## CHAPTER 14 PLANNING OF AIRSPACE USE

## CHAPTER 14 PLANNING OF AIRSPACE USE

## 14.1 GENERAL

The airspace use at the NBIA after completion of the Medium Term Development has been studied based on the facilities planned in Chapter 11. It is assumed in this study that the New Control Tower, ASR/SSR and a new VOR/DME to the Northwest of the existing runway become operational before the Medium Term Development. The results are described under the following headings:

- a) Terminal Control Area
- b) Instrument Approach Procedures

The proposed changes in the responsibilities of Aerodrome and Approach Controllers and in the dimensions of the Control Zone, all described in Section 9.3, are assumed to have been implemented when the ASR/SSR becomes operational (before the Medium Term Development).

## 14.2 TERMINAL CONTROL AREA

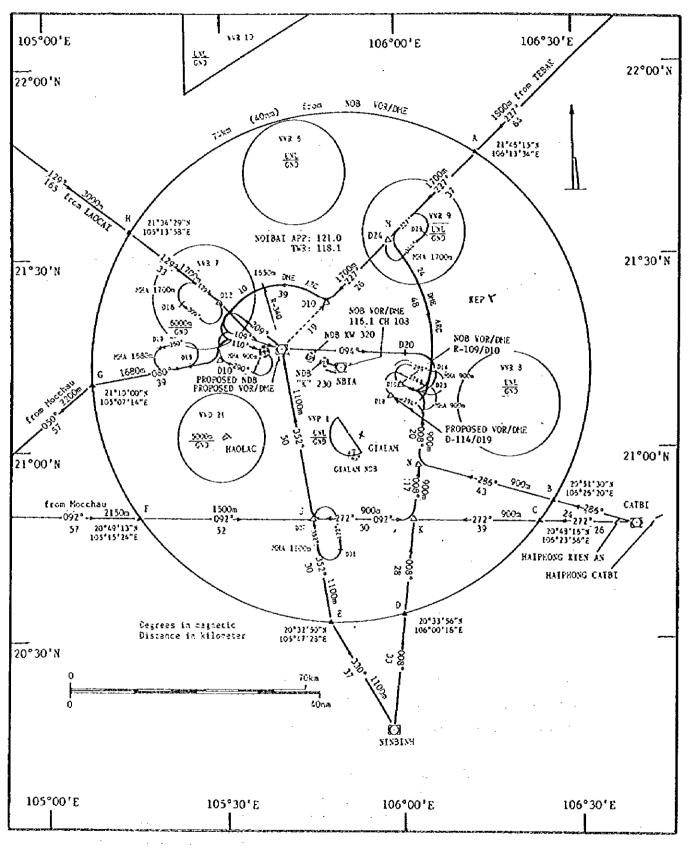
#### 1) Reconfiguration of Terminal Control Area

Taking into account the ASR/SSR coverage and the expeditious air traffic flow in this area, the airspace within a 74 km (40 NM) radius of NOB VOR/DME (21°16'34"N/105°37'18"E) has been configured as a terminal control area as shown in Figure 14.2.1.

#### 2) Development of STAR and SID

Subsequent to the commissioning of the Runway HR/29L to the south of the existing Runway HL/29R, Standard Terminal Arrival Routes (STAR) and a Standard Instrument Departure (SID) will be required. The STAR were developed as shown in Figure 14.2.1 and Table 14.2.1. The SID are shown in Figure 14.1.2 and Table 14.1.2. They were developed to avoid the overlapping with the restricted areas in the circumference of the NBIA, except the areas VVR7 and 9 and based on the following assumptions:

- a VOR/DME is located at 13.9 km (7.5 NM) NW of the threshold and on the extended center line of the existing Runway 11L;
- a NDB is located at 18.5 km (10 NM) NW of the threshold and on the extended center line of the new Runway 11R as a locator for ILS operations for Runway 11R;





## Runway 11 L/R From TEBAK From over point A, descend via "X" VOR/DME (proposed VOR/DME, 14 km / 7.5 NM NW of Runway 11 L threshold) R-047 to D10 of "X", then right turn to intercept and proceed via "X" 10 DME counter clockwise ARC to intercept and proceed : via "X" R-289 to "x" for Runway 11 L a) via 290 DEG from "Y" NDB (proposed NDB, 19 km / 10 NM NW of Runway 11 R b) threshold) to "Y" NDB. Cross Point A at or above 1,800 m, cross "x" R-340 on the ARC at or above 1,650 m, hold over "X" and "Y" at or above 900 m. From LAOCAL From over point H, descend via "X" VOR/DME R-309 to D12, then right turn to intercept and proceed : via 320 DEG from "Y" NDB, then to intercept and proceed via "X" R-289 to "X" for a) Runway 11 L. via 320 DEG from "Y" to "Y" NDB for Runway 11 R. b) Cross Point H at or above 3,000 m, cross "X" D-12 at or above 1,700 m, cross "X" and "Y" at or above 900 m. From MOCCHAU From over point G, descend via "X" VOR/DME R-260 to D10, then left turn to intercept and proceed via "X" 10 DME clockwise ARC to intercept and proceed. via "X" R-289 to "X" for Runway 11 L aì via 290 DEG from "Y" NDB to "Y" for Runway 11 R **b**) Cross Point G at or above 2,200 m, cross "X" D10 at or above 1,680 m, cross "X" and "Y" at or above 900 m. From NINBINH From over point E, descend via "X" VOR/DME R-172 to "X", then descend via "X" R-309 and left turn within 19 km (10 NM), then to intercept and proceed : via "X" R-289 to "X" for Runway 11 L a) via 290 DEG from "Y" NDB to "Y" for Runway 11 R. b) Cross Point E at or above 1,100 m, hold over "X" and "Y" at or above 900 m. From CATBI From over point C, descend via Catbi VOR/DME R-272 to point J, then right turn to intercept and proceed via "X" R-172 to "X", then descend via "X" R-309 and left turn within 19 km (10 NM) to intercept and proceed : via "X" R-289 to "X" for Runway 11 L a) via 290 DEG from "Y" NDB to "Y" NDB for Runway 11 R. b) Cross Points C and F and "X" VOR/DME at or above 1,100 m. Hold at "X" and "Y" at or above 900 m.

Table 14.2.1 Standard Terminal Arrival Routes for NBIA (Continued)

## Runway 29 R/L

From TEBAK

From over point A, descend via "X" VOR/DME R-047 to point D24 of "X", then left turn to intercept and proceed via "X" 24 DME clockwise ARC to intercept and proceed :

a) via NOB VOR/DME R-109 to D10 for Runway 29 L

b) via "X" VOR/DME R-114 to D19 for Runway 29 R

Cross Points A and M at or above 1,800 m and 1,600 m respectively, cross "X" R-114/D19 and NOB R-109/D10 at or above 900 m.

## From LAOCAI

From over point H, descend via "X" VOR/DME R-309 to "X", then left turn to intercept and proceed via "X" R-094, and right turn within 44 km (D24) and to intercept and proceed :

a) via NOB VOR/DME R-109 to D10 for Runway 29 R

b) via "X" R-114 to "X" D19 for Runway 29 L

Cross Point H at or above 3,000 m, cross "X" R-309 D12 at or above 1,700 m, cross "X" at or above 1,100 m.

Hold at NOB R-109/D10 and "X" R-114/D19 at or above 900 m.

## From MOCCHAU

From over point F, descend via Mocchau VOR/DME R-092/Catbi VOR/DME R-272 to point K, then left turn to intercept and proceed via Ninbinh VOR/DME R-008, then left turn to intercept and proceed :

a) via NOB VOR/DME R-109 to D10 and hold for Runway 29 R

b) via "X" R-114 to D19 and hold for Runway 29 L

Cross Points F, J and K at or above 2,150 m, 1,500 m and 900 m respectively . Hold at NOB R-109/D10 and "X" R-114/D19 at or above 900 m.

## From NINBINH

From over point D, descend via Ninbinh VOR/DME R-008 then left turn to intercept and proceed :

a) via NOB VOR/DME R-109 to D10 and hold at or above 900 m for Runway 29 L

b) via "X" R-114 to D19 and hold at or above 900 m for Runway 29R

Cross Point D at an assigned or specified altitude.

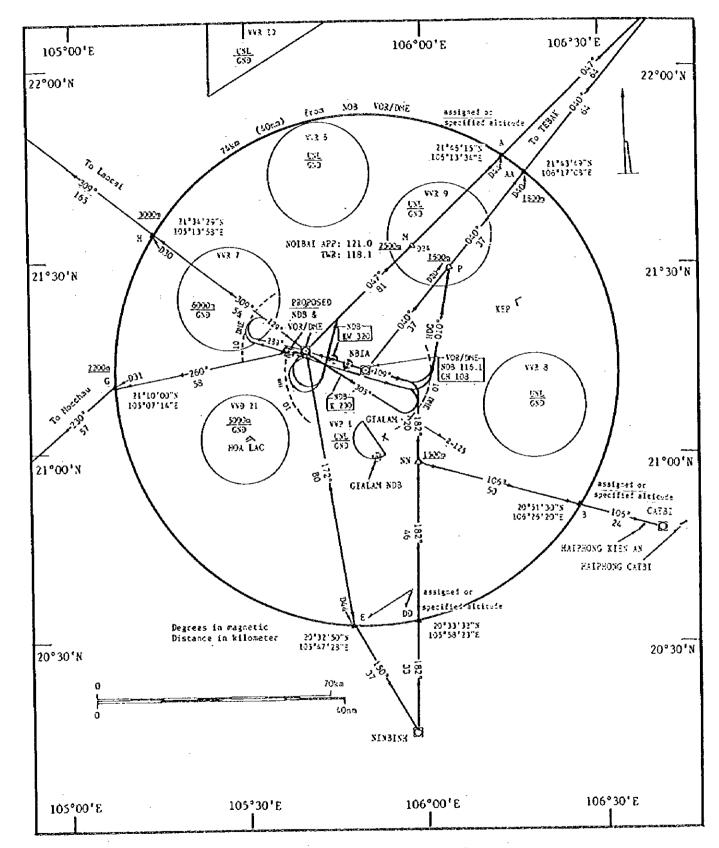
## From CATBI

From over point B, descend via Catbi VOR/DME R-286 to point N, then right turn to intercept and proceed via Ninbinh VOR/DME R-008, then left turn to intercept and proceed :

a) via NOB VOR/DME R-109 to D10 and hold at or above 900 m for Runway 29L

b) via "X" R-114 to D19 and hold at or above 900 m for Runway 29R

Cross points B and N at an assigned or specified altitude.





	ay ILL/R
	Climb runway heading to 800 m or above within 19 km (10 NM), then left turn, climb vi
	heading 010 DEG to intercept and proceed via NOB R-040 to TEBAK.
	Cross Points P and AA at or above 1,600 m and 1,800 m respectively.
Runw	ay 29 R/L
	Climb to "X" VOR/ DME to 600 m or above, then left turn within 9 km (5 NM), climb via
	"X" R-047 to point A. Cross Point M ("X" D24) at or above 2,500 m, cross point A at an assigned or specified altitude by ATC.
For L	ลอดสา
<u>Runw</u>	ay 11 L /R
	Climb runway heading to 800 m or above within 19 km (10 NM), then right turn to intercep and proceed via "X" R-125 to "X", then climb via "X" R-309 to point H.
	Cross "X" at or above 1,700 m, cross point H at or above 3,000 m.
_	
<u>Runw</u>	<u>av 29 R/L</u>
<u>Runw</u>	Climb to "X" to 600 m or above, then right turn, climb via "X" R-309 to point H.
For N	Climb to "X" to 600 m or above, then right turn, climb via "X" R-309 to point H. Cross "X" R-309 D12 at or above 1,700 m, cross point H at or above 3,000 m.
For N	Climb to "X" to 600 m or above, then right turn, climb via "X" R-309 to point H. Cross "X" R-309 D12 at or above 1,700 m, cross point H at or above 3,000 m. locchau
For N	Climb to "X" to 600 m or above, then right turn, climb via "X" R-309 to point H. <u>Cross "X" R-309 D12 at or above 1,700 m, cross point H at or above 3,000 m.</u> <u>locchau</u> <u>ny 11 L / R</u> Climb runway heading to 800 m or above within 19 km (10 NM), then right turn to intercept
For N	Climb to "X" to 600 m or above, then right turn, climb via "X" R-309 to point H. <u>Cross "X" R-309 D12 at or above 1,700 m, cross point H at or above 3,000 m.</u> <u>locchau</u> <u>ny 11 L / R</u> Climb runway heading to 800 m or above within 19 km (10 NM), then right turn to intercept
For N	Climb to "X" to 600 m or above, then right turn, climb via "X" R-309 to point H. Cross "X" R-309 D12 at or above 1,700 m, cross point H at or above 3,000 m. Iocchau ay 11 L / R Climb runway heading to 800 m or above within 19 km (10 NM), then right turn to intercept and proceed via "X" R-125 to "X", then left turn to intercept and proceed via "X" R-260 to
For M	Climb to "X" to 600 m or above, then right turn, climb via "X" R-309 to point H. Cross "X" R-309 D12 at or above 1,700 m, cross point H at or above 3,000 m. Iocchau ay 11 L / R Climb runway heading to 800 m or above within 19 km (10 NM), then right turn to intercept and proceed via "X" R-125 to "X", then left turn to intercept and proceed via "X" R-260 to Point G.
For M	Climb to "X" to 600 m or above, then right turn, climb via "X" R-309 to point H. Cross "X" R-309 D12 at or above 1,700 m, cross point H at or above 3,000 m. Iocchau ay 11 L / R Climb runway heading to 800 m or above within 19 km (10 NM), then right turn to intercept and proceed via "X" R-125 to "X", then left turn to intercept and proceed via "X" R-260 to Point G. Cross "X" VOR/DME at or above 1,900 m, cross Point G at or above 2,200 m.

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## For Ninbinh

## <u>Runway 11 L/R</u>

Climb runway heading to 800 m or above within 19 km (10 NM), then right turn to intercept and proceed via Ninbinh VOR/DME R-182 to point DD.

Cross Point NN at or above 1,500 m, cross point DD at an assigned or specified altitude.

## Runway 29 R/L

Climb to "X" VOR /DME to 600 m or above, then left turn within 9 km (5 NM), climb via "X" R-172 to point E.

Cross Point E at an assigned or specified altitude.

