11. FINANCIAL AND ECONOMIC EVALUATION

11.1 GENERAL

The Nam Ngiep-I HEPP is planned as one of the more important national projects benefiting the country as a whole. Its implementation method, however, is not a traditional public procurement type, but a BOT method inviting private sector participation according to the GOL policy. Therefore project evaluation to see viability of the Project has to be made from two different aspects. Financial evaluation is made from the viewpoint of the project company while the economic evaluation is from the perspective of the Lao PDR economy.

These two methods of evaluation are compared in Table 11.1.1.

Table 11.1.1 Comparison of Financial Evaluation and Economic Evaluation

Evaluation Method	Viewed from	Benefit & Cost	Evaluation Indicator	Criteria (Target)
Financial Evaluation	Project company	Benefit: Power sales revenue Cost: Capital cost, O&M cost, Taxes	FIRR	12% and more than weighted average cost of capital (WACC)*
Economic Evaluation	National economy	Benefit: Dividend, Royalties and Taxes Cost: *GOL's capital contribution and* equity investment	EIRR	More than 12% (ADB criteria)

Note: WACC=Expected ROE x Equity Share (%) + Loan Interest Rate x Loan Share (%)

The analytical method used for project evaluation is cost-benefit analysis based on cash flow projection. The project aims at exporting most of the output to neighboring countries and will have no significant impact on the national economy other than generation of foreign exchange. The economic evaluation therefore measures all revenue to be received by the country in the form of dividends, royalties and taxes as benefits and the GOL's capital contribution and equity investment as costs. The financial evaluation measures power sales revenue as benefits and capital costs, annual operation & maintenance costs and taxes as costs.

The evaluation indicator, or efficiency of investment is measured by internal rates of return (IRR). IRR is the rate of discount which equates the present values of a project's cost and benefits streams over its project life. The economic evaluation derives EIRR (Economic IRR) and the financial evaluation generates two types of IRR: one is FIRR (Financial IRR or ROI, Return on Investment) and the other is ROE (Return on Equity). The project is worthwhile and valid only if all the IRRs measured exceed pre-determined target values.

11.2 BASIC ASSUMPTIONS

The financial and economic analysis is carried out in constant 2011 price terms to determine EIRR and FIRR. The analysis for base case scenario is based on the following assumptions (these are similar to the assumptions on financial terms and conditions of other BOT (Build-Own-Transfer) hydropower projects already realized in Lao PDR - Theun Hinboun HEPP, Nam Theun 2 HEPP, etc.). Project specific information has been discussed and documented in the preceding sections in this report.

(1) Plant capacity

The plant capacity is fixed at 276.8 MW comprising 260 MW (export) and 16.8 MW (domestic supply). The main power station consists of two units of 130 MW each.

(2) Currency and Price Escalation

Most of the construction materials and generating equipment are imported and the revenue is earned by foreign currency. Therefore a unitary currency of US$ is used in the analysis. A uniform annual escalation rate of 1.3% (referring to current USA consumer price index movements[1]) is used for discounting current values to constant 2011-year terms.

(3) Project Base Cost and Disbursement Schedule

The project base cost (excluding interest during construction and initial working capital) is estimated at 343.7 M$. The annual disbursement is scheduled in Table 11.2.1. Construction work will start in 2005 with design and preparatory work and will be complete in 2010 with an implementation period of 6 years. Commercial operation is expected to start on October 1, 2010 for unit 1 and on November 1, 2010 for the second unit.

Table 11.2.1 Project Base Cost Disbursement Schedule

Year	2005	2006	2007	2008	2009	2010	Total
Disbursement (M$)	26.5	23.0	83.9	86.5	72.4	51.4	343.7
(Percent of total)	(8 %)	(7%)	(24%)	(25%)	(21%)	(15%)	(100%)

(Note) The year of 2005 covers the period of October 2004 to Sep. 2005 and so on.

(4) Initial Working Capital

An initial working capital equivalent to 50% of annual fixed O&M cost is needed in year 2010, one year prior to commercial operation.

