

Table 3.4-23 Estimated cost for environmental sampling survey – indirect expenses

Item	Parameter	Unit	Unit cost	Sample number	Cost
			(US\$)		(US\$)
Reporting	Data input	set	100	1	100
	Report writing	set	100	1	100
	Printing(Vietnamese 10, English 10) and CDs	set	200	1	200
	Translation (about 30 pages)	page	5	30	150
Office Consumer		set	50	1	50
Traveling Cost (7pers x 1 day)		man-day	30	7	210
Personnel cost	Manager	MM	1,200	0.1	120
	Expert	MM	800	0.1	80
	Surveyors (7pers x 3 days)	man-day	50	21	1,050
Other Indirect Expenses		set	618	1	618
Sub-total of Indirect Cost					2,678
VAT(5%)					134
Total of Indirect Cost					2,812
Baseline survey					2,812
During construction phase (2.5 years *2 + 1 = 5 times)					15,465
Evaluation survey (at the end of construction phase)					3,374

Table 3.4-24 Estimated cost for monitoring

Resettlement Action Plan (RAP) Monitoring					
RAP Monitoring Staffing (work during 1.5 years or 18 months of pre-construction stage)					
		Quantity	Unit	Unit price (US\$)	Sub-total (US\$)
	Team Leader	18	man-month	1,200	21,600
	Account & Financial Expert	18	man-month	720	12,960
	Social scientist	18	man-month	600	10,800
	Gender specialist	18	man-month	600	10,800
	Research and Statistical specialist	18	man-month	600	10,800
	Rent office	18	months	600	10,800
	Transportation (3 motorbikes x 18 months)	54	bike-month	12	648
	Communication	18	months	120	2,160
	Computer system	2	computers	2,400	4,800
	Printer	1	set	6,000	6,000
	Copy machine	1	set	9,600	9,600
	Stationery and consumption articles	18	months	180	3,240
	Reporting - monthly	18	reports	240	4,320
	Reporting - quarterly	6	reports	240	1,440
	Reporting - six-monthly progress	3	reports	360	1,080
	Reporting - annual	0	reports	360	0
	Reporting - final	1	reports	600	600
	Sub-grand total				111,648
	Management cost (5% of total cost)				5,582
	Contingency (5% of total cost)				5,582
	Grand total				122,813

Environmental Monitoring					
		Quantity	Unit	Unit price (US\$)	Sub-total (US\$)
	Team Leader	30	man-month	1,200	36,000
	Administrative assistant	30	man-month	720	21,600
	Data input and management	30	man-month	600	18,000
	Field surveyors (5pers x 30 months)	150	man-month	600	90,000
	Rent office	30	months	600	18,000
	Transportation (5 motorbikes x 30 months)	150	bike-month	12	1,800
	Communication	30	months	120	3,600
	Computer system	3	computers	2,400	7,200
	Printer (from the RAP Monitoring)	0	set	6,000	0
	Copy machine (from the RAP Monitoring)	0	set	9,600	0
	Stationery and consumption articles	30	months	180	5,400
	Reporting - monthly	30	reports	240	7,200
	Reporting - quarterly	10	reports	240	2,400
	Reporting - annual	0	reports	360	0
	Reporting - final	1	reports	600	600
	Sub-grand total				211,800
	Management cost (5% of total cost)				10,590
	Contingency (5% of total cost)				10,590
	Grand total				232,980

Table 3.4-25 Estimated cost for public consultation and information dissemination

	Unit	Quantity	Unit price (US\$)	Sub-total (US\$)	Total cost (US\$)
Information Dissemination					25,000
Printing of leaflets					7,500
	Pre-construction stage (1st year)	copies	1,000	0.5	500
	Pre-construction stage (2nd year)	copies	1,000	0.5	500
	Pre-construction stage (3rd year)	copies	1,000	0.5	500
	Construction stage (1st year)	copies	5,000	0.4	2,000
	Construction stage (2nd year)	copies	5,000	0.4	2,000
	Construction stage (3rd year)	copies	5,000	0.4	2,000
Printing of brochures					17,500
	Pre-construction stage	copies	500	5	2,500
	Construction stage	copies	5,000	3	15,000
Organization of consultation meetings					28,800
Pre-construction stage (subject to PAPs, during 2 years)					16,800
	Meetings with PAPs in Hai An	time	24	100	2,400
	Meetings with PAPs in Ninh Tiep	time	24	100	2,400
	Meetings with PAPs in Dong Bai	time	24	500	12,000
Construction stage (during 2.5 years, to resolve complaints, etc.)					12,000
	Meetings with local residents	time	30	200	6,000
	Meetings with relocated PAPs	time	30	200	6,000
Grand total cost for information dissemination and public consultation (US\$)					53,800