## For Catbi

## <u>Runway 11 L/ R</u>

Climb runway heading to 800 m or above within 19 km (10 NM), then right turn, climb via Ninbinh VOR/DME R-182 to point NN, then left turn proceed via Catbi VOR/DME R-106 to point B,

Cross Point NN at or above 1,500 m, cross point B at assigned or specified altitude.

#### <u>Runway 29 R /L</u>

Climb to "X" VOR/DME to 600 m or above, then left turn within 9 km (5 NM), climb via "X" R-109 until 35 km (19 NM) from "X", then right turn, climb via Ninbinh VOR/DME R-182 to

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point NN, then left turn proceed via Catbi VOR/DME R-106 to point B. Cross Point NN at or above 1,500 m, cross point B at assigned or specified altitude.

- c) NDBs at Catbi, Ninbinh, Macchau and Laocai are replaced with VOR/DMEs;
- the location of compulsory reporting point "TEBAK" (22°10'30"N/106°40'30"E) remains unchanged; and
- e) the width of the arrival and departure routes is 9.3 km (5 NM) on each side of the route.

#### 14.3 INSTRUMENT APPROACH PROCEDURES

The following instrument approach procedures were planned for the new runway 11R/29L:

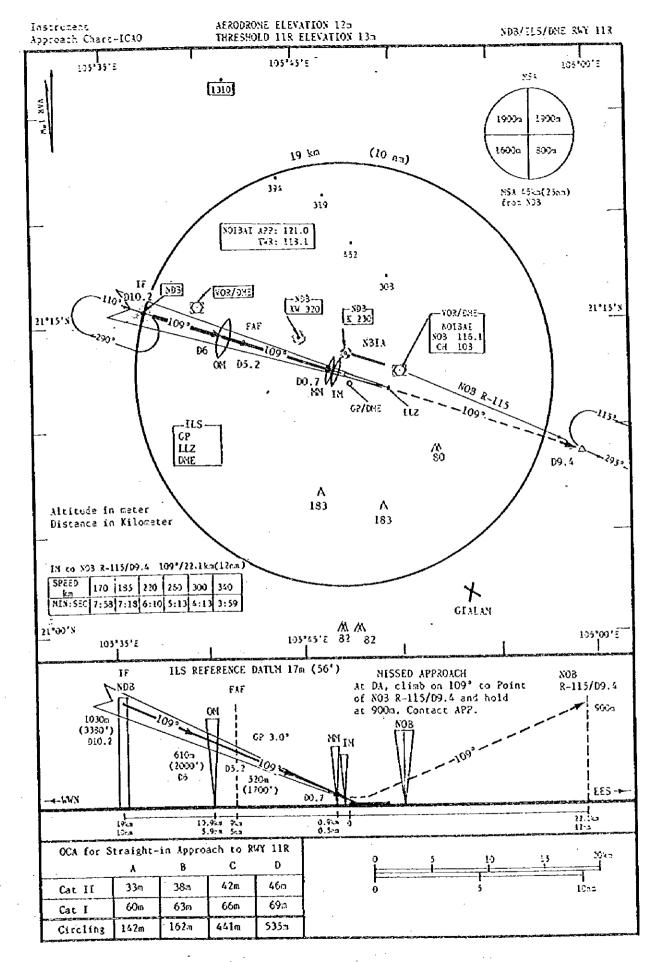
- a) NDB/ILS/DME RWY 11R (refer to Figure 14.3.1); and
- b) VOR/DME/NDB RWY 29L (refer to Figure 14.3.2).

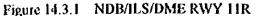
The ILS approach to Runway 11R was developed for the Category 11 operations, using the topographical maps with the scale of 1/50,000 produced in 1965 in Vietnam with the following assumptions:

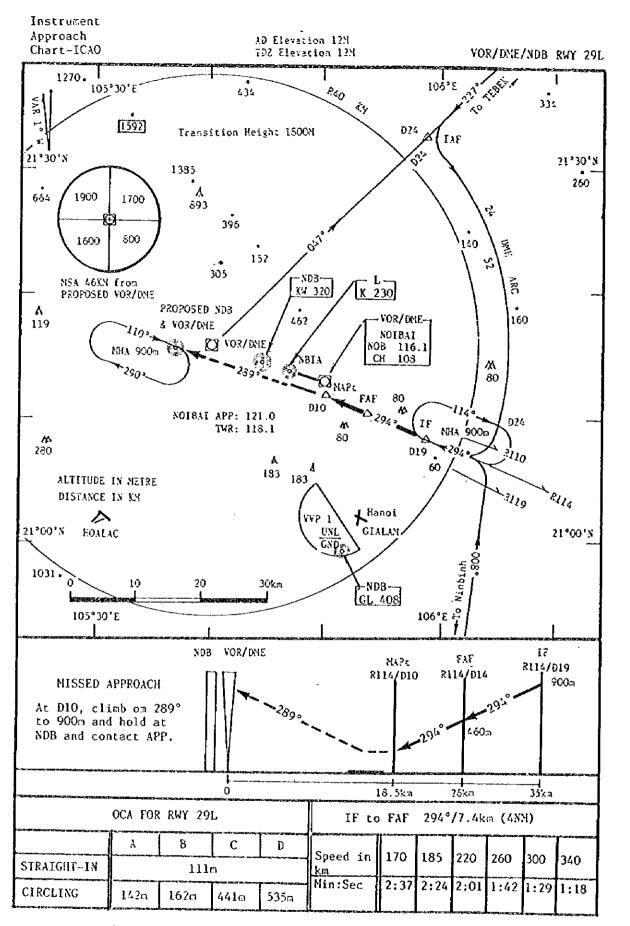
- a) the threshold elevation of Runway 11R is the same as Runway 11L (12.03m);
- b) glide path angle is 3.0 degrees;
- c) the orientation of the new runway is same as Runway 11L/29R (107°41′03″/287°41′03″);
- d) the ILS reference datum is 17 m (56 ft);
- e) runway slope is 0.028%;
- f) the distance between LLZ and threshold is 3,800 m; and
- g) the following parameters for the calculation of the obstacles in the Obstacle Assessment Surfaces (OAS) are used:

Surface	For Cat I	For Cat II
W	0.028500 x - 8.01	0.035800 x - 6.19
X	0.028636 x + 0.1888 y - 17.30	0.035823  x + 0.238300  y - 21.93
Y	0.024904 x + 0.218444 y - 22.37	0.032542 x + 0.28544 y - 21.93
Z	-0.02500 x - 22.5	-0.02500 x - 22.5

The existing instrument approach procedures: NDB/ILS RWY 11, ILS-DME RWY 11, VOR/DME RWY 29, VOR/DME RWY 11 and NDB RWY 11 will be applicable for the Runway 11L/29R.







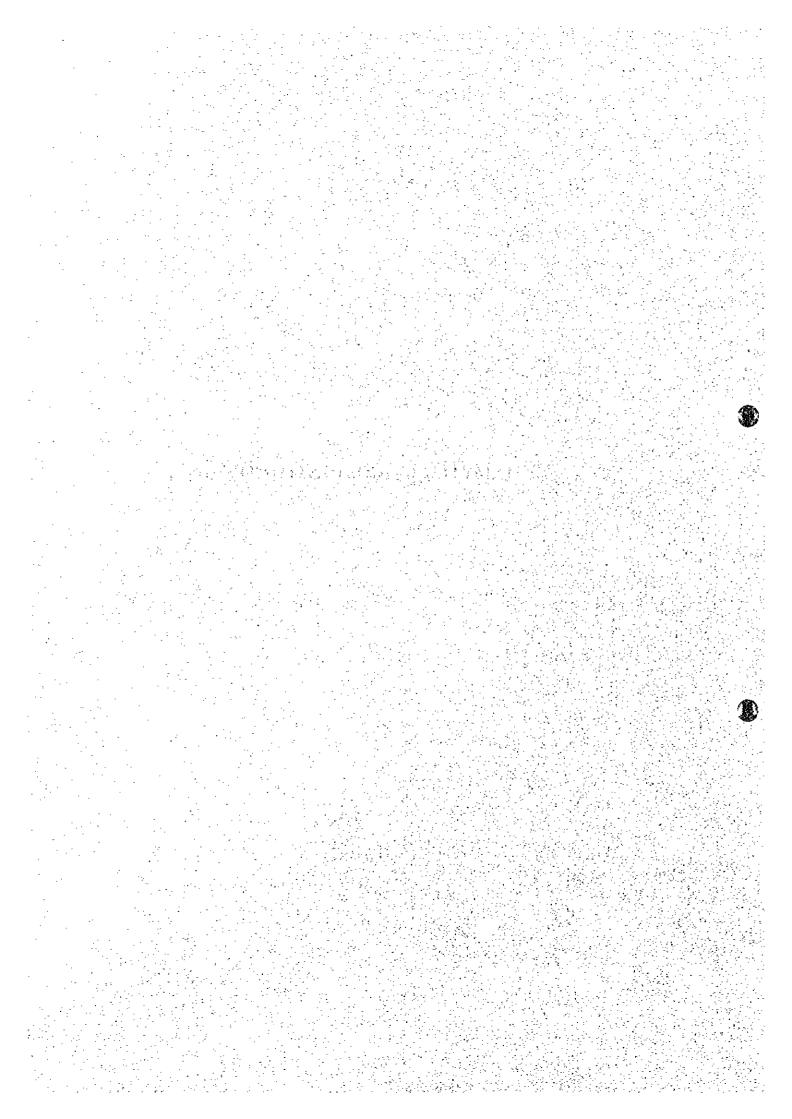
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Figure 14.3.2 VOR/DME/NDB RWY 29L

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# CHAPTER 15 COST ESTIMATES



## CHAPTER 15 COST ESTIMATES

## 15.1 GENERAL

This chapter provides cost estimates for the Medium Term Development Plan under the following headings.

- a) Estimates of Project Costs
- b) Estimates of Environmental Conservation Costs
- c) Estimates of Operation and Maintenance Costs

## 15.2 ESTIMATES OF PROJECT COSTS

Project costs are summarized in the Table 15.2.1 and were developed based on the following conditions:

- a) construction costs were estimated based on the 1995 prices for works of international standard quality;
- b) exchange rates were fixed at US\$ 1.00 = VND 11,000 = ¥ 100;
- c) price escalation was not included;
- d) cost for engineering services was estimated to be about 10% of the construction cost; and
- e) contingencies were estimated to be about 10% of the total cost.

## 15.3 ESTIMATES OF ENVIRONMENTAL CONSERVATION COSTS

Costs of environmental conservation measures (such as environmental monitoring; subsidies for land use control and soundproofing works around the NBIA, etc.) directly related to the Project were estimated to be in the order of US\$ 12 million.

Itan	Lecal	Foreign	Total
Construction Cost	81,210,000	269,840,000	351,050,000
Diversion & Relocation	1,250,000	3,230,000	4,480,000
Diversion of Noi Bai Canal	140,000	330,000	470,000
Diversion of Irrigation Channel	280,000	660,000	940,000
Diversion of Power Transmission Line	10,000	240,000	250,000
Diversion of Telephone Line	10,000	110,000	120,00
Diversion of National Road No. 2	810,000	1,890,000	2,700,00
Airport Civil Works	50,550,000	124,590,000	175,140,00
Earthworks & Drainage	8,280,000	31,670,000	39,950,00
Runway, Taxiway and Apron	27,090,000	63,220,000	90,310,00
Roads & Car Park	2,650,000	21,480,000	24,130,00
Miscellancous Works	12,530,000	8,220,000	20,750,00
Building Works	25,770,000	59,440,000	85,210,00
New Passenger Terminal Building	21,010,000	49,030,000	70,040,00
Renovation of Passenger Terminal Building	800,000	1,200,000	2,000,00
New Cargo Terminal Building	2,580,000	6,030,000	8,610,00
Other Buildings	1,380,000	3,180,000	4,560,00
Special Equipment	310,000	12,080,000	12,390,00
Airport Utilities	1,070,000	17,630,000	18,700,00
Fuel Supply System	1,750,000	33,250,000	35,000,00
Fire Fighting Vehicles	0	1,800,000	1,800,00
Airport Maintenance Equipment	0	630,000	630,00
Air Navigation System	510,000	17,190,000	17,700,00
Land Acquisition & Compensation	25,920,000	0	25,920,00
Consultancy Services	3,510,000	31,600,000	35,110,00
Contingency	10,860,000	30,060,000	40,920,00
Total Cost	121,500,000	331,500,000	453,000,00

## Table 15.2.1 Summary of Project Costs (US\$)

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### 15.4 ESTIMATE OF OPERATION AND MAINTENANCE COSTS

The operation and maintenance costs consist of a) maintenance costs, b) personnel costs, overhead and other labor costs and c) utilities costs. They are respectively estimated as follows:

## 15.4.1 Maintenance Costs

The implementation of the Project will require additional cost to maintain expanded and upgraded facilities. The cost is estimated by multiplying the construction cost by percentage rates, which differs from facility to facility. The details of the estimation method is described in Appendix 15.4.1.

## 15.4.2 Personnel Costs, Overhead and Other Labor Costs

It has been recommended in Section 13.6 that the number of staff at Noi Bai Airport should be reduced to correct the current overstaffed situation. It has been estimated that the adequate level of staff number as of 1995 is 433 instead of actual 856. On the other hand, the number of staff to manage, operate and maintain the airport will increase as the airport becomes larger. In consideration of the above two factors, the number of staff is estimated based on the reference staff number of 433 in 1995 and the staff growth rate, which is assumed to be the growth rate of air traffic less the rate of productivity improvement of the airport staff. It is also assumed that the reat personnel related costs (salaries, bonuses, pensions and insurance) per staff will increase at the same rate as the growth rate of GDP per capita in Vietnam while labor productivity will improve at the same rate. The overhead and other labor costs are estimated by using percentage rates obtained from the financial statements of the NAR.

The detailed description on the estimation of personnel costs, overhead and other labor costs are shown in Appendix 15.4.2. It is noted that only the incremental costs required for expended facilities and improved functions attribute to the Project. Therefore, the cost required for operations of existing facilities (including the T1 Terminal) has been excluded from the project cost.

#### 15.4.3 Utilities Costs

The utilities costs consisting of electricity charges and fuel costs are estimated by multiplying the anticipated consumption by a unit rate of charge as shown in Appendix 15.4.3. For the same reason mentioned in the previous section, the utilities cost required for operations of existing facilities has been excluded from the project costs.

The operation and maintenance costs are estimated as a total of the above three categories of the costs. The estimate up to the year 2025 is shown in Table 15.4.1.