(5) Financing Plan for Project Cost

The total project cost includes the base cost (shown in Table 11.2.1), interest during construction (IDC) and financial charges (front-end fee and commitment fee).

[1] Year 2001 CPI escalation of 1.6% and an escalation of 1.1% between June 2001 – June 2002 produces an average escalation rate of 1.3%.

The project will be financed by a project finance method which is a mixture of equity and loans. It is assumed here the project company will put up the equity covering 30% of the project cost, while loans cover the remainder. The equity share of GOL is assumed to be 30% of the total equity.

This financing plan is based on the mostly likely project scheme as shown in Figure 11.2.1, which is drawn on the basis of fund arrangements actually made in recent similar projects in Lao PDR.

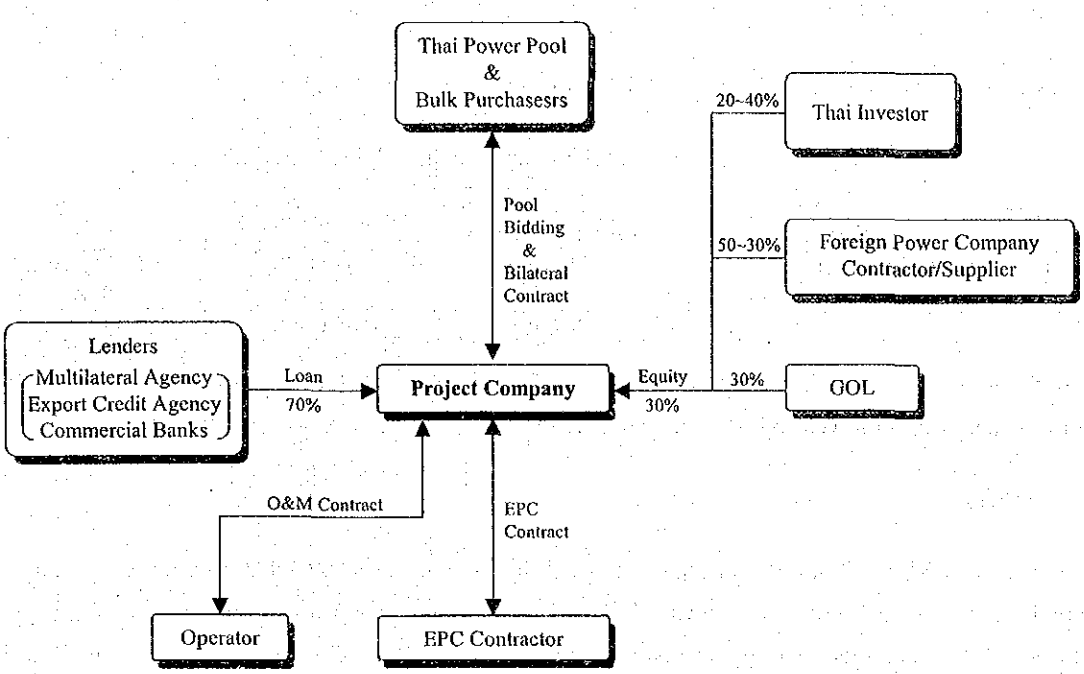

Figure 11.2.1 Proposed Project Scheme

Funding arrangement during construction are assumed as follows:

a) Construction is financed initially via equity capital and will be complete in advance of bank loans. This condition is likely to be demanded by lenders. The financial charges and the initial working capital will be fully covered by the equity capital.

b) There are three facilities likely to be available regarding loan funding: multilateral loan facility, export credit facility and commercial credit facility. The conditions of lending (interest rate and repayment period) depend on various factors. Among them current market rate of interests (like LIBOR, etc.) and project specific risk factors (to be reflected in margins) are two decisive factors in addition to operating practices of prospective lenders. Taking those factors into consideration, the expected loan terms are given in Table 11.2.2.

