Per Diem						7.00	-	476.00	-	-	-	-	-	-	-	-
International Flights ²						1.00	-	1,597.35	-	-	-	-	-	-	-	-
Miscellaneous International Travel Expenses ²						1.00	-	270.32	-	-	-	-	-	-	-	-
Sub-total A.					80,000.00			7,504.32						80,000.00	-	-
B. Investigations and Surveys																
Engineering Surveys (Topo.)	P.S.	-	120,000.00	-	120,000.00	1.00	-	24,806.40	-	-	-	-	-	-	-	-
Engineering Surveys (Geo.)						1.00	-	30,957.30	-	-	-	-	-	-	-	-
Engineering Surveys (DGPS)						1.00	-	990.00	-	-	-	-	-	-	-	-
Traffic Surveys						1.00	-	18,207.20	-	-	-	-	-	99,836.02	-	(20,163.98)
Baseline Surveys						1.00	-	14,875.12	-	-	10,000.00	-	-	-	-	-
Others (Provision)						-	-	-	-	-	-	-	-	-	-	-
Sub-total B.					120,000.00			89,836.02			10,000.00			99,836.02	-	(20,163.98)
C. Workshops and/or Trainings ¹	P.S.	-	70,000.00	-	70,000.00	-	-	-	-	-	5,000.00	-	-	34,058.00	-	(35,942.00)
D. Others	P.S.	-	30,000.00	-	30,000.00	-	-	677.94	-	-	1,000.00	-	-	30,000.00	-	-
TOTAL PROVISIONAL SUM					300,000.00			98,018.28			16,000.00			243,894.02	-	(56,105.98)

Detailed Design and Implementation Consultant Summary Contract Costs

		Contract Budget		Adjustment		Proposed Revised Budget	
		Euro	US\$	Euro	US\$	Euro	US\$
A.	Remuneration						
	International Personnel						
	Detailed Design	141,712.00	144,400.00	15,588.50	10,023.50	157,300.50	154,423.50
	Construction Supervision	76,725.00	424,350.00			76,725.00	424,350.00
	National Personnel						
	Detailed Design	-	210,150.00		42,190.93		252,340.93
	Construction Supervision	-	326,680.00		(10,990.00)		315,690.00
	Sub-total A.	218,437.00	1,105,580.00	15,588.50	41,224.43	234,025.50	1,146,804.43
B.	Out-of-Pocket Expenses						
	Foreign Costs	34,180.00	135,480.00	2,837.12	6,615.80	37,017.12	142,095.80
	Local Costs	-	145,870.00	-	(12,966.00)	-	132,904.00
	Sub-total B.	34,180.00	281,350.00	2,837.12	-6,350.20	37,017.12	274,999.80
	Sub-total 1	252,617.00	1,386,930.00	18,425.62	34,874.23	271,042.62	1,421,804.23
C.	Provisional Sums						
	Visiting Experts	-	80,000.00	-	-	-	80,000.00
	Investigations and Surveys	-	120,000.00	-	(20,163.98)	-	99,836.02
	Workshops and/or Trainings	-	70,000.00	-	(35,942.00)	-	34,058.00
	Others	-	30,000.00	-	-	-	30,000.00
	Sub-total 2	-	300,000.00	-	-56,105.98	-	243,894.02
	Sub-total 3	252,617.00	1,686,930.00	18,425.62	(21,231.75)	271,042.62	1,665,698.25
D.	Contingencies	-	121,000.00	-	-	-	121,000.00
	TOTAL	252,617.00	1,807,930.00	18,425.62	(21,231.75)	271,042.62	1,786,698.25
	TOTAL US\$*	2,118,321.00		1,400.00		2,119,728.00	
	BUDGET INCREASE/DECREASE						1,407.00
*For Budgetary Purposes Only						Euro 1 = \$ 1.2287	