	Maintenance	Personnel,	Utilities	5\$ '000 in 1995 Price
Year				Total
ecal	Costs	Overhead and	Costs	Operation and
		Other Labor Costs		Maintenance Cost
2006	5,418	169	446	6,033
2007	5,418	358	446	6,222
2008	5,418	572	446	6,436
2009	5,418	810	446	6,674
2010	5,418	1,147	446	7,011
2011	5,418	1,435	446	7,299
2012	5,418	1,749	446	7,614
2013	5,418	2,097	446	7,961
2014	5,418	2,210	446	8,074
2015	5,418	2,327	446	8,191
2016	5,418	2,445	446	8,309
2017	5,418	2,567	446	8,431
2018	5,418	2,697	446	8,561
2019	5,418	2,832	446	8,696
2020	5,418	2,975	446	8,840
2021	5,418	3,123	446	8,987
2022	5,418	3,280	446	9,144
2023	5,418	3,445	446	9,309
2024	5,418	3,619	446	9,483
2025	5,418	3,802	446	9,666

## Table 15.4.1 Estimate of Operation and Maintenance Costs

Note: Additional costs required for expended facilities and upgraded functions only.

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# CHAPTER 16 FINANCIAL AND ECONOMIC ANALYSES

## CHAPTER 16 FINANCIAL AND ECONOMIC ANALYSES

## 16.1 FINANCIAL ANALYSES AND EVALUATION

## 16.1.1 General

This section provides a detailed financial analysis of the medium-term development plan for Noi Bai International Airport, which is supposed to be implemented after the completion of the T1 Project. The financial internal rate of returns (FIRR) is firstly estimated, and then detailed analyses are carried out based on income statements (profit and loss account) and fund statements (cash flow forecast). The sensitivity analysis is also undertaken to show the scale of financial risks involved in the Project.

## 16.1.2 "Without Project" (WOP) Case and "With Project" (WP) Case

Since the medium-term development plan is as additional investment plan after the T1 Project, its financial (as well as economic) returns are incremental revenues generated through the expansion of airport capacity. The evaluation of the medium-term development plan should, therefore, be made by comparing revenues and costs between the following two cases:

- With Project (WP) Case:	The medium-term development plan will be implemented and airport capacity will be increased to 10.6 mppa <sup>1</sup> (million passengers per annum), which is the maximum allowable capacity of the medium-term development plan.
• Without Project (WOP) Case:	No investments will be made after the T1 Project, and thus airport capacity will remain at the maximum of the T1 Project, i.e., 5.5 mppa <sup>2</sup> .

The number of passengers, volume of cargo and aircraft movements in the both cases, as well as those incremental values made possible by the Project, are shown in Appendices 16.1.1, 16.1.2 and 16.1.3.

#### 16.1.3 General Assumptions

The same general assumptions established in Section 9.7.3 apply to the analysis in this section.

<sup>&</sup>lt;sup>1</sup> The maximum allowable capacity of the medium-term development plan is estimated as about 120% of the design capacity based on the suggestion from the IATA's standard on level of service (LOS).

<sup>&</sup>lt;sup>2</sup> Refer to Section 9.7.2.

## 16.1.4 Costs of the Project

The costs of the Project will include: 1) construction costs, 2) operation and maintenance costs and 3) the cost for environmental mitigation measures. They have been estimated in Sections 15.2, 15.4 and 15.3 respectively. The annual construction cost and other additional costs are shown in Appendices 16.1.4, 16.1.5 and 16.1.6.

## 16.1.5 Revenues of the Project

The sources of airport revenues and the levels of charges have been described in Section 9.7.5. Those rates, which have been determined in that section from international comparisons, are summarized in Table 16.1.1.

The anticipated incremental revenues from those charges are shown in Appendices 16.1.7 through 16.1.10.

## 16.1.6 Financial Evaluation

#### 1) Financial Internal Rate of Returns (FIRR)

The costs and revenues which will incrementally be incurred by implementing the Project are tabulated in Table 16.1.2. The financial internal rate of returns (FIRR) is calculated as 3.1%. The result is significantly lower than the FIRR of 4.9%, which has been estimated for the combined case of the medium- and long-term development plans in Section 9.7.6. The reason for the lower FIRR in the medium-term development is that it requires large investments for the construction of a new runway and taxiways, land acquisition and compensation, etc. while the main scope of the long-term development plan will be the expansion of terminal capacity only.

The result suggests that the Project is unfeasible at commercial interest rates, which are normally 7-8%. The injection of state subsidies and/or the use of low interest loans are, therefore, indispensable for the implementation of the Project.

### 2) Income Statements and Fund Statements

Income and fund statements are produced to show how the Project can actually be financed, and to determine whether the Project can produce enough revenues to cover interest on loans and their principal repayment.

Airport Charges	Ra		Remarks
Landing Charge for International Flights	JJ (350 tons)	US\$2,075	
(per landing)	LJ (220 tons)	US\$1,225	No change from
	MJ (140 tons)	US\$ <b>\$</b> 25	the present
	SJ (60 tons)	US\$210	rates
	TP (20 tons)	US\$65	4
Landing Charge for Domestic Flights	JJ (350 tons)	US <b>\$1,</b> 038	
(per landing)	LJ (220 tons)	US <b>\$</b> 613	
	MJ (140 tons)	US\$213	
	SJ (60 tons)	US\$105	
	TP (20 tons)	US\$33	
Parking Charge for International Flights	JJ (350 tons)	US <b>\$1,</b> 330	
(per parking of first 8-12 hours)	LJ (220 tons)	US\$760	No change from
	MJ (140 tons)	US\$532	the present
	SJ (60 tons)	US\$228	rates
· · · · · · · · · · · · · · · · · · ·	TP (20 tons)	US\$76	
Parking Charge for Domestic Flights	JJ (350 tons)	US\$665	1
(per parking of first 8-12 hours)	LJ (220 tons)	US\$380	
	MJ (140 tons)	US <b>\$2</b> 66	
	SJ (60 tons)	US <b>\$</b> 114	
	TP (20 tons)	US\$38	
International Passenger Service Charge	US	\$12	70% up
(per departure)			
Domestic Passenger Service Charge	VND	30,000	100% up
(per departure)			
Equipment Rental in International Passenger Terminal	US	50.8	
(per departing and arriving passenger)			Newly
Equipment Rental in Domestic Passenger Terminal	US	<b>50.2</b>	introduced
(per departing and arriving passenger)			
Car Parking Charge		10,000	100% up
(per entry)			F
Concession Revenue from International Passenger Terminal	US	52.0	
(per departing and arriving passenger)*			Newly
Concession Revenue from Domestic Passenger Terminal	US	\$0.2	introduced
(per departing and arriving passenger)*			
Space Rental in International Passenger Terminal	US\$25		20% up
(per month per sq.m)			201009
Space Rental in Domestic Passenger Terminal	US\$12.5		
(per month per sq.m)	UU#24.J		
Space Rental in International Cargo Terminal	US\$15		
(per month per sq.m)	C146U		Newly
Space Rental in Domestic Cargo Terminal	US\$7.5		introduced
(per month per sq.m)	ļ	······································	
Advertisement Revenue from Int'l Passenger Terminal	110	\$5.0	20% up
(per month per sq.m)**		•	2070 00
Advertisement Revenue from Domestic Passenger Terminal	LIC	\$2.5	
(per month per sq.m)**	<sup>08:</sup>	\$4.J	
Fuci Surcharge	1100	n.015	Newly
(per liter)	033	0.015	introduced
	<u> </u>		

## Table 16.1.1 Projected Airport Charges

Note\*: For revenue calculation purpose only. Actual rates of concession fees are usually set at various percentage rates of turnover depending on the type of business. Note\*\*: For revenue calculation purpose only. Actual rates of advertising fee are determined depending on

the type, size and location of advertisements.