Table 11.2.2 *Loan Financing Terms*

Facility	Loan Share (%)	Interest (%)	Repayment Period (yr)	Front-end Fee (%)	Commitment Fee (%)
Multilateral loan	40	6	15	2.0	0.5
Export credit	30	8	12	0	0.5
Commercial credit	30	12	8	1.0	0.5

(Notes) 1. The front-end fee will be charged only at the time of loan agreement. The commitment fee is charged against unused loan amount and will decrease gradually and end at null when the loan amount is fully disbursed.
2. Interest rates during construction and during operation (repayment period) are the same.

(6) Concession Period

Concession period here means the period of operation and maintenance by the project company. After the concession is terminated the project will be transferred to the GOL. Here the concession period is assumed to be 25 year as in the case of other similar projects.

(7) Energy Production and Sales

The annual energy generation and sales schedule is shown in Table 11.2.3.

Table 11.2.3 Annual Energy Generation and Sales Schedule

Item	Export (Primary Energy)	Export (Secondary Energy)	Domestic Supply	Total
Generation	1,173 GWh	154 GWh	108 GWh	1,435 GWh
Transmission loss	3.0%	3.0%	3.0%	3.0%
Sales	1,138 GWh	149 GWh	105 GWh	1,392 GWh

The operation year of 2011 covering the period Oct. 2010 to Sep. 2011 will produce 23/24 of the full-generation energy and the year of 2012 onwards will produce the full energy shown in the table.

(8) Tariffs

As discussed in Chapter 7.5.5, the intermediate peak prices will be 6 ~ 7 ¢/kWh or more in year late 2010 in Thailand. Here a conservative value of 6.0 ¢/kWh is used for primary energy tariff for export. The tariff of the secondary energy is taken at half of that of primary energy. The annual tariff escalation rate is assumed to be 1.3% which is equal to the US$ escalation rate.

The tariff for domestic supply is assumed to be 5.2 ¢/kWh in year 2008 onwards. This assumption is based on latest domestic supply project reports such as Nam Mang 3 HEPP.

Thus the tariff schedule is assumed as given in Table 11.2.4.

Table 11.2.4 Tariff Schedule

Tariff	Export (Primary Energy)	Export (Secondary Energy)	Domestic Supply
Initial tariff (in 2011)	6.0 ¢/kWh	3.0 ¢/kWh	5.2 ¢/kWh
Annual escalation rate	1.3%	1.3%	1.3%

(9) Annual Operation and Maintenance Costs

The annual O&M costs are divided into fixed cost and variable cost. These are estimated as shown below on the basis of recent achievements of similar projects elsewhere.

Table 11.2.5 Annual Operation and Maintenance Costs (2002-price level)

Item	Fixed Cost	Variable Cost
Unit cost	-	0.2 $/MWh

Annual cost in full-operation year	1% of base cost	0.3 M$
Annual escalation rate	1.3%	1.3%

Note: Annual variable cost = unit cost x energy generation

It should be noted that the above costs are expressed in 2002 year price. Nominal costs in each year of 2011 and onwards will be escalated with a rate of 1.3% per year.

(10) Royalties

According to a typical project agreement GOL will grant the project company the right to construct and operate the project facilities and the right to use the water rights necessary for the project operation. In return, the project company has to pay the Government an annual royalty fee of 5% of gross revenues up to the year when loan repayment is finished (here up to the 15th year of operation). From the year 16 of operation the royalty rate will be raised to 15% according to the recent practices.

(11) Depreciation and Amortization

These accounting expense items are calculated on the assumptions below.

Table 11.2.6 Depreciation and Amortization

Item	Financial Charges	Fixed Assets
Period	5 years	Concession period
Residual value	0	0
Depreciation method	Straight-line method	Straight-line method

Out of the total project cost, the sum of base cost and interest during construction is taken as value of fixed capital assets and depreciated by equal-installment (straight-line) for the concession period. The financial charges during construction will be amortized at 20% per annum (straight-line) for the first 5 years of operation.

(12) Taxes

The following tax benefits and advantages are given to the project as in the case of similar predecessors.

(i) Taxes and duties on imported equipment and machinery are paid by the GOL.
(ii) The project company is exempted from profit tax for the first 5 years of operation. Thereafter, income tax will be paid at a rate of 15% of operating profits.