Table 3.4-26 Estimated cost for implementation of HIV/AIDS Prevention Program

No.	Item	Unit	Unit price (1000VND)	Quantity 1	Quantity 2	Cost (1000VND)	Cost (USD)
Cost for Service Provider							
1	Personnel	lump				3,891,600	194,580
2	Office and equipment	lump				975,200	48,760
3	Taskforce Unit's activities	lump				1,251,200	62,560
4	Supports, capacity training, etc. for local health staff	lump				1,051,100	52,555
5	Information dissemination, public relations, public motivation, etc.	lump				2,415,000	120,750
6	Develop and strengthen referral mechanisms	lump				437,000	21,850
7	Increase the use and availability of condom	lump				166,336	8,317
8	Monitoring and reporting (making monthly reports)	month	2,300	3	12	82,800	4,140
9	Contingencies (15% of total cost)	lump		0		1,540,535	77,027
Sub-total (1)						11,810,771	590,539
Cost for General Consultant							
10	International supervisor (including air tickets, allowance, etc.)	MM	690,000	3	3	6,210,000	310,500
11	National supervisor	MM	69,000	3	6	1,242,000	62,100
12	Making quarterly reports	report	2,300	3	4	27,600	1,380
13	Conduct mid-term evaluation	lump	230,000	1	1	230,000	11,500
14	Conduct terminal evaluation	lump	345,000	1	1	345,000	17,250
15	Organize JCC meetings	time	11,500	3	4	138,000	6,900
Sub-total (2)						8,192,600	409,630
Grand total (= Sub-total 1 + Sub-total 2)						20,003,371	1,000,169

Table 3.4-27 Estimated cost for implementation of RAP

STT	Items	Unit	Quantity	Unit price (1000 VND)	Total (1000VND)	Total (USD)
1	Compensation for loss of land		899,171		58,833,960	2,941,698
1.1	Residential land	m2	28,936	700	20,255,200	1,012,760
1.2	Aquaculture land	m2	823,180	45	37,043,100	1,852,155
1.3	Salt production land	m2	44,755	32	1,432,160	71,608
1.4	Other lands	m2	2,300	45	103,500	5,175
2	Compensation for lost crops		868,038		13,782,938	689,147
2.1	Aquaculture produce	m2	823,180	15	12,347,700	617,385
2.2	Salt produce	m2	44,755	32	1,432,160	71,608
2.3	Corn produce	m2	103	30	3,078	154
3	Compensation for lost fruit trees		5,641		488,720	24,436
3.1	Fruit trees - category 1	cây	498	400	199,200	9,960
3.2	Fruit trees - category 2	cây	182	150	27,300	1,365
3.3	Banana	cây	3,373	40	134,920	6,746
3.4	Bamboo	cây	420	25	10,500	525
3.5	Wood	cây	1,168	100	116,800	5,840
4	Compensation for lost structures		49,972		35,996,800	1,799,840
4.1	House	m2	5,249	2,500	13,122,500	656,125
4.2	Ancillary structures	m2	2,255	700	1,578,500	78,925
4.3	Outdoor toilet	m2	120	500	60,000	3,000
4.4	Outdoor shower/bath	m2	206	800	164,800	8,240
4.5	Fishing hut or shed	m2	2,413	500	1,206,500	60,325
4.6	Others	m2	39,729	500	19,864,500	993,225
5	Compensation for relocation of graves				2,529,468	126,473
	Relocation of graves	ngôi	275	3,945	1,084,875	54,244
6	Relocation of public facilities	TT			10,000,000	500,000
7	Cost for construction / expansion of cemetery	TT			5,000,000	250,000
8	Construction of resettlement sites		79	200,000	15,800,000	790,000
9	Allowances (refer to Decisions 197, 84 and 69)				78,253,240	3,912,662
9.1	Relocation allowances	hộ	79	3,000	237,000	11,850
9.2	Life stabilization allowances (residential land)	hộ	79	8,000	632,000	31,600
9.3	Temporary resettlement allowance	hộ	79	5,000	395,000	19,750
9.4	Support for occupational change and job creation	m2	823,180	90	74,086,200	3,704,310
9.5	Life and produce stabilization allowances (cultivated land)	hộ	112	25,920	2,903,040	145,152
	<i>Sub total (1-9)</i>				220,685,126	11,034,256
10	Administration cost				4,413,703	220,685
	<i>Sub total (1-10)</i>				225,098,829	11,254,941
11	Contingency 10%				22,509,883	1,125,494
	Total				243,195,009	12,159,750

Source: Draft of the RAP Report prepared by MPU2, May 2010.