Development Plan
Medium-term
I Revenues -
of Costs and
Comparison
Table 16.1.2

Tat         Care         Matter         Procession         Control         Con																		11111 1120 1VVV	Unit: USS '000 at 1995 Price
Cons.         Mante, Mante         Provensi, Provensi, Cons.         Curs.         Cons.         Cons. <thcons.< th="">         Cons.         Cons.</thcons.<>				റ്റ	xts							Reven	LCS.						
Increase         Cost	Year	Correct-	Mainte-	Personnel,	Utilities	Environ.		Landing			Terminal	Conce-	يد لا	Passenger	Cargo	Adver-	Fuel	Total	Operating
Optimize         Construct of the sector		ruction	nance	Overhoad	Č C	Mitigation	Cost	Charges		_	Squipment			Terminal	Terminal	bsement	Surcharge	Revenue	Profits
0         C0         C0 <thc0< th="">         C0         C0         C0<th></th><th>S S</th><th>Cost</th><th>&amp; Other</th><th></th><th>Cost</th><th></th><th></th><th></th><th>·-+</th><th>Charge</th><th>┨</th><th>Charge</th><th>Rent</th><th>Rent</th><th></th><th></th><th></th><th></th></thc0<>		S S	Cost	& Other		Cost				·-+	Charge	┨	Charge	Rent	Rent				
1.4.56     1.4.56     1.4.56     1.4.56     1.4.56       11.37238     11.3738     11.373     11.373     11.373       11.37238     11.3738     11.373     11.373     11.373       11.37238     11.3738     11.373     11.373     11.373       11.37238     11.373     11.373     11.373     11.373       11.37238     11.373     11.373     11.373     11.373       11.37238     11.373     11.373     11.373     11.373       11.37238     11.373     11.373     11.373     11.373     11.373       11.37238     11.373     11.373     11.373     11.373     11.373       11.37238     11.373     11.373     11.373     11.373     11.373       11.3238     11.317     11.373     11.373     11.373     11.373       11.3238     11.317     11.31     11.317     11.31     11.313       11.3248     11.317     11.317     11.317     11.317     11.313       11.328     11.317     11.317     11.317     11.317     11.317       11.328     11.317     11.317     11.317     11.317     11.317     11.317       11.328     11.317     11.3176     11.3176     11.317		Ê	ຍ	શ	(4)	છ	(5)+ +()+(4)	9	(8)	6)	(10)	(11)	(12)	60	(14)	(15)		(17)-(7)(16)	(18)-(17) - (6)
1.476     1.476     1.460       1.276     1.336     1.460       1.2776     1.336       1.2776     1.336       1.2776     1.336       1.2776     1.376       1.2776     1.376       1.2776     1.377       1.2776     1.376       1.2776     1.377       1.2776     1.376       1.2776     1.377       1.2776     1.377       1.376     1.376       1.376     1.376       1.376     1.378       1.376     1.378       1.36609     6678       2.418     1.66	1995							•											
1,4,56     1,4,50     1,4,50     1,4,50     1,4,50       1,2,58     1,2,73     1,2,73     1,2,73     1,2,73       1,1,7,28     1,1,7,28     1,1,73     1,1,73     1,1,73       1,1,7,28     1,1,7,28     1,1,73     1,1,73     1,1,1       1,1,7,28     1,1,7,38     1,1,1     1,1,1     1,1,1       1,1,7,28     1,1,1     1,1,1     1,1,1     1,1,1     1,1,1       1,1,7,28     1,1,1     1,1,1     1,1,1     1,1,1     1,1,1       1,1,1,2,38     1,1,1     1,1,1     1,1,1     1,1,1     1,1,1       1,1,1,2,38     1,1,1     1,1,1     1,1,1     1,1,1     1,1,1       1,1,1,2,38     1,1,1     1,1,1     1,1,1     1,1,1     1,1,1       1,1,1,2,38     1,1,1     1,1,1     1,1,1     1,1,1     1,1,1       1,1,1,2,38     1,1,1     1,1,1     1,1,1     1,1,1     1,1,1       1,1,1,2,38     1,1,1     1,1,1     1,1,1     1,1,1     1,1,1       1,1,1,2,38     1,1,1     1,1,1     1,1,1     1,1,1     1,1,1       1,1,1,2,38     1,1,1     1,1,1     1,1,1     1,1,1     1,1,1       1,1,1,2,38     1,1,1     1,1,1     1,1,1     1,1,1	1996								•		-								
11.3.16         11.3.36 <t< td=""><td>1997</td><td>1.426</td><td></td><td></td><td></td><td></td><td>1 426</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>YUV IT</td></t<>	1997	1.426					1 426												YUV IT
T.2000         T.2000 <tht.2000< th=""> <tht.2000< th=""> <tht.2000< td="" th<=""><td>0000</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>•</td><td></td><td>-</td><td></td><td></td><td></td><td></td><td>0.44.1-</td></tht.2000<></tht.2000<></tht.2000<>	0000											•		-					0.44.1-
ZZ001         ZZ01         ZZ01 <thz01< th="">         ZZ01         <thz01< th="">         ZZ</thz01<></thz01<>	XAAT	13,330					13,336				_								-13,336
5.735         5.735         5.515 <th< td=""><td>666</td><td>166,22</td><td></td><td></td><td></td><td></td><td>16672</td><td></td><td></td><td>-</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-22,991</td></th<>	666	166,22					16672			-									-22,991
11,772         11,776         11,776         11,773         11,771<	2000	5,555					5,555					_							-5.555
Triame         Triame<	2001	15.776					15.776												14 776
11/12/2016         11/12/2	0000	ł	-																
116,0204         111,020         111,020 <th< td=""><td></td><td>1 (</td><td></td><td></td><td></td><td></td><td>27511</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-77.328</td></th<>		1 (					27511												-77.328
116.658         116.658         116.658         115.658         115.658         115.658         115.658         115.658         115.658         115.658         115.658         115.658         115.658         115.658         115.658         115.658         115.658         115.658         115.658         115.658         115.658         115.7         110         125.7         110         125.7         110         256         125.7         110         256         125.8         115.8         259.4         111.9         266         111.9         266         111.9         266         111.9         266         111.9         250.4         111.9         250.4         111.9         250.7         135.8         130.6         135.7         130.6         135.7         130.6         135.7         130.6         135.7         130.6 <th1< td=""><td>5007</td><td>115.234</td><td></td><td></td><td></td><td></td><td>115,234</td><td></td><td></td><td>•</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-115,234</td></th1<>	5007	115.234					115,234			•									-115,234
G-5,508         54.18         10         64.568         1.113         50         1.215         110         976         6,500           386         5,418         378         446         240         6,609         1.113         80         1.215         110         976         6,500           5,418         377         446         240         5,531         1,501         1,503         1,733         1,501         1,733         1,503         1,733         1,503         1,733         1,503         1,733         1,503         1,733         1,503         1,733         1,503         1,733         1,503         1,733         1,503         1,733         1,503         1,733         1,10         2,503         1,733         1,10         2,503         1,733         1,10         2,503         1,733         1,10         2,503         1,743         5,504         2,505         1,11         2,503         1,11         2,503         1,11         2,503         1,11         2,503         1,11         2,503         1,11         2,503         1,11         2,503         1,11         2,503         1,11         2,503         1,11         2,503         1,11         2,503         1,11         2,503         1,11<	5001	136,689					136,689		_			•••••							-136,689
386       5418       169       446       240       11.35       20       1.35       210       1215       110       976       6.890         5418       373       446       240       530       733       1091       377       110       1215       110       1201       173         5418       1319       446       240       506       5305       3305       733       1205       1215       110       1306       1215       110       3906       23.403         5418       1414       446       733       1001       1574       4501       1138       25.44       411       390       1215       110       3906       23.403         5418       1739       446       7.391       11301       1201       1201       1201       1201       110       3906       23.403       1147       890       1215       110       3906       23.403       1147       890       1215       110       1	2005	64,568					64,568												-64,568
5,418       358       446       240       168       3,32a       478       1,008       387       899       1,215       110       19,53       11,950         5,418       873       1,46       240       6,504       5,329       733       1,301       668       399       1,215       110       2,930       77,473       1         5,418       1,46       240       6,504       5,863       300       1,561       3,564       1,366       399       1,215       110       2,930       7,343       1,475         5,418       1,465       7,501       1,501       2,497       1,861       3,564       1,345       899       1,215       110       2,300       7,445       3,535       3,535       3,535       3,548       3,548       3,541       1,347       899       1,215       110       5,314       2,356       2,306       3,446       7,561       1,345       899       1,345       899       1,447       7,855       3,548       3,548       2,548       4,578       3,548       2,546       4,785       3,548       2,546       4,785       3,548       2,546       4,785       3,548       4,785       3,548       4,785       3,548	2006	386	\$14.8		4		6,659	1.135	80	1,583	228	480	185	668	1,215	110	976	6,890	231
5,418       372       446       240       5,438       1,591       6.68       5,509       1,315       110       2,900       17,475       1         5,418       1,453       446       7.209       9,046       619       11,705       1,341       899       1,215       110       5,306       2,349         5,418       1,453       446       7.209       9,646       619       11,705       1,347       899       1,215       110       5,316       2,346         5,418       1,790       446       7.209       9,646       619       11,705       1,347       899       1,215       110       5,318       7,347       3         5,5418       2,170       446       7,561       1,297       879       1,511       2,342       4,979       1,862       899       1,215       110       6,284       7,855       3       3,596       2       3,596       2       3,596       2       3,596       2       3,596       2       3,596       2       3,596       2       2,597       10,591       1,597       3,596       2       3,596       2       3,596       2       3,596       2       3,596       2       3,596       <	2007		5,418		446		6,462	2,409	168	3,324	478	1,008	387	899	1.215	110	1.953	11.950	5.488
5,418       1,13       1,13       1,10       3,50       7,343       1,053       2,221       849       1,215       1,10       3,506       23,459         5,418       1,173       446       7,529       9,046       619       1,356       2,354       1,356       1,356       1,356       1,356       23,456       3,556       1,356       23,656       1,356       23,656       23,656       23,556       23,656       23,556       23,656       23,556       23,656       23,556 <td>2008</td> <td></td> <td>5,418</td> <td></td> <td>446</td> <td></td> <td>6,676</td> <td>3,863</td> <td>268</td> <td>5,239</td> <td>753</td> <td>1,591</td> <td>608</td> <td>\$68</td> <td>1215</td> <td>110</td> <td>2.930</td> <td>17.475</td> <td>10.799</td>	2008		5,418		446		6,676	3,863	268	5,239	753	1,591	608	\$68	1215	110	2.930	17.475	10.799
5.418       1.147       446       7.240       5.640       1.364       1.365       1.315       110       5.819       3.066         5.418       1.735       446       7.249       3.046       511       1.356       1.367       3.564       1.367       3.556       3.5566       3.5556       3.5566       3.5556       3.5566       3.5556       3.5556       3.5566       3.5556       3.5566       3.5556       3.5566       3.5556       3.5566       3.5566       3.5566       3.5556       3.5556       3.5556       3.5566       3.5556       3.5566       3.	2009		5,418		446		6.914	5.506	380	7343	1.055	2.231	849	839	1.215	011	3.906	23,494	16.580
5418       1.453       446       7.299       9,046       619       11,703       1,681       3,546       1,345       879       1,215       110       5,354       33,536         5418       1,790       446       7,014       10910       741       13916       1,999       4,203       1,301       1,364       9,311       2,342       4,979       1,801       8,819       4,1,447         5418       2,307       446       8,014       12,973       879       16,311       2,342       4,979       1,802       899       1,215       110       6,234       4,7355         5418       2,307       446       8,301       1,2973       879       16,311       2,342       4,979       1,802       899       1,215       110       6,234       47,855         5418       2,446       8,501       12,973       879       1,511       2,342       4,979       1,802       899       1,215       110       6,234       47,855         5418       2,457       446       8,501       1,2973       879       1,511       2,342       4,979       1,862       899       1,215       110       6,234       47,855         5,418       2,4	2010		5,418		446		7,251	7,360	505	9.640	1,386	2.934	1.113	808	1.215	110	4 889	30.061	22.810
5.418       1,749       446       7.614       10.910       747       11.3916       1.999       4.203       1.862       899       1.215       110       5.819       41,447         5.418       2.007       446       8.091       1.2073       879       16.311       2.342       4.979       1.862       899       1.215       110       6.284       4.7855         5.418       2.3721       446       8.309       1.2973       879       16.311       2.342       4.979       1.862       899       1.215       110       6.284       4.7855         5.418       2.367       446       8.309       12.973       879       16.311       2.342       4.979       1.862       899       1.215       110       6.284       4.7855         5.418       2.567       446       8.366       12.973       879       16.311       2.342       4.979       1.862       899       1.215       110       6.284       4.7855         5.418       3.129       446       8.366       12.973       879       16.311       2.342       4.979       1.862       899       1.215       110       6.284       47.855         5.418       3.1297	2011		5,418		446		7.299	9.046	619	11.703.	1.681	3.564	1.345)	668	1.215	110	5.354	35,536	28.237
S.418       2.007       446       7.961       12.973       879       16.311       2.342       4.979       1.862       899       1.215       110       6.234       47.355         5.418       2.300       446       8.074       12.973       879       16.311       2.342       4.979       1.862       899       1.215       110       6.234       47.855         5.418       2.367       446       8.309       12.973       879       16.311       2.342       4.979       1.862       899       1.215       110       6.234       47.855         5.418       2.567       446       8.501       12.973       879       16.311       2.342       4.979       1.862       899       1.215       110       6.234       47.855         5.418       2.567       446       8.561       12.973       879       16.311       2.342       4.979       1.862       899       1.215       110       6.234       47.855         5.418       2.3123       446       8.561       12.973       879       16.311       2.342       4.979       1.862       899       1.215       110       6.234       47.855         5.418       2.3123       <	2012		5,418		446		7,614	016'01	743	13,916	1,999	4.243	1,594	668	1.215	110	5.819	41.447	33,834
5.418       2.3.10       446       8.074       1.2.973       879       16.311       2.3.42       4.979       1.862       839       1.215       110       6.284       47,855         5.418       2.3475       446       8.309       1.2.311       2.3.42       4.979       1.862       839       1.215       110       6.284       47,855         5.418       2.567       446       8.306       1.2.973       879       16.311       2.3.42       4.979       1.862       839       1.215       110       6.284       47,855         5.418       2.567       446       8.561       12.973       879       16.311       2.3.42       4.979       1.862       839       1.215       110       6.284       47,855         5.418       2.567       446       8.561       12.973       879       16.311       2.3.42       4.979       1.862       839       1.215       110       6.284       47,855         5.418       2.325       446       8.546       12.973       879       16.311       2.3.42       4.979       1.862       839       1.215       110       6.284       47,855         5.418       3.418       3.457       1.862 <td>2013</td> <td></td> <td>5.418</td> <td></td> <td>446</td> <td></td> <td>7,961</td> <td>12,973</td> <td>879</td> <td>16,311</td> <td>2,342</td> <td>4.979</td> <td>1,862</td> <td><u>68</u></td> <td>1,215</td> <td>110</td> <td>6.284</td> <td>47,855</td> <td>39,894</td>	2013		5.418		446		7,961	12,973	879	16,311	2,342	4.979	1,862	<u>68</u>	1,215	110	6.284	47,855	39,894
5418       2.327       446       8.191       12.973       879       16,311       2.342       4.979       1.862       899       1.215       110       6.2384       4.7855         5,418       2.446       8.300       12.973       879       16,311       2.342       4.979       1.862       899       1.215       110       6.2384       4.7,855         5,418       2.567       446       8.501       12.973       879       16,311       2.342       4.979       1.862       899       1.215       110       6.2384       4.7,855         5,418       2.875       446       8.601       12.973       879       16,311       2.342       4.979       1.862       899       1.215       110       6.2384       47,855         5,418       2.875       446       8.980       12.973       879       16,311       2.342       4.979       1.862       899       1.215       110       6.2384       47,855         5,418       3.446       8.987       12.973       879       16,311       2.342       4.979       1.862       899       1.215       110       6.284       47,855         5,418       3.446       8.987       16,311 <td>2014</td> <td></td> <td>5,418</td> <td></td> <td>146</td> <td>-</td> <td>8,074</td> <td>12.973</td> <td>879</td> <td>16,311</td> <td>2,342</td> <td>4.979</td> <td>1,862</td> <td>663</td> <td>1,215</td> <td>110</td> <td>6,284</td> <td>47,855</td> <td>39,781</td>	2014		5,418		146	-	8,074	12.973	879	16,311	2,342	4.979	1,862	663	1,215	110	6,284	47,855	39,781
5,418       2,445       446       8,309       12,973       879       16,511       2,342       4,979       1,862       899       1,215       110       6,284       47,855         5,418       2,567       446       8,461       12,973       879       16,511       2,342       4,979       1,862       899       1,215       110       6,284       47,855         5,418       2,567       446       8,561       12,973       879       16,311       2,342       4,979       1,862       899       1,215       110       6,284       47,855         5,418       2,697       1,2677       879       16,311       2,342       4,979       1,862       899       1,215       110       6,284       47,855         5,418       2,697       4,46       8,6311       2,342       4,979       1,862       899       1,215       110       6,284       47,855         5,418       2,073       479       1,862       899       1,215       110       6,284       47,855         5,418       3,425       446       9,36311       2,342       4,979       1,862       899       1,215       110       6,284       47,855	2015		5,418		446		8,191	12,973	879	16,311	2,342	4,979	1,862	663	1,215	011	6,284	47,855	39,663
5,418       2,567       446       8,431       12,973       879       16,311       2,342       4,979       1,862       899       1,215       110       6,284       47,855         5,418       2,607       446       8,561       12,973       879       16,311       2,342       4,979       1,862       899       1,215       110       6,284       47,855         5,418       2,872       446       8,560       12,973       879       16,311       2,342       4,979       1,862       899       1,215       110       6,284       47,855         5,418       2,873       16,311       2,342       4,979       1,862       899       1,215       110       6,284       47,855         5,418       3,1123       446       9,146       1,2973       879       16,311       2,342       4,979       1,862       899       1,215       110       6,284       47,855         5,418       3,118       3,123       446       9,309       1,215       110       6,284       47,855         5,418       3,445       9,496       1,3621       2,342       4,979       1,862       899       1,215       110       6,284       47,855     <	2016		5,418		44		8,309	12,973	879	16,311	2,342	4,979	1,862	668	1,215	110	6.284	47,855	39,546
5.418       2.697       446       8,561       12.973       879       16.311       2.342       4.979       1,862       899       1.215       110       6.284       47,855         5.418       2.872       446       8,861       12.973       879       16,311       2.342       4,979       1,862       899       1,215       110       6.284       47,855         5.418       2.873       446       8,896       12.973       879       16,311       2.342       4,979       1,862       899       1,215       110       6.284       47,855         5.418       3.123       446       9,144       12.973       879       16,311       2.342       4,979       1,862       899       1,215       110       6.284       47,855         5.418       3.123       446       9,144       12.973       879       16,311       2.342       4,979       1,862       899       1,215       110       6.284       47,855         5.418       3.445       9,309       12.973       879       16,311       2.342       4,979       1,862       899       1,215       110       6.284       47,855         5.418       3,649       9,309       <	2017		5,418		4		8,431	12,973	\$13	16,311	2,342	4,979	1,862	668	1,215	110	6,284	47,855	39,424
5.418       2.822       446       8.696       12.973       879       16,511       2.342       4,979       1,862       899       1,215       110       6.284       47,855         5.418       3.122       446       8,840       12.973       879       16,511       2.342       4,979       1,862       899       1,215       110       6.284       47,855         5.418       3.122       446       8,840       12.973       879       16,511       2.342       4,979       1,862       899       1,215       110       6.284       47,855         5.418       3.445       9,144       12.973       879       16,511       2.342       4,979       1,862       899       1,215       110       6.284       47,855         5.418       3.445       9,309       12.05       110       6.284       47,855       47,855         5.418       3.446       9,309       12.15       110       6.284       47,855         5.418       3.450       1,862       899       1,215       110       6.284       47,855         5.418       3.619       446       9,309       1,515       110       6.284       47,855 <t< td=""><td>1018</td><td></td><td>5,418</td><td></td><td>944</td><td></td><td>8,561</td><td>12,973</td><td>\$79</td><td>16,311</td><td>2,342</td><td>4,979</td><td>1,862</td><td>668</td><td>1215</td><td>110</td><td>6,284</td><td>47,855</td><td>39,293</td></t<>	1018		5,418		944		8,561	12,973	\$79	16,311	2,342	4,979	1,862	668	1215	110	6,284	47,855	39,293
5418       2.075       446       8,840       12.977       879       16.311       2.342       4.979       1,862       809       1,215       110       6.284       47,855       3         5,418       3.123       446       8,987       12.973       879       16.311       2.342       4.979       1,862       809       1,215       110       6.284       47,855       3         5,418       3.123       446       9,144       12.973       879       16.311       2.342       4.979       1,862       899       1,215       110       6.284       47,855       3         5,5418       3.445       9,466       9,309       12.973       879       16,311       2.342       4,979       1,862       899       1,215       110       6.284       47,855       3         5,5418       3.619       446       9,309       12.973       879       16,311       2.342       4,979       1,862       899       1,215       110       6,284       47,855       3         5,5418       3.619       446       9,483       12.973       879       16,311       2.342       4,979       1,862       899       1,215       110       6,284	2019		5,41%		4		8,696	12,973	61%	16,311	2,342	4,979	1,862	668	1,215	110	6,284	47,855	39,159
5,418       3.123       446       8,987       12.973       879       16,311       2.342       4,979       1,862       899       1,215       110       6,284       47,855       3         5,418       3.280       446       9,144       12,973       879       16,311       2.342       4,979       1,862       899       1,215       110       6,284       47,855       3         5,418       3.445       9,144       12,973       879       16,311       2.342       4,979       1,862       899       1,215       110       6,284       47,855       3         5,5418       3.619       446       9,309       12,973       879       16,311       2,342       4,979       1,862       899       1,215       110       6,284       47,855       3         5,5418       3.619       446       9,483       12,973       879       16,311       2,342       4,979       1,862       899       1,215       110       6,284       47,855       3         5,418       3,619       446       9,483       12,973       879       16,311       2,342       4,979       1,862       899       1,215       110       6,284       47,855	2020		5,418		446		8,840	12,973	879	16,311	2,342	4,979	1,862	668	1,215	110	6,284	47,855	39,015
5,418       3.280       446       9,144       12,973       879       16,311       2,342       4,979       1,862       899       1,215       110       6,284       47,855       3         5,5418       3,445       9,309       12,973       879       16,311       2,342       4,979       1,862       899       1,215       110       6,284       47,855       3         5,5418       3,619       446       9,483       12,973       879       16,311       2,342       4,979       1,862       899       1,215       110       6,284       47,855       3       3         -86,783       5,418       3,619       446       9,483       12,973       879       16,311       2,342       4,979       1,862       899       1,215       110       6,284       47,855       3         -86,783       5,418       3,802       446       9,983       1,215       110       6,284       47,855       3         -86,783       5,418       3,802       1,862       879       1,215       110       6,284       47,855       3         -86,783       5,418       3,802       1,6,311       2,342       4,979       1,862       899	2021		5,418		446		8,987	12,973	879	16,311	2,342	4,979	1,862	668	1,215	110	6,284	47,855	38,867
5.418       3.445       9.309       12.973       879       16.311       2.342       4.979       1,862       899       1,215       110       6.284       47.855       3         -86,783       5.418       3.619       446       9.483       12.973       879       16,311       2.342       4.979       1,862       899       1,215       110       6.284       47.855       3         -86,783       5.418       3.602       446       9.483       12.973       879       16,311       2.342       4.979       1,862       899       1,215       110       6.284       47.855       3         -86,783       5.418       3.802       446       2.9473       879       16,311       2.342       4.979       1,862       899       1,215       110       6.284       47.855       3         780       4.573       879       16,311       2.342       4.979       1,862       899       1,215       110       6.284       47.855       12         780       4.573       879       1,862       899       1,215       110       6.284       47.855       12         86,783       5,418       3,602       1,862       879	2022		5,418		4		9,144	12,973	64.8	16,311	2,342	67.6,4	1,862	663	1,215	110	6,284	47,855	38,711
-86,783     5.418     3.619     446     9,483     12,973     879     16,311     2.342     4,979     1,862     899     1,215     110     6,284     47,855     3       -86,783     5,418     3,802     446     9,483     12,973     879     16,311     2,342     4,979     1,862     899     1,215     110     6,284     47,855     12       710     6,284     -77,117     12,973     879     16,311     2,342     4,979     1,862     899     1,215     110     6,284     47,855     12       710     8,021     2,973     879     16,311     2,342     4,979     1,862     899     1,215     110     6,284     47,855     12       710     8,791     12,973     879     16,311     2,342     4,979     1,862     899     1,215     110     6,284     47,855     12       FIDR       NPV (at 2% discount rate)     6	2023	-	5,418	3,445	446		9,309.	12,973	628	16,311	2,342	4,979	1,862	668	1,215	110	6.284	47.855	38.545
-86,783     5,418     3,802     446     -77,117     12,973     879     1,862     899     1,215     110     6,284     47,855     12       FIDR     RPR     RPR     879     16,311     2,342     4,979     1,862     899     1,215     110     6,284     47,855     12       RIDR     RPR     RPR     879     16,311     2,342     4,979     1,862     899     1,215     110     6,284     47,855     12       RIDR     RPV     (at 2% discount rate)     6     879     1,215     110     6,284     47,855     6       NPV (at 2% discount rate)     -11     1,862     8,904     1,215     110     6,284     47,855     6	2024		5,418	3,619	446		9,483	12,973	879	16,311	2,342	4.979	1,862	668	1,215	110	6.284	47.855	38.371
, 11 8	2025	-86,783	5,418	3,802	446		-77.117	12,977	64.8	16,311	2,342	4,979	1,862	899	1,215	110	6,284	47,855	124,072
9 T																			
a		-		•													NUCK		3.1%
						-											NPV (at 2%	discount rate)	63,813
											•					-	NPV (at 8%	discount rate)	-110,308