(13) Debt Service Reserve Account

It is normal practice that lenders for BOT project request the project company to reserve 50% of the annual debt service (interest payment and principal repayment) as an escrow account.

(14) Dividend

The dividend is assumed to be paid to the investors at 90% of the net profit as far as requirement of the

debt service reserve account as stated above is satisfied.

11.3 RESULTS OF ANALYSIS FOR BASE CASE SCENARIO

The results of financial & economic evaluation for base case scenario are presented in the following tables and figures.

Table 11.3.1 Financing Costs (interest during construction and financing fees)

Table 11.3.2 Projected Cashflow Statement

Table 11.3.3 Cashflow for Calculation of EIRR

Table 11.3.4 Cashflow for Calculation of FIRR

Table 11.3.5 Cashflow for Calculation of ROE

Table 11.3.6 Cashflow for Calculation of Weighted Average Cost of Capital

Figure 11.3.1 Movement of Income Components

Figure 11.3.2 Movement of Fund Use Components

From Table 11.3.1 the total project cost and the proposed financing plan are summarized below.

Cost Item		
Base cost	343.7 M$	(90.5%)
Financing fees	5.5 M$	(1.4%)
IDC	28.7 M$	(7.6%)
Initial WC	1.8 M$	(0.5%)
Total project cost	379.6 M$	(100.0%)

Financing Plan		
Equity capital	113.7 M$	(30%)
Loan capital	265.9 M$	(70%)
Total capital	379.6 M$	(100%)

Firstly the EIRR of the Project is estimated at 19.5% which is considered acceptable. This exceeds significantly the opportunity cost of capital of 10% and ADB's criterion of 12%. This means Nam Ngiep-I HEPP is worthwhile for implementationfrom the viewpoint of the Lao PDR economy as a whole.

Asecond criterion is to determine the freasibility of the project from the prospective of investors in a BOT project. This viability is checked by the three indicators of FIRR, ROE and DSCR.

FIRR means the return on investment (loan and equity). The costs and benefit stream for calculation of FIRR is shown in Table 11.3.4. The costs include capital cost, O&M cost and taxes while the benefit includes electricity sales revenue. FIRR calculation is made in constant 2011 price terms. The capital cost is net of interest during construction and price escalation.

ROE stands for the return on equity. The cost and benefits stream for calculation of ROE is shown in Table 11.2.5. The cost includes equity capital, while the benefits include dividend and cash-surplus (retained earnings of the project company). ROE calculation is made also in constant 2011 price terms.

DSCR stands for Debt Service Cover Ratio. It is shown at the bottom line of Table 11.3.2. DSCR is calculated by the following formula:

$$DSCR = \frac{\text{Net profit + interest + depreciation/amortization}}{\text{Interest and loan repayment}}$$

The DSCR is one of the most important financial indicators to check for loan repayment capacity of the project.

There is much discussion regarding the values that are required of the three indicators in order for the project to be feasible as a BOT. Benchmark values depend on various factors such as capital market conditions, loan conditions, project risks, and so on. For this evaluation, the benchmark value of each indicator are set considering current capital/loan market requirements and actual values of similar BOT projects recently realized in Lao PDR.

(i) FIRR shall be 12% or more. (also more than the average cost of capital procurement)

(ii) ROE (real) shall be 15% or more.

(iii) DSCR shall be 1.3 or more.

The FIRR is calculated at 13.1%, the ROE (real) at 16.3% and the minimum DSCR is 1.4 in the operating year 2011. Therefore the base case scenario is considered to be a good contender for BOT operation in terms of all the evaluation criteria.