Table 3.4-28 Total estimated cost for environmental management and monitoring

Item	US\$	*1000VND	Yen loan portion (US\$)	Vietnam budget portion (*1000VND)
Socio-economic environment				
Land acquisition (including compensation, supports, resettlement, etc)	12,159,750	243,195,009		243,195,009
Baseline survey for further planning and monitoring of RAP	15,114	302,280	15,114	
Survey for mid-term evaluation of RAP implementation	18,288	365,760	18,288	
Implementation of livelihood restoration plan for PAP	2,000,000	40,000,000	2,000,000	
Implementation of monitoring of RAP implementation	122,813	2,456,256	122,813	
Public consultation and information dissemination	53,800	1,076,000	53,800	
Survey for terminal evaluation of RAP implementation	20,404	408,080	20,404	
Implementation of HIV/AIDS Prevention Program	1,000,169	20,003,371	1,000,169	
Natural environment				
Trainings for environmental management and supervision	25,000	500,000	25,000	
Implementation of Environmental Management Program	232,980	4,659,600	232,980	
Implementation of Environmental Monitoring Program				
Pre-construction phase (baseline survey)	7,278	7,278	7,278	
Construction phase	42,264	42,264	42,264	
Operation phase	8,734	8,734	8,734	
Total	15,706,594	314,131,878	3,546,844	243,195,009

Source: Preparatory Study Team, May 2010.

3.4.4 Environmental Checklist

Appendix 8 shows the Environmental Checklist for Tan Vu - Lach Huyen Highway Construction Project

4. NOTES ON THE PROJECT IMPLEMENTATION AND SUPERVISION

In order to implement the project smoothly, the following issues identified in this study should be noted:

(1) **Scope of Works of the Project**

There are several locations where the work demarcations should be timely determined as follows:

Table 4-1 Locations Where need Clear Work Demarcation Are Needed

No.	Location	Issues
1	Tan Vu Intersection	<ul style="list-style-type: none"> • The Tan Vu Interchange is planned to be developed through phase-wise construction. At-grade intersection is planned in the initial stage. • Work demarcation between the TV-LH Project and Hanoi - Hai Phong Expressway should be appropriately determined. • Right-of-Way (ROW) of the intersection should be promptly determined at the early stage of the detailed design.
2	Detour Road connecting to NH5	<ul style="list-style-type: none"> • Progress of the construction of Hanoi - Hai Phong Expressway should be officially monitored. • Widening and improvement works for the detour road connecting to NH5 should be designed and carried out once the delay of expressway opening is confirmed.
3	Dinh Vu Industrial Zone	<ul style="list-style-type: none"> • Reclamation works of the industrial zone (IZ) is progressing. • The ROW of the TV-LH Project should be timely determined at the early stage of the detailed design in order to avoid unnecessary conflict between two development activities. • Discharge routing of the storm water is especially a potential risk. Hence, the IZ drainage capacity should consider the discharge volume from the TV-LH Highway.
4	Ending Points	<ul style="list-style-type: none"> • End point of the TV-LH Highway is connecting to the Lach Huyen Port. This section of the highway should be re-aligned in the future in accordance with the port facility development. • This future re-alignment should be considered in the detailed design.

(2) **Implementation Program**

As described in Section 2.9.4, there are several "Delay Risks". Progress of the works and

related activities should be officially monitored and appropriate countermeasure should be taken to avoid or reduce further delay.

Anticipated measures for risks on delay are summarized in Table 4-2.

(3) **Construction Safety**

The construction site is located offshore and typhoon attacks the region almost every year. Very strong winds and high waves could damage the construction site, facilities and equipment. Special attention should be taken for the protection of the construction site from typhoons.