It is necessary to assume certain financing conditions for the preparation of income and fund statements. As clarified in the previous section, the state subsidies and/or soft loans are indispensable for the implementation of the Project. It is reasonable to assume following conditions as a Base Case of the present financial examination.

- A state subsidy is used to finance 15% of the total construction cost.
- A soft loan with an interest rate of 2.3% per annum and a repayment period of 20 years, after 10 year grace period, will be used to finance 85% of the total construction cost. These borrowing terms are equivalent to those for Japan's OECF loans presently available to Vietnam.
- Short-term loans with an interest rate of 6% per annum and a repayment period of one year will be used as working capital to finance deficits in cash flows.

Income and fund statements based on the above financing conditions are shown in Tables 16.1.3 and 16.1.4 respectively. The major findings from those statements are as follows:

- The income statement shows that the accumulated current profit will become positive in 2017, i.e., 12 years after inauguration of the medium-term development plan.
- The fund statement indicates net cash flow will be positive (there will be surplus cash) in 2011, 6 years after inauguration of the medium-term development plan.
- The fund statement also indicates that the accumulated net cash inflow (accumulated surplus cash) will exceed the outstanding balance of the soft loan in 2023, 18 years after inauguration of the medium-term development plan, meaning that the soft loan can be cleared in that year.
- The level of working capital required is very large. It will reach US\$27 million in 2007, which is 2.3 times operating revenues or 5.0 times operating profit in that year. This means that the financial position of the Project will be critical in the early years of operation.
- The cover ratio<sup>3</sup>, which indicates the security of soft loan financing from the lender's point of view, is 1.56. This value is in the lowest range of the normal requirement of 1.5-2.0.

3 Accumulative net cash flow cover ratio (AC-NC CR) is used in the present analysis. It is defined as: AC-NC CR= (Accumulated Operating Profit - Accumulated Short-term lean Interest Payments) / (Soft Loan Principal + Accumulated Soft Loan Interest Payments).

The cover ratio of 1.0 means that the project will generate revenues just enough to pay operating cost, interest and principal repayment of the soft loan, and short-term loan interest.

Case
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16,1.3
Table 1

Short-term Loan: Interest Repart	Interest Rate- Repayment Period-	5	20 yean (after grace p 10 yean Working Capital (for defici financing) 0 % per annun 1 year	2.3% per annum 20 years (after grace period) 10 years ofer deficit financing) 6% per annum 1 year	riod)			
	Constanto 1	()merahara	( merinno (	Dementio	Inferent Parment	ument	Unit: USS '00	Unit: USS '000 at 1995 Prices Turrent Accumulated
Year	Revenue	Cost	Profit	ation	Soft	Short Loan	Profit	Current Profit
	(1)	0	(3)-(1)-(2)	(4)	(;)	9	{ 7 }=(3)-(4)-(2)-(4)	(X)
8								
1997								
§§								
80				-				
2001					<b>**</b> • •			
2002					1 676		774	1 575
2002					1004	94		70X 5
2005					1.369	354		-13.617
2006	6,890	6,273	617	15,869	8,854	817	-24,923	-38, 539
2007	11,950	6,462	5,488	15,869	8,863	1,360		-59,143
2008	17,475	6,676	10,799	15,869	8,863	1,644	•	-74,720
5 <u>6</u> 2	13° 494	6,914	16,580	15,869	8,863	1,627		-84,499
2010	190'06	7,251	22,410	15, 469	8,863	1,261		-K7,6K3
201	35,536	1,299	28,237	15,809	8, 863	200		-84.67
2012	41,447	7,614	33,834	15,869	8,863		9,102	-75,576
	00014	10.1	100 00	102°C1	074'8		cno <sup>i</sup> cr	
502	47,835	8,0/4 X 191	39, /61	15 860	515.7		10091	050 H
2016	47,855	8,309	39.546	15,869	0.60.7		10,587	-11,188
2017	47,855	8,431	39,424	15,869	6.647		16,908	5,720
2018	47,855	8,561	39,293	15,869	6,204		11721	94012
2019	47,855	\$,696	39,159	15,869	5,761		17,529	40,469
	CVX'2+	K, X401	39,015	15,X69	5.3181		17,828	5X 297
	47,855	8,987	198,867		4,875		014 NZ	82,744
	4/,500	541 X	35,711				24.7.55	101,477
	47,855	505.6	44C 26	945.6	386.5		25,011	132,488
į	47 255	2220	1661 32	975 O	501 E		262,022	302 2X1
2026	47,855	9.666	38,189	9.546	2,659		25.984	209.292
2027	47,855	9,066	38,189	9,546	2,216		26,427	235,718
202K	47, ×55	9,066	34,189	9,546	1,773		26,870	262,588
2029	47,855	9,666	38,189	9.546	1.329		212 22	2X9-901
0							5-1-5-1-4 5-1-5-1-4	

	Soft Loan: Interest Rate =		of the Total	Kin of the Total Contruction Cost 2.3% per annun	Cont	,	- X	Interest Rate = 6% p Kepayment Period= 1 y	pou	6% permit	6% per annum 1 year						
	Kepayment Ferron-	- 14	3 5	10 Ventra	(annual annu										Cruit	Unit: (/5\$ '000 in 1095 Prices	1095 Prices
			Cash Inflow						Cash Chifflow	time				Net	Accumu		Short-term
Year	Omenation	State	Borrowing	Buw	Total	Operature	[TILE PRIME	¥۲	Investment	10Tf	Deht Repayment	a yman?	Tenal	Cash	lated	Loan	5
3	Rowmue	Budget	LON LON	Short-term		ž		Short-term	State	มงร		Short-term		wogui	Net Cash	Outriten-	Outstan-
			5	HWY			un de la compañía de	цяу.	Budget		500	to the second		1971010-1917		Xian	5 5
	3	(3)	Ð	9		9	E	1	5			Т					
9661									1 426				1.426				
1991		1,420	-		1.1.1.1				20.00				35.36				
1970					100				100 11				166'22				
Ş					***				\$ 555				5,555				
1002		15.776			15.776				15.776				15,776		•. •		
		298.3	AN 461		X2X.17				8, 467	68,461			71.02%		_	6K,461	
				27.5 1	-		575			115,234			116,809			183,695	1,575
							200	04		136.689		1.575	142.583	_		120,344	5 B)
			2010-1				001.5	154		64 55X		10%	X			3X4 952	11,617
			301 <del>0</del> 0		L	a	XXX	×17		92		210.01	29,946			ACC. 2XF	22,670
000	0.00		004			5 465	LVX X	1,360				22 670	30.136			365,358	27,405
						4.57A	L KYX	644			-	27.405	44,588			NEC. CMC	11.12
	104			1.01		6,914		62.7		-		21,113	44,117			80,0380	21,023
				XLLX		1.2.1		261				21,023	36, 38			385,338	×
	35,576				35.55	8, 1		005				XCC"8	25,000	10,536	10,536	365,338	
2012	447				41,447	7.614					19.267		743	5,704	16,240	306.071	
	47,855				47,855		X,420				19,267		15,647	102 21	144 X	1012 Lot	
	47,X5				47,855		7,976				19:201		11. 01	100	242 CA	026 906	
10 2014	47.875				47.85		11.52			Ť	142.41			001 01	910 47	140 00V	
	47,255				47 X55	So x	060'1			-	101.41		200.00	11,510	N0.546	269.757	
	47.83				× × 14		17000				10.267		14.032	122	24.368	250,470	
X102 111	47,X55				100.14	102.0	1.46 4	_	-		19261		33,724		108,499		
		_			1005 F		XI			-	19.267		13, 424		122,970		
	11111				47.855		4.875				19,267	-	531,65	14.726	137,656		
					47,855		4.431				19,267		258.02		132,668	17, 402	
	47.X.1				47,855		3,988				19,267		32,564		167.958	154,135	
	47.KS				47,855		3,545				19,267		562 21	15,5%	183.517		
	1 X 1 Y				47,844		102	_			10,767		120 21		100 312		
	27.85				47,855		2,659				19261		31,592		000'012	1.1.1	
101	47 N.5				47,855		2216				19:267		671.14		22,2300		
	5-3X-2-5				47,855		1.773				19,267		00/ 01				
24 2020	47,855				47,855						19261		017 01	36C371	140 YAL	-	
	47,815				47 X 4	0.000	SXX XXX				10.4.2	Ī	10.00		122 202		
	47,845				47.855						192.61		6/ A				
												-	Court vero				1.56

Table 16.1.4 Fund Statement - Medium-term Development Plan: Base Case

8

## 3) Sensitivity Test

The sensitivity test provides information on how the feasibility of the Project will be affected by possible changes in air traffic levels, construction costs, rates of interest, etc.

The IRR approach can analyzes financial returns of the Project against the slower growth of air traffic and the rise in construction cost as follows:

Case	FIRR	Table or Appendix No. to be Referred
Base Case	3.1%	Table 16.1.2
Low Forecast of Air Traffic <sup>4</sup> (approximately down by 35%)	2.0%	Appendix 16.1.11
Construction Cost up by 20%	2.0%	Appendix 16.1.12

 Table 16.1.5
 Sensitivity Teat - IRR Approach

The already-low FIRR of the Project will further worsen if air traffic grows in line with the low forecast or if the construction cost is 20% higher than estimated. The corresponding analyses with income and fund statements are indicated in Table 16.1.6.