Table 11.3.1 Financing Costs (IDC and Financing Fees)

Financing Terms

Source	Interest	Front-end fee	Commitment fee	Repayment period (years)	Share
Bank A	6.0%	2.0%	0.5%	15	40.0%
Bank B	8.0%	0.0%	0.5%	12	30.0%
Bank C	12.0%	1.0%	0.5%	8	30.0%
Total					

Bank A: Multilateral loan facility
Bank B: Export credit facility
Bank C: Commercial loan facility

Interests during Construction (IDC)

Year	2005	2006	2007	2008	2009	2010	Total
Disbursement of Base Cost							
Ratio	8%	7%	24%	25%	21%	15%	100%
Amount (M$)	26.5	23.0	83.9	86.5	72.4	51.4	343.7
Equity (excl. fees and IWC)							
Ratio							
Amount (M$)	26.5	23.0	57.0				106.5
Loan (M$)							
Bank A							
Disburse			10.8	34.6	29.0	20.6	94.9
Interest			0.0	0.6	2.8	4.7	8.1
Total			10.8	35.2	31.7	25.2	102.9
Bank B							
Disburse			8.1	26.0	21.7	15.4	71.2
Interest			0.0	0.6	2.8	4.7	8.2
Total			8.1	26.6	24.5	20.2	79.3
Bank C							
Disburse			8.1	26.0	21.7	15.4	71.2
Interest			0.0	1.0	4.2	7.3	12.5
Total			8.1	26.9	25.9	22.7	83.6
Total Loan (M$)							
Disburse			26.9	86.5	72.4	51.4	237.2
Interest			0.0	2.3	9.7	16.7	28.7
Total			26.9	88.8	82.1	68.1	265.9
Equity (excl. fees) + Loan	26.5	23.0	83.9	88.8	82.1	68.1	372.4
Front-end Fee							
Bank A			2.1				2.1
Bank B			0.0				0.0
Bank C			0.8				0.8
Total			2.9				2.9
Commitment Fee							
Bank A			0.5	0.3	0.2	0.1	1.2
Bank B			0.4	0.2	0.1	0.0	0.7
Bank C			0.4	0.2	0.1	0.0	0.7
Total			1.2	0.8	0.4	0.1	2.6
Total of Fees			4.1	0.8	0.4	0.1	5.5
Initial working capital (IWC)						1.8	1.8
Equity + Loan + Fees + IWC	26.5	23.0	88.0	89.6	82.6	70.0	379.6

Equity/(Equity + Loan) ratio = 30.0% (Equity includes financing fees and IWC)