(4) **Operation and Maintenance (O&M)**

The TV-LH Highway is like an "Industrial Road" with busy freight transport between the industrial core in the northern economic focal region and the port. There will be huge traffic of heavy trucks.

Pavement surface conditions are very much effect to the transport speed, and as a result, it adversely affects the growth of the national economy. O&M quality should be seriously studied, and institutional and organizational preparation should be timely established.

In addition, the highway is hit by typhoons almost every year. Operation of the highway should closely cooperate with the meteorological center of the region.

(5) **New Construction Technology**

For this project to meet the requirements of 1) a very short construction period, and 2) offshore construction, new construction technologies are introduced as follows:

- Steel Pipe Well (SPW) method for offshore construction, and
- Span by Span (SBS) erection method of PC-BOX girder.

SPW method will be widely used in Vietnam because there are potentially many offshore constructions in Vietnam. SBS PC-BOX will be commonly used in the urban infrastructure project in the near future. For instance, elevated roads and railways will be soon required in the capital Hanoi and HCMC.

Transfer of technology should be paid to these new and advantageous technologies during both the design and construction stages.

Table 4-2 Anticipated Measures for Risks on Delay

No.	Kind of Risk on Delay	Potential Risks	Anticipated Measures
1	Design Works	<ul style="list-style-type: none"> • Delay of works. • Delay of approval by the client. • Lack of communications between the client and the consultant. 	<ul style="list-style-type: none"> • Select competent consultant. • Coordinate well with relevant stakeholders.
2	Land Acquisition	<ul style="list-style-type: none"> • Delay of preparation of land acquisition documents. • Delay of land acquisition by local authorities. 	<ul style="list-style-type: none"> • Monitor the progress of the land acquisition progress and review the progress periodically.
3	Procurements	<ul style="list-style-type: none"> • Delay of preparation of PQ documents. • Delay of approval of PQ documents. • Delay of preparation of tender documents. • Delay of approval of tender documents. • Delay of tender evaluation. • Delay of approval of tender evaluation. • Delay of contract negotiation. • Delay of approval of the contract. 	<ul style="list-style-type: none"> • Timely procure the supervision consultant. • Timely procure the contractors.
4	Construction Works	<ul style="list-style-type: none"> • Unfamiliar with the local culture and custom. • Not mobilizing the proper equipment, key personnel, and materials on site. • Unfamiliar with technical method. • Unfamiliar with FIDIC conditions of contract. • Unforeseeable natural disaster, i.e. typhoon. • Delay of possession of site. • Delay of clarification of the work demarcation (See Table 4-1) • Lack or delay of work coordination with neighboring works. 	<ul style="list-style-type: none"> • Select competent contractor(s). • Monitor and control the construction progress strictly.
5	Environmental Mitigation Actions	<ul style="list-style-type: none"> • Unfamiliar with environmental issues. • Lack of regular monitoring. 	<ul style="list-style-type: none"> • Prepare good Environmental Management Program (EMP) in detailed design phase. • Monitor and control the contractor's EMP execution strictly.

No.	Kind of Risk on Delay	Potential Risks	Anticipated Measures
6	Development of Hanoi-Hai Phong (HH) Expressway	<ul style="list-style-type: none"> • Delay of construction works. • Delay of work coordination between two projects. 	<ul style="list-style-type: none"> • Monitor the construction progress. • Prepare a contingency plan for delay of HH Expressway.
7	Establishment of O&M Organization	<ul style="list-style-type: none"> • Delay of preparation of O&M unit. • Delay of approval of O&M institutional arrangement for the project road. 	<ul style="list-style-type: none"> • Coordinate with DRVN/RRRMU2 for selection of O&M organization. • Prepare good O&M plan.
8	Contractual Arrangement between MOT and Private Sector	<ul style="list-style-type: none"> • Unclear condition of site hand-over to the private sector. • Unclear work demarcation between public and private. 	<ul style="list-style-type: none"> • Establish Lach Huyen port PPP conference for smooth coordination.

(6) Issues in Environmental and Social Consideration

Although the EIA report was approved on 27 May 2010, there are some items to be improved to meet the requirements of the JICA Environmental Guidelines.

Regarding the approval of the RAP report, however even after clearing all those requirements, it is not possible to be entirely optimistic on the successful and on schedule implementation of land acquisition and resettlement. As usual, this will be one of the most serious concerns for project implementation.