<sup>&</sup>lt;sup>4</sup> It is assumed that the implementation schedule of the Project will be delayed by 3 years in consideration of longer usability of the T1 Terminal. The operation of the medium-term development plan will start in 2009 in stead of 2006 in this case.

Case	Accumulated Current Profit turns to Positive	Net Cash Inflow becomes Positive	Accumulated Net Cash Inflow Greater than Soft Loan Outstanding	Maximum Short-term Loan Require- ments	Cover Ratio	Table or Appendix No. to be Referred
Base Case s=15% i = 2.3% RP=20 years GP=10 years i'=6.0%	After 12 years of operation	After 6 years of operation	After 18 years of operation	US\$27 miltion	1.56	Tables 16.1.5 and 16.1.6
Low Forecast of Air Traffic (approximately down by 35%)	17 years	12 years	21 years	US\$33 million	1,35	Appendices 16.1.13 and 16.1.14
Construction Cost up by 20%	17 years	8 years	21 years	US\$36 million	1.29	Appendices 16.1.15 and 16.1.16

Table 16.1.6 Sensitivity Test - Lower Air Traffic Growth and Higher Construction Cost

Note: s: Percentage of cost financed by the state subsidy

i: Interest rate of soft loan

RP: Repayment period of soft loan (after grace period)

GP: Grace period of soft loan

i': Interest rate of working capital (one year repayment period)

In these cases, all the financial indicators will worsen, as anticipated. The cover ratio will fall below the normal requirement of 1.5-2.0. It is preferable that more of state subsidies will be used to safeguard a possible slowdown in air traffic growth or a unexpected rise in construction cost.

The income and fund statements are also useful for examining the financial sensitivity of the Project against changes in financing conditions. The following table summarizes key financial indicators if the interest rate, repayment period or grace period of the soft loan are changed, or the interest rate of working capital is increased.

Table 16.1.7	Sensitivity Tes	st - More Stringent	Financing	Conditions
				0.0110101010

Case	Accumulated Current Profit turns to Positive	Net Cash Inflow bccomes Positive	Accumulated Net Cash Inflow Greater than Soft Loan Outstanding	Maximum Short-term Loan Require- ments	Cover Ratio	Table or Appendix No. to be Referred
Base Case s=15% i = 2.3% RP=20 years GP=10 years i'=6.0%	After 12 years of operation	After 6 years of operation	After 18 years of operation	US\$27 million	1.56	Tables 16.1.5 and 16.1.6
Case 1A Higher Soft Loan Interest Rate i=3.0%	15 years	9 years	20 years	US <b>\$41</b> million	1.42	Appendices 16.1.17 and 16.1.18
Case 1B Shorter Repayment Period RP=15 years	12 years	8 years	18 years	US\$27 million	1.26	Appendices 16.1.19 and 16.1.20
Case 1C Shorter Grace Period GP=5 years	13 years	15 years	18 years	US <b>\$</b> 93 million	1.23	Appendices 16.1.21 and 16.1.22
Case 2 Higher Short-term Loan Interest Rate i'=9.0%	12 years	6 years	18 years	US\$29 million	1.55	Appendices 16.1.23 and 16.1.24

Note: s: Percentage of cost financed by the state subsidy

i: Interest rate of soft loan

RP: Repayment period of soft loan (after grace period)

GP: Grace period of soft loan

i': Interest rate of working capital (one year repayment period)

In the above table, the Cases 1A, 1B and 1C show the influence of more stringent borrowing conditions for the soft loan on the financial feasibility of the Project. The financial indicators will worsen significantly in all of these cases. Especially, the case of a shorter grace period (Case 1C) will lead to very high short-term loan requirements for working capital.

On the other hand, in the case of a higher interest rate of short-term loans (Case 2), the financial indicators are not much worse than those of the Base Case.

These results means that a successful implementation of the Project will require generous terms for the soft loan such as those assumed as the Base Case of the present analysis.

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## 16.2 ECONOMIC ANALYSES AND EVALUATION

## 16.2.1 General

This section evaluates the economic viability of the medium-term development plan, as a separate analysis from the combined evaluation of the medium- and long-term development plans in Section 9.8. The economic returns of the Project are calculated in terms of the economic internal rate of returns (EIRR) for the Base Case, and then the sensitivity tests are carried out to show the effects of slower air traffic growth and increased construction cost on the EIRR of the Project.

## 16.2.2 Methodology and General Assumptions

The methodology of the analysis and the associated general assumptions established in Sections 9.8.2 and 9.8.3 apply to the analysis in this section.

#### 16.2.3 Economic Costs of the Project '

The costs of the Project, consisting of: 1) construction costs, 2) operation and maintenance costs and 3) the cost for environmental mitigation measures, estimated in Sections 15.2, 15.4 and 15.3, are converted into economic prices for the analysis. The detailed estimates are shown in Appendices 16.2.1, 16.2.2 and 16.2.3

### 16.2.4 Economic Benefits of the Project

The following benefits are quantified as economic returns from the Project. (Refer to Section 9.8.5 for detailed explanations and to respective appendices numbers (in the parentheses below) for estimate details)

Ð	Time saving benefit to business passengers on international r	outes
-	(A)	ppendices 16.2.4 and 16.2.5)
2)	Time saving benefit to business passengers on domestic route	2S
-	(A)	ppendices 16.2.6 and 16.2.7)
3)	Benefit from increased tourist passengers on international rou	
-	(A)	ppendices 16.2.8 and 16.2.9)
4)	Benefit from increased tourist passengers on domestic routes	
-	(A)	ppendices 16.2.10 and 16.2.11)
5)	Benefit from increased cargo	
-	(A)	ppendices 16.2.12 and 16.2.13)

## 16.2.5 Economic Evaluation

## 1) Economic Internal Rate of Returns (EIRR)

The economic cost and benefits which will be incrementally incurred by implementing the Project are compared in Table 16.2.1 on the next page. The economic internal rate of returns (EIRR) is estimated as 19.5%.

The value is slightly lower than the EIRR for the combined case of the medium- and long-term development plans (21.3%) in Section 9.8.6; however, much higher than the opportunity cost of capital of 12%. The Project is, therefore, expected to produce economic returns to the national economy great enough to justify its implementation.

## 2) Sensitivity Test

The sensitivity test of the economic analysis is undertaken to evaluate how the EIRR varies against the slower growth of air traffic and the rise in construction cost. The estimated EIRRs of the respective cases appear in Table 16.2.2.

Case	EIRR	Table or Appendix No. to be Referred
Base Case	19.5%	Table 16.2.1
Low Forecast of Air Traffic <sup>5</sup> (approximately down by 35%)	17.0%	Appendix 16.2.14
Construction Cost up by 20%	17.6%	Appendix 16.2.15

 Table 16.2.2
 Sensitivity Teat - Economic Analysis

These results indicate that the feasibility of the Project is sound even when air traffic grows in line with the low forecast or the construction cost is 20% higher than estimated, meaning that the Project will be of clear benefits for the Vietnamese economy.

 $<sup>^{5}</sup>$  It is assumed that the implementation schedule of the Project will be delayed by 3 years in consideration of longer usability of the T1 Terminal. The operation of the medium-term development plan will start in 2009 in stead of 2006 in this case.