Table 11.3.2 Projected Cashflow Statement

Item			Year		2005~2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Income Statement	Operating Statement	Revenue	Operating Revenue	Unit																										
			Energy sales	GWh		1,234	1,392	1,392	1,392	1,392	1,392	1,392	1,392	1,392	1,392	1,392	1,392	1,392	1,392	1,392	1,392	1,392	1,392	1,392	1,392	1,392	1,392	1,392	1,392	1,392
			Export (primary)	GWh		1,090	1,138	1,138	1,138	1,138	1,138	1,138	1,138	1,138	1,138	1,138	1,138	1,138	1,138	1,138	1,138	1,138	1,138	1,138	1,138	1,138	1,138	1,138	1,138	1,138
			Export (secondary)	GWh		144	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149
			Domestic	GWh		100	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
			Power tariff																											
			Export (primary)	c/kWh		6.0	6.1	6.2	6.2	6.3	6.4	6.5	6.6	6.7	6.7	6.8	6.9	7.0	7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8	7.9	8.0	8.1	8.2
			Export (secondary)	c/kWh		3.0	3.0	3.1	3.1	3.2	3.2	3.3	3.3	3.4	3.4	3.5	3.5	3.6	3.6	3.7	3.7	3.8	3.8	3.9	3.9	4.0	4.0	4.1	4.1	4.2
			Domestic	c/kWh		5.2	5.3	5.5	5.4	5.5	5.5	5.6	5.7	5.8	5.8	5.9	6.0	6.1	6.2	6.2	6.3	6.4	6.5	6.6	6.6	6.7	6.8	6.9	7.0	7.1
			Operating Revenue	M$		74.9	79.2	80.2	81.2	82.3	83.4	84.5	85.6	86.7	87.8	89.0	90.1	91.3	92.5	93.7	94.9	96.1	97.4	98.7	99.9	101.2	102.6	103.9	105.2	106.6
			Export (primary)	M$		65.4	69.2	70.1	71.0	71.9	72.8	73.8	74.7	75.7	76.7	77.7	78.7	79.7	80.8	81.8	82.9	83.9	85.0	86.1	87.3	88.4	89.5	90.7	91.9	93.1
			Export (secondary)	M$		4.3	4.5	4.6	4.7	4.7	4.8	4.8	4.9	5.0	5.0	5.1	5.2	5.2	5.3	5.4	5.4	5.5	5.6	5.7	5.7	5.8	5.9	6.0	6.0	6.1
			Domestic	M$		5.2	5.5	5.6	5.7	5.7	5.8	5.9	6.0	6.0	6.1	6.2	6.3	6.4	6.4	6.5	6.6	6.7	6.8	6.9	7.0	7.1	7.1	7.2	7.3	7.4
		Expenses	O & M Cost	M$		3.9	3.9	4.0	4.0	4.1	4.2	4.2	4.3	4.3	4.4	4.4	4.5	4.5	4.6	4.7	4.7	4.8	4.8	4.9	5.0	5.0	5.1	5.2	5.2	5.3
			Fixed cost	M$		3.5	3.6	3.6	3.7	3.7	3.8	3.8	3.9	3.9	4.0	4.0	4.1	4.1	4.2	4.3	4.3	4.4	4.4	4.5	4.5	4.6	4.7	4.7	4.8	4.8
			Variable cost	M$		0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5
			Royalty fee	M$		3.7	4.0	4.0	4.1	4.1	4.2	4.2	4.3	4.3	4.4	4.4	4.5	4.6	4.6	4.7	14.2	14.4	14.6	14.8	15.0	15.2	15.4	15.6	15.8	16.0
			Amortization (financial fees)	M$		1.1	1.1	1.1	1.1	1.1																				
			Depreciation (capital assets)	M$		14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9
			Total	M$		23.6	23.9	24.0	24.1	24.2	23.2	23.3	23.4	23.5	23.7	23.8	23.9	24.0	24.1	24.2	33.9	34.1	34.4	34.6	34.9	35.1	35.4	35.7	35.9	36.2
		Operating Income		M$		51.3	55.3	56.2	57.2	58.1	60.2	61.2	62.2	63.2	64.2	65.2	66.2	67.3	68.4	69.5	61.1	62.0	63.0	64.1	65.1	66.1	67.2	68.2	69.3	70.4
	Non-Operating Statement		Interest Payment	M$		22.6	20.4	18.2	16.0	13.8	11.6	9.4	7.2	5.0	4.1	3.1	2.2	1.2	0.8	0.4										
			Bank A	M$		6.2	5.8	5.4	4.9	4.5	4.1	3.7	3.3	2.9	2.5	2.1	1.6	1.2	0.8	0.4										
			Bank B	M$		6.3	5.8	5.3	4.8	4.2	3.7	3.2	2.6	2.1	1.6	1.1	0.5													
			Bank C	M$		10.0	8.8	7.5	6.3	5.0	3.8	2.5	1.3																	
			Short-term interest payment	M$																										
			Non-operating income	M$																										