Type Serving Type Serving (Normany)         Tensional Service Submersion (Normany)         Demetical Service (Normany)         Demetical Service (Norma				ů	đđ								Benefits			:			
Original         Description         Description <thdescription< th=""> <thdescription< th=""> <t< th=""><th>;</th><th></th><th>Increased</th><th>Increased</th><th></th><th>Environ-</th><th></th><th>_</th><th></th><th></th><th>Time Savings</th><th>Increased</th><th>Increased</th><th>Increased</th><th>Increased</th><th>Benefits</th><th>Benefits</th><th></th><th>:</th></t<></thdescription<></thdescription<>	;		Increased	Increased		Environ-		_			Time Savings	Increased	Increased	Increased	Increased	Benefits	Benefits		:
Corr         Constrained and constrained belowers         Counter (constrained belowers)         Counter (constrained belowe	1 CARL	Const-	Maurice	Personnel. Overhead	Undity	mental Mittigation		by VNamese Buances		by VNamere Bueineus	Buarreas	Vietnamere	from Foreign	Surplue to Viotnamone	Recencts from Foreign	from Increased	from	Total Benefits	Net Benefits
(1)         (2)         (1) <th></th> <th>Coet</th> <th>Cost</th> <th>and Other Cost</th> <th>Cont</th> <th>ъ.</th> <th></th> <th></th> <th>Passengers (International)</th> <th>Pausengers (Domertu)</th> <th>Paulengers (Domento)</th> <th>Tourist Pax (International)</th> <th>Tourist Pax (International)</th> <th>Tourist Pax (Domentic)</th> <th>Tourist Pax (Domestic)</th> <th>International Cargo</th> <th>Domentic Carpo</th> <th></th> <th></th>		Coet	Cost	and Other Cost	Cont	ъ.			Passengers (International)	Pausengers (Domertu)	Paulengers (Domento)	Tourist Pax (International)	Tourist Pax (International)	Tourist Pax (Domentic)	Tourist Pax (Domestic)	International Cargo	Domentic Carpo		
1.1.3.402         0         0         1.2.2.2<		ε	Û	ŧ	ε		Ę	_	æ	Q	610	6	60	(13)	(1)	1	(el)	(13-42-41)	31-CL2-CL
1.430     0     1.430       1.437     2.404     1.00       7.404     0     7.404       7.504     0     7.504       7.504     0     7.504       7.504     0     7.504       7.504     0     7.504       7.504     0     7.504       7.504     0     7.504       7.504     0     7.504       7.504     0     7.504       7.504     0     7.504       7.504     0     7.504       7.504     0     7.504       7.504     0     7.504       7.504     0     7.504       7.504     0     7.504       7.504     100     7.504       7.505     100     7.504       7.505     100     7.504       7.505     100     7.504       7.505     100     7.501       7.505     100     7.501       7.505     100     7.501       7.505     100     7.501       7.505     100     7.501       7.505     100     7.501       7.505     100     7.501       7.505     100     7.501       7.505     100	1995			0			1 I												
14.368       0       1.4.36       1.4.36         2.2644       0       13.278       2.344         2.2644       0       2.344       2.44         17.304       0       2.344         17.304       0       2.344         17.304       0       2.344         17.304       0       2.344         17.304       0       11.177         17.304       0       2.344         17.304       0       11.374         17.31       2.33       2.33       2.34       2.34       2.34         2.331       2.33       2.34       <	3661			0	-		0												
Z.2.78         0         13.278         0         13.278         0         13.278         0         2.264         3.91         1,344         1,346         3,090         1,346         1,346         1,346         1,346         2,396         1,346         2,396         1,346         2,396         1,346         2,396         1,346         2,396         1,346         2,396         1,346         2,396         1,346         2,396         1,346         2,396         1,346         2,396         1,346         2,371         2,371         2,371         2,371         2,371         2,371         2,371         2,371         2,371         2,371         3,312         3,313         3,313         3,313         3,313         3,313         3,313         3,313         3,313         3,313         3,313         3,313         3,314	1661	1,426		0			1,426		•			-							-1,426
Zoles         0         Zoles         1         2000         100	3 <b>6</b> 6	13,278		0			13.278												-13.278
15,462         0         15,462         0         15,463         0         15,464         0         15,464         0         15,464         0         15,464         0         15,464         0         15,464         0         11,177         12,137         12,137         12,136         12,136         12,137         12,136         12,137         12,136         12,137         12,136         12,137         12,136         12,137         12,136         12,137         12,136         12,137         12,136         12,137         12,136         12,137         12,136         12,137         12,136         12,137         12,136         12,137         12,136         12,1	8	13 13		0			22,644												-22,644
13.446         0         13.446         0         13.446         0         13.446         0         13.446         0         13.446         0         13.446         1         14.446         13.446         14.44         13.446         14.44	0002	5.474		0			5,474												-5,474
75,008         75,008         75,008         75,008         111,77         0         111,77         0         111,77         0         111,77         0         111,77         0         111,77         0         111,77         0         111,77         0         111,77         0         111,77         111,76         111,	1001	15,345		0	•••••		15,345			<u>.</u> ,			-						-15.345
111777         0         111777         0         111777         0         111777         0         111777         0         111777         0         111777         0         111777         0         111777         0         111777         111777         111777         111777         111777         111777         111777         111777         111777         111170         111170         111170         111170         111170         111170         111170         111170         111170         111170         111170         111170         111170         111170         1111170         111170         111170         1111170         111170         111170	2002	75,008					75,008		-										-75,00
132,888         0         1132,588         0         1132,588         0         1132,588         0         5,205         1,571         5,205         1,444         1,092         2,204         1,092         2,205         2,33         6,454         1,092         2,224         2,007         6,357         3,319         1,343         2,315         3,050         1,444         2,226         1,362         2,375         2,325         2,33         6,454         1,002         2,326         6,379         2,309         6,434         1,002         2,326         1,160         6,379         2,309         6,434         1,002         2,309         1,160         2,375         2,309         6,434         1,002         2,309         1,160         2,375         1,160         2,309         4,345         1,162         2,009         4,345         1,160         2,375         1,160         2,375         1,160         2,375         1,160         2,375         1,1160         2,309         4,345         1,1160         2,376         1,1160         2,376         1,1160         2,376         1,1160         2,376         1,160         2,376         1,1160         2,376         1,160         2,376         1,1600         2,376         1,1600 <t< td=""><td>2003</td><td>111.777</td><td></td><td>0</td><td></td><td></td><td>111,777</td><td>~~</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-111-7</td></t<>	2003	111.777		0			111,777	~~											-111-7
C2:051         0         C2:051         10         C2:051         1310         1324	<b>100</b>	132,588		0			132,588		_										-132,588
775         5.226         1,444         2.206         1,444         2.206         1,444         2.206         1,444         2.206         1,444         2.00         2.000         2.	9005	62,631		0			62,631									,			62,63
5.255       333       433       5.244       3.001       2.726       6.043       11,163       3,000       4,433       2.307       6,039       2.307       6,039       2.307       6,039       2.307       6,039       11,430       2.307       6,039       11,430       2.307       6,030       143,50       1,236       1,236       7,020       1,432       1,130       7,130       11,140       7,113       1,140       7,133       1,140       7,020       1,835       1,140       7,020       1,836       7,020       1,836       7,020       1,836       7,020       1,836       7,020       1,836       7,020       1,836       7,020       1,846       1,140       1,142       1,124       7,124       7,020       1,846       1,140       7,020       1,846       1,140       7,020       1,845       0,020       1,845       0,020       1,845       0,020       1,845       0,020       1,845       0,020       1,845       0,020       1,845       0,020       1,845       0,020       1,845       0,020       1,845       0,020       1,845       0,020       1,845       0,020       1,845       0,020       1,845       0,020       1,845       0,020       1,845       0,020 <t< td=""><td>8</td><td>375</td><td>5,255</td><td>157</td><td>433</td><td>233</td><td>6,452</td><td>3,819</td><td>1,334</td><td>2,815</td><td>506</td><td>5,246</td><td>1,444</td><td>2,298</td><td>185</td><td>4,545</td><td>1,092</td><td>23,284</td><td>16,831</td></t<>	8	375	5,255	157	433	233	6,452	3,819	1,334	2,815	506	5,246	1,444	2,298	185	4,545	1,092	23,284	16,831
5.255       571       433       1,472       1,775       4,970       7,661       587       1,551       3,629       78,540         5.255       1734       473       5,507       1,501       1,355       1,355       5,073       1,11,50         5.255       1,677       1,876       5,719       1,836       5,373       1,356       1,356       1,435       1,1350       2,575       5,077       1,11,50       27,325       1,415       1,1350       2,575       5,077       1,11,50       27,326       1,415       1,1450       27,321       1,150       2,575       5,077       1,150       1,1450       1,1450       27,141       1,150       1,165       1,17,471       27,322       1,1300       25,164       27,121       1,1450       27,141       1,1470       27,121       1,1450       27,141       1,1470       27,141       1,1470       27,141       1,1470       27,141       1,1470       27,141       1,1470       27,141       1,1470       27,141       1,1470       27,141       1,1470       27,141       1,1470       27,141       1,1470       27,141       1,1470       27,141       1,1470       27,141       1,1470       27,141       1,1470       27,141       1,1470	2001		5,255	333	433	233	6.254	160'8	2.73	6,054	616	11,165	3,090	4,843	376	9.729	2,307	49,357	43,103
5.255       7535       6.074       13.044       5.719       13.045       1,400       25,425       7.006       10,250       25,205       5.075       111,610         5.255       1.066       473       7.025       1.026       24,000       143,500       143,500       143,500       143,500       143,500       143,500       143,500       143,500       143,500       143,500       24,500       11,500       143,500       24,300       143,500       24,300       143,500       24,300       143,500       24,300       143,500       24,300       143,500       24,300       143,500       24,300       143,500       24,300       143,500       24,300       143,500       24,300       143,500       24,300       143,500       24,300       143,500       24,300       143,500       24,300       143,500       24,300       143,500       24,300       143,500       24,300       14,300       26,430       17,430       25,500       14,300       24,300       14,300       24,300       14,300       24,300       14,300       24,300       14,300       24,300       14,300       26,430       17,430       25,500       14,300       24,500       11,300       24,500       11,300       27,500       24,500       11,	800		5,255	531	433	233	6.452	13,032	4,181	9,748	1,422	17,757	4,970	7,661	587	15,551	3,629		72,087
5.255         1.066         473         7.326         7.326         7.326         1.4356         1.025         29.367         6.600         1.44.360         1.4336         1.026         27.367         6.600         1.44.306         1.4336         1.37.381         8.433         1.4336         1.37.381         8.433         1.4330         2.47.361         1.4336         2.4.366         1.4.336         2.4.373         1.4.336         2.4.366         1.1.380         2.7.331         1.6.37         4.4.41         3.1.85         5.9.997         16.006         2.4.366         11.3.30         2.7.331         1.6.37         4.3.33         1.6.37         4.3.31         1.7.315         3.3.330         3.0.31         6.6.90         2.4.4.36         1.3.85         5.9.997         16.006         2.4.356         1.1.3.30         2.7.331         1.2.366         2.4.4.31         3.1.85         5.9.997         16.006         2.4.356         11.3.30         2.7.331           5.255         2.166         4.3.3         7.3.31         1.2.127         3.3.330         5.4.366         11.3.46         2.7.367         11.3.30         277.401           5.255         2.166         4.3.41         7.3.18         3.3.734         6.4.466         17.477         2.2.2.52	80		5,255	753	433	233	6,674	18,644	617.2	13,943	1.830		2,096	10,850	803	22.226	5.075		104,936
5.255       1.034       473       7.022       30.306       8.855       23.712       2.525       41.702       11.765       17.476       1.214       37.281       8.135       185.255         5.255       1.627       433       7.315       7.783       23.531       12.306       8.855       23.112       14.705       17.475       25.325       1.901       45.376       9.704       23.71.201         5.255       2.055       433       7.783       43.31       12.197       35.826       5.035       1.901       45.366       11.300       277.301         5.255       2.056       433       7.733       3.693       60.669       17.213       24.956       11.300       277.301         5.255       2.056       41.7       7.435       25.222       15.00       54.566       11.300       277.477         5.255       2.036       41.7       7.732       2.8466       17.475       25.222       15.00       54.566       11.300       277.427         5.255       2.036       47.67       17.475       25.222       1.500       54.566       11.300       277.427         5.255       2.036       12.301       12.212       2.911       61.476	010		5,255	1,066	133	233	6,987	24,926	7.326	18,636	2,189		9,501	14,336	1,029	29,967	6,690	148,500	141,512
5,225       1,627       433       7,315       77312       10.508       23.558       1,401       45.376       9,704       221.668         5,2255       1,909       433       7,538       45,221       12,256       34,441       3,185       9,997       16,669       24,646       1,390       267,744         5,2255       2,055       433       7,538       45,271       12,128       31,750       24,751       11,380       267,744         5,2255       2,166       433       7,575       45,271       12,128       31,770       24,751       11,380       277,427       11,380       277,427         5,2255       2,236       4,33       8,074       48,224       12,128       38,703       24,951       17,475       25,232       1,900       54,556       11,380       277,427         5,2255       2,366       4,33       38,703       2,891       61,476       17,475       25,232       1,100       24,56       11,380       276,407         5,2255       2,366       4,33       8,371       2,372       1,370       24,56       11,380       276,407         5,2255       2,366       4,37       2,124       2,1245       1,2475       2,1747 <td>110</td> <td></td> <td>5,255</td> <td>1,334</td> <td>433</td> <td></td> <td>7,022</td> <td>30,986</td> <td>8,855</td> <td>23,312</td> <td>2,529</td> <td></td> <td>11,765</td> <td>17,476</td> <td>1,214</td> <td>37,281</td> <td>8,135</td> <td>183,255</td> <td>176.233</td>	110		5,255	1,334	433		7,022	30,986	8,855	23,312	2,529		11,765	17,476	1,214	37,281	8,135	183,255	176.233
5.225       1.949       433       7,533       45,321       12,226       34,441       3,185       59,597       16,505       24,556       11,380       264,332         5.225       2.205       43,3       7,743       46,414       12,128       37,170       2,877       61,476       17,475       25,222       15,00       54,536       11,380       277,201         5.225       2.236       43,33       7,743       2,5322       15,00       54,536       11,380       277,301         5.225       2.236       43,33       7,717       2,871       6,476       17,475       25,222       15,00       54,536       11,380       277,301         5.225       2.236       43,331       12,128       37,170       2,871       61,476       17,475       25,222       15,00       54,536       11,380       277,401         5.225       2.236       43,331       12,212       39,516       2,873       2,930       24,456       11,380       275,023       276,407         5.255       2.504       43,77       1,213       2,716       17,475       25,222       15,00       54,536       11,380       276,407         5.255       2.504       41,767       2,	012		5,255	1.627	433		7,315	37,812	10,508	28,558	2,859		14.244	20,896	1,401	45,376	9,704	221,668	214,354
5.255       2.055       4.33       7.748       46.444       12.197       35.820       3.034       60.669       17.213       24.955       11.380       277.320         5.255       2.164       4.33       7.820       7.747       2.877       61.476       17.475       25.252       11.300       277.420         5.255       2.237       433       8.074       48.124       12.116       7.7921       2.878       61.476       17.475       25.252       11.300       277.427         5.255       2.336       433       8.104       12.116       2.8791       61.476       17.475       25.252       11.300       277.427         5.255       2.366       433       8.301       12.216       2.9516       2.9516       17.475       25.252       11.300       277.427         5.255       2.306       433       8.436       12.216       2.9516       2.976       41.747       25.252       15.00       54.536       11.380       277.427         5.255       2.063       41.376       17.475       25.222       1.500       54.536       11.380       277.427         5.255       2.064       41.4675       2.2522       1.500       54.536       11.380	1013		5,255	1,949	433		7,638	45,321	12,266	34,441	3,185	266,65	16,969	24,646	1,589	54,536	11,380	264,332	256,694
5.225       2.164       4.33       7.852       4.7427       12.128       37.170       2.877       61.476       17.475       25.222       1500       54.566       11.380       277.407         5.255       2.278       433       7.891       47.875       25.222       1,500       54.566       11.380       277.407         5.255       2.238       61.476       17.475       25.222       1,500       54.566       11.380       277.407         5.255       2.238       61.476       17.475       25.222       1,500       54.566       11.380       277.407         5.255       2.056       433       8.592       50,414       12.212       39,516       17.475       25.222       1,500       54.566       11.380       277.407         5.255       2.056       43.8       12.203       2.393       61.476       17.475       25.222       1,500       54.566       11.380       276.407         5.255       2.064       43.8       12.203       2.394       61.476       17.475       25.222       1,500       54.566       11.380       276.401         5.255       2.064       43.755       2.394       61.476       17.475       25.222       1,50	2014		5,255	2,055	433		7,743	46,414	12,197	35,820	3,034	699'09	17,213	24,935	1,546	54,536	11,380	267,744	260,001
5,225       2,275       433       7,361       47,866       12,156       37,921       2,834       61,476       17,475       25,232       1,500       54,536       11,380       277,427         5,255       2,336       433       8,074       48,324       12,184       38,703       2,891       61,476       17,475       25,232       1,500       54,536       11,380       277,427         5,255       2,508       433       8,196       48,801       12,212       39,516       2,898       61,476       17,475       25,232       1,300       54,536       11,380       277,407         5,255       2,706       43,33       8,453       49,204       42,304       2,911       61,476       17,475       25,232       1,500       54,536       11,380       277,641         5,255       2,706       43,33       8,453       49,266       11,2475       25,232       1,500       54,536       11,380       275,028         5,255       2,504       433       8,575       2,940       61,476       17,475       25,232       1,500       54,556       11,380       275,641         5,2555       3,203       4,375       2,4755       2,940       61,476       17,4	015		5,255	2,164	53		7,852	47,427	12,128	37,170	2,877	61,476	17.475	25,232	1,500	54,536	11,380	271,201	263.34
5.225       2.336       433       8,074       48,324       12,184       38,703       2,891       61,476       17,475       25,232       1,500       54,536       11,380       275,023         5.225       2,508       433       8,196       48,801       12,212       39,516       2,898       61,476       17,475       25,232       1,500       54,536       11,380       275,023         5,225       2,503       433       8,455       49,818       12,240       40,365       2,901       61,476       17,475       25,232       15,00       54,536       11,380       276,407         5,225       2,504       433       8,453       43,33       12,243       43,355       2,940       61,476       17,475       25,322       11,380       275,641         5,225       2,504       61,476       17,475       25,322       15,00       54,536       11,380       275,641         5,225       3,305       433       12,463       42,332       12,475       25,222       15,00       54,536       11,380       276,407         5,225       3,305       433       51,763       42,335       12,475       25,222       15,00       54,536       11,380       276,40	016		523	2,273	433		198'2	47,866	12,156	37,921	2,884	61,476	17,475	25,232	1,500	\$4,536	11,380	272,427	264,466
5.225       2.508       433       8,196       48,801       12,212       39,516       2,898       61,476       17,475       25,232       1,500       54,536       11,380       275,028         5.225       2.633       433       8,351       49,299       12,240       40,363       2,905       61,476       17,475       25,232       1,500       54,536       11,380       276,407         5.225       2.704       433       8,455       49,209       12,240       40,363       2,905       61,476       17,475       25,232       11,380       277,441         5.225       2.904       433       8,453       40,318       12,243       42,475       2,940       61,476       17,475       25,232       11,380       277,641         5.225       3.050       433       8,453       50,437       12,443       42,475       2,940       61,476       17,475       25,232       11,380       277,641         5.2255       3.053       433       8,738       51,081       12,443       42,475       2,476       11,475       25,232       1,500       54,536       11,380       277,641         5.2255       3.205       5,476       11,2475       2,5,232       1,5	2017		5,255	2,386	E¥		8,074	48,324	12,184	38,703	2,891	61,476	17,475	25,232	1,500	54,536	11.380	273,702	265.62
5.255       2.633       433       8,321       49,299       12,240       40,363       2,905       61,476       17,475       25,232       1,500       54,536       11,380       277,441         5.255       2.706       433       8,455       40,818       12,243       2911       61,476       17,475       25,232       1,500       54,536       11,380       277,441         5.255       2,004       433       8,455       49,818       12,235       2,332       2,940       61,476       17,475       25,232       1,500       54,536       11,380       277,641         5,255       3,050       433       8,453       51,081       12,403       43,475       2,940       61,476       17,475       25,232       11,380       271,541       28,1576         5,225       3,053       433       8,778       51,081       12,403       43,475       2,940       61,476       17,475       25,232       11,380       28,557         5,225       3,203       433       51,760       12,445       2,947       11,475       25,232       11,380       28,556         5,2255       3,535       3,033       54,475       12,445       2,947       61,476       17,475 <td>2018</td> <td></td> <td>5,255</td> <td>2.508</td> <td>433</td> <td></td> <td>8,196</td> <td>48,801</td> <td>12,212</td> <td>39,516</td> <td>2,898</td> <td>61.476</td> <td>17,475</td> <td>25,232</td> <td>1,500</td> <td>54,536</td> <td>0%2"11</td> <td>275,028</td> <td>266,832</td>	2018		5,255	2.508	433		8,196	48,801	12,212	39,516	2,898	61.476	17,475	25,232	1,500	54,536	0%2"11	275,028	266,832
5.255     2.706     413     8.455     49,818     12.268     41.244     2.911     61,476     17,475     25,232     1,500     54,536     11,380     279,641       8.725     2.904     433     8,592     50,434     12,335     42,332     2,940     61,476     17,475     25,232     1,500     54,536     11,380     279,641       8.725     3.050     433     8,778     51,081     12,403     43,475     2,940     61,476     17,475     25,232     1,500     54,536     11,380     283,577       8.725     3.053     433     8,891     51,760     12,475     2,997     61,476     17,475     25,232     1,380     284,536     11,380     285,577       .861     8,735     9,053     51,760     12,475     2,997     61,476     17,475     25,232     1,380     285,577       .84,180     5,255     3,535     5,055     5,232     1,500     54,536     11,380     285,577       .84,180     5,255     3,535     5,055     5,272     1,2612     47,255     3,056     54,536     11,380     285,577       .84,180     5,255     3,535     5,055     5,272     1,506     54,536     11,380     285,57	2019		5,255	2,633	433		8,321	49,299	12,240	40,363	2,905	61,476	17,475	25,232	1,500	54,536	11,380	276,407	268,085
5.255       2.904       433       8,592       50,434       12,335       42,332       2.940       61,476       17,475       25,232       1,500       54,536       11,380       281,528         5.255       3,050       433       8,731       12,403       43,475       2,968       61,476       17,475       25,232       1,500       54,536       11,380       283,557         5,255       3,205       433       8,891       51,760       12,475       2,997       61,476       17,475       25,232       1,500       54,536       11,380       283,577         5,255       3,235       433       9,053       52,477       44,675       2,997       61,476       17,475       25,232       1,380       285,577         -k4,180       5,255       3,535       5,055       5,476       17,475       25,232       1,380       285,577         -k4,180       5,255       3,535       5,055       5,252       1,5761       47,675       17,475       25,232       1,380       285,577         -k4,180       5,255       3,535       5,056       61,476       17,475       25,232       1,380       285,577         -k4,180       5,255       3,535       3,056	020		5,255	2,766	433		8,455	49,818	12.268	41,244	116'2	61,476	17,475	25,232	1,500	54,536	0%£.11	277,841	269,386
5.255     3.050     433     8,778     51.081     12.403     43,475     2.968     61,476     17,475     25,232     1,500     54,536     11,380     283,505       5.255     3.203     433     8,891     51,760     12,475     22,997     61,476     17,475     25,232     1,500     54,536     11,380     283,505       5.255     3.203     433     9.053     52,473     12,542     45,935     3,027     61,476     17,475     25,232     1,380     285,577       -34,180     5.255     3.535     433     9.053     52,473     12,542     45,935     3,056     61,476     17,475     25,232     1,380     285,577       -34,180     5.255     3.535     433     9.053     52,473     12,542     47,258     3,056     61,476     17,475     25,232     1,380     285,577       -34,180     5.255     3.535     433     -74,957     53,222     12,612     47,258     3,056     54,476     17,475     25,372     1,380     285,577       -34,180     5.255     3.535     1,506     54,536     11,380     287,576     11,380     287,577       -34,180     5,255     3.535     1,5056     54,576     1	021		5,255	2,904	433		\$,592	50,434	12,335	42,332	2,940	61,476	17,475	25,232	1,500	54,536	11.380	279,641	271,049
5,255       3,203       433       8,891       51,760       12,475       2,5977       61,476       17,475       25,232       1,500       54,536       11,380       285,577         5,255       3,355       433       9,053       52,473       12,542       45,935       3,027       61,476       17,475       25,232       1,500       54,536       11,380       285,577         -34,180       5,255       3,535       433       52,473       12,542       47,535       3,027       61,476       17,475       25,232       1,380       285,577         -34,180       5,255       3,535       433       -74,957       53,272       12,612       47,256       61,476       17,475       25,232       1,380       285,577         -34,180       53,272       12,612       47,256       61,476       17,475       25,322       1,500       54,576       11,380       287,7749         -34,180       53,272       12,612       47,256       17,475       25,522       1,500       54,576       11,380       287,7749         -34,180       53,575       12,612       47,256       1,476       17,475       25,522       1,500       54,576       11,380       287,7749	ម្ព	-	525	3.050	433		8,738	51,081	12,403	43,475	2,968	61,476	17,475	25,232	1,500	54,536	11,380	281,528	272,790
-34.1X00 5,255 3.355 4.33 9.053 52.473 12,542 45,935 3.027 61,476 17,475 25,232 1,500 54,536 11,380 285,577 -34.1X00 5,255 3.535 4.33 -74.957 53,222 12,612 47,258 3,056 61,476 17,475 25,232 1,500 54,536 11,380 287,749 EBRR	ର୍ ଅ		5,255	3,203	433		8,891	51,760	12,472	44,675	2.997	61.476	17,475	25,232	1,500	54,536	11.380	283,505	274,614
<u>  -34.1X0  5,255  3.535  4.33    -74.957  53.222  12.612  47,258  3,056  61,476  17,475  25,232  1,500  54,536  11,380  287,749 </u> EBR NPV (at 12% discount rate)	024		5,255	3,365	433		9.053	52,477	12,542	45,935	3.027	61.476	17,475	25,232	1,500	54,536	11,380	285,577	276,524
E.B.R. NPV (at 12% discount rate)	52	-84,180	5.255	3.535	433		-74,957	53,222	12,612	47,258	3,056	61,476	17,475	25,232	1,500	54,536	11.380	2K7.749	362,705
(at 12% discount rate)																Ľ.	ana Maria		<u>5.</u> 61
											-						DV (at 12%)	discount rate)	1 X5 9