			Total	M$		22.6	20.4	18.2	16.0	13.8	11.6	9.4	7.2	5.0	4.1	3.1	2.2	1.2	0.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Profit before Tax			M$		28.7	35.0	38.1	41.2	44.4	48.6	51.8	55.0	58.2	60.1	62.1	64.1	66.1	67.5	69.0	61.1	62.0	63.0	64.1	65.1	66.1	67.2	68.2	69.3	70.4
	Income Tax			M$							7.3	7.8	8.2	8.7	9.0	9.3	9.6	9.9	10.1	10.4	9.2	9.3	9.5	9.6	9.8	9.9	10.1	10.2	10.4	10.6
	Net Profit			M$		28.7	35.0	38.1	41.2	44.4	41.3	44.0	46.7	49.4	51.1	52.8	54.5	56.2	57.4	58.7	51.9	52.7	53.6	54.6	55.2	56.2	57.1	58.0	58.9	59.9
	Cumulative Net Profit			M$		28.7	63.7	101.8	143.0	187.3	228.7	272.7	319.4	368.8	419.9	472.7	527.2	583.3	640.7	699.4	751.3	804.1	857.6	912	967	1,024	1,081	1,139	1,198	1,258
Fund Statement	Source		Operating Income	M$		51.3	55.3	56.2	57.2	58.1	60.2	61.2	62.2	63.2	64.2	65.2	66.2	67.3	68.4	69.5	61.1	62.0	63.0	64.1	65.1	66.1	67.2	68.2	69.3	70.4
			Amortization (financial charge)	M$		1.1	1.1	1.1	1.1	1.1																				
			Depreciation (capital assets)	M$		14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9
			Nonoperating Income	M$																										
			Loan Capital	M$	265.9																									
			Equity Capital	M$	113.7																									
			Total	M$	379.6	67.3	71.3	72.2	73.2	74.1	75.1	76.1	77.1	78.1	79.1	80.1	81.1	82.2	83.2	84.3	76.0	76.9	77.9	79.0	80.0	81.0	82.1	83.1	84.2	85.3
	Use		Interest Payment	M$		22.6	20.4	18.2	16.0	13.8	11.6	9.4	7.2	5.0	4.1	3.1	2.2	1.2	0.8	0.4										
			Bank A	M$		6.2	5.8	5.4	4.9	4.5	4.1	3.7	3.3	2.9	2.5	2.1	1.6	1.2	0.8	0.4										
			Bank B	M$		6.3	5.8	5.3	4.8	4.2	3.7	3.2	2.6	2.1	1.6	1.1	0.5													
			Bank C	M$		10.0	8.8	7.5	6.3	5.0	3.8	2.5	1.3																	
			Loan Repayment	M$		23.9	23.9	23.9	23.9	23.9	23.9	23.9	23.9	13.5	13.5	13.5	13.5	6.9	6.9	6.9										
			Bank A	M$		6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9										
			Bank B	M$		6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6													
			Bank C	M$		10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5																	
			Short-term Debt Service	M$																										
			Income Tax	M$							7.3	7.8	8.2	8.7	9.0	9.3	9.6	9.9	10.1	10.4	9.2	9.3	9.5	9.6	9.8	9.9	10.1	10.2	10.4	10.6
			Capital Expenditure	M$	379.6																									
			Total	M$	379.6	46.5	44.3	42.1	39.9	37.7	42.8	41.1	39.4	27.2	26.5	25.9	25.5	18.0	17.8	17.6	9.2	9.3	9.5	9.6	9.8	9.9	10.1	10.2	10.4	10.6
	Cash Surplus			M$		20.8	27.0	30.1	33.3	36.4	32.3	35.0	37.7	50.9	52.5	54.2	55.9	64.2	65.4	66.7	66.8	67.6	68.5	69.3	70.2	71.1	72.0	72.9	73.8	74.8
	Cumulative Cash Surplus			M$		20.8	47.8	78.0	111.2	147.7	179.9	214.9	252.6	303.5	356.0	410.2	466.1	530.3	595.7	662.4	729.2	796.9	865.3	934.7	1,004.9	1,076.0	1,148	1,221	1,295	1,369
Debt Service Reserve Account				M$		20.8	22.1	21.0	20.0	18.9	17.8	16.7	15.6	9.2	8.8	8.3	7.8	4.0	3.8	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dividend Payment				M$		0.0	4.9	9.1	13.3	17.6	14.5	18.3	22.1	41.6	43.8	43.9	48.1	50.3	51.7	52.8	46.7	47.5	48.2	49.0	49.8	50.6	51.4	52.2	53.0	53.9
Cumulative Dividend Payment				M$		0.0	4.9	14.0	27.3	44.9	59.4	77.7	99.9	141.5	185.2	229.1	277.2	327.7	379.4	432.2	480.9	528.4	576.6	625.6	675.4	726.0	777.4	829.6	882.6	936.5
Cash Surplus after Dividend Payment				