Table 16.2.1 Comparison of Economic Costs and Benefits - Medium-term Development Plan

## 16.3 FINANCING PLAN

The financial and economic analyses in the previous sections present a contradiction in that the Project will produce a high EIRR (19.5%), while its FIRR (3.1%) does not indicate commercially viability. The economic interpretation of the large difference between the EIRR and the FIRR is that the Project will produce not only direct economic benefits to airport users, but also external economies to non-users through the improved efficiency of enterprises, increased income from tourism, increased foreign and domestic trade, etc.

This is both a significant feature and a problem of infrastructure projects, since not all of external beneficiaries use the airport and pay airport charges, they, of course, do not necessarily pay airport charges. The conventional solution is the injection of public money. Alternatively, the Government may procure a soft loan from official development aid (ODA) sources.

Given the severe budgetary constraints being experienced by the Vietnamese Government, the financial analysis has suggested possible financing plans whose main component is a low-interest borrowing. One of those plans, established as the Base Case in Section 16.1.6, is as follows:

- State Subsidy:	15% of the total const	ruction cost							
	diversion of existing ca	nd compensation, relocation and anals and roads, renovation of T1 on construction works, etc.)							
- Soft Loan:	85% of the total construction cost								
	- Interest Rate:	2.3% per annum							
	- Repayment Period:	20 years (after grace period)							
	- Grace Period:	10 years							

It should be noted from the sensitivity analysis that more stringent borrowing conditions than the above will cause a significant deterioration in the financial position of the Project. Therefore, the above conditions should be regarded as a minimum requirement for financial feasibility. In addition, it is preferable that the percentage of state subsidy be increased as far as the budget allows in order to reduce financial risks involved in possible slowdowns in air traffic growth, unexpected rises in construction costs, etc.

# CHAPTER 17 PROJECT IMPLEMENTATION PLAN

## CHAPTER 17 PROJECT IMPLEMENTATION PLAN

## 17.1 PROJECT IMPLEMENTATION SCHEDULE

Figure 17.1.1 shows a project implementation schedule, which would be applicable if the financial assistance from a foreign country is sought for both the design and construction phases of the Project.

	19	97	15	28	1 19	299	20	00	20	01	20	02	20	03	20	04	20	05	20	06
Approval of the Project	as s	oon a	s pos	sible	1		1	ſ		1	1	Ι		[		l	1		· ·	1
Local Financing Arrangements	as s	oon a	s pos	sible	1	1		1 -	1	) ·	1									
Land Acquisition & Compensation		e constant	on the second				(		1											-
Foreign Financing Arrangements		3. N.S	24				50			[	f									
Selection of Consultant	1		-			1	1	1		1	1									[
Preparation of Design			1			19943 19943			1	1	1-				1					
Tender Documentation & Approval			1	1	<b>P</b>	1	Ø	[	1	1-	1					-				1
Prequalification & Approval					11	1	1			1	1				1	-				<u> </u>
Tendering Period		1			1	1	1			1	1			<i>.</i>						( ·
Tender Evaluation & Approval			,	1	1		1		6 A	(	1									
Signing Contract			t		1		1		1	1	†		1		1					
Construction Period				1—		1	t—-			No.	-	143 153		19.29	27 E	5- <u>5</u> -5-5	100			
Facility Tenants' Preparation Period				l			1-		-		1		[	ii			52	s 137		
Insuguration		-	1	t	1 -		1	t—-	† —			1—	· · · ·		F					<b>—</b>
Defect Liability Period					1	1	1	· ·		1	1	1	i	t	<u> </u>		t			$\vdash$

Figure 17.1.1 Project Implementation Schedule

In order to allow sufficient time for land acquisition and compensation before financing arrangements for the construction, it is recommended to initiate the local financing arrangements as soon as possible.

## 17.2 EXECUTING AGENCY

The executing agency shall be responsible for the implementation of the Project, after Project approval by the Government. Consultants are usually employed for the design and construction phases of a project to assist the executing agency especially in the management and the technical fields. The executing agency shall give the information, guidance and approvals necessary for the services of the consultants, and monitor and control the quality, schedule and budget of the Project It is also the responsibility of the executing agency to coordinate with the other organizations concerned, such as the State Planning Committee, Ministry of Finance, Ministry of Foreign Affairs, Ministry of Science, Technology and Environment, Hanoi People's Committee, and Soc Son People's Committee.

The executing agency of the Project will be the CAAV the same as for the T1 and other projects such as extension of taxiway and apron in the existing airport area.

# CHAPTER 18 CONCLUSIONS AND RECOMMENDATIONS

## CHAPTER 18 CONCLUSIONS AND RECOMMENDATIONS

## 18.1 CONCLUSIONS

The Study was carried out for the new development of Hanoi International Airport in the southern area located next to the existing Hanoi International Airport. The target area of the Study was fixed only to the southern area by the both GOV and GOJ.

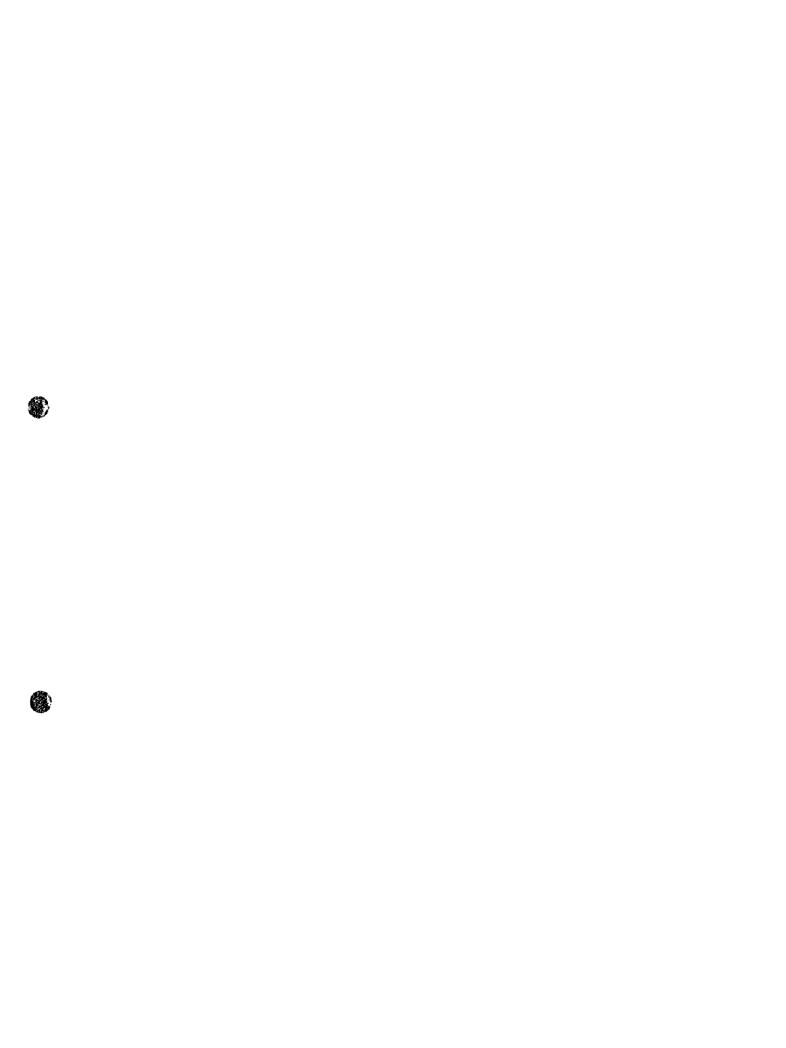
As a result of the comprehensive study of the southern area development presented in this report, including formulation of Long and Medium Term Development Plans and a feasibility study on the Medium Term Development Plan, it can be concluded that the new development of the southern area of Hanoi International Airport for the international services is a viable option to cope with anticipated traffic demand to the year 2010, and to ensure a reliable gateway to Hanoi and northern Vietnam.

The construction works for the Medium Term Development should commence in the year 2001 and be completed in 2005 when the demand is expected to exceed the capacity of the Airport.

## 18.2 RECOMMENDATIONS

- a) Complete the current development projects (such as construction of new passenger terminal T1 and control tower, and extension of parallel taxiway and apron A1 in the existing airport area) as soon as possible in order to cope with the increasing traffic demand.
- b) Approve the Medium Term Development Plan by the Government of Vietnam, and designate the CAAV as the executing agency for the development.
- c) Provide sufficient project information, at appropriate times, to the organizations concerned, including the; State Planning Committee; Ministry of Science, Technology and Environment; Ministry of Defence; Ministry of Finance; and the Hanoi People's Committee.
- d) Initiate local financing arrangements as soon as possible to allow enough time for a peaceful resettlement of the residents.
- e) Prepare, as soon as possible, a detailed resettlement program including method of public hearing, planning of resettlement site, job training, time schedule, budgeting, etc.

- f) Establish proper environmental protection and monitoring systems for the development.
- g) Implement the modernization and upgrading of air navigation systems, including replacement of the ILS, installation of a SALS and a PAPI for Runway 29, and installation of a ASR/SSR, before the year 2000 to improve the safety of operation and increase the capacity of the runway.
- h) Implement, as soon as possible, a comprehensive managerial and organizational restructuring at Hanoi International Airport to both improve levels of service and achieve financial selfsufficiency.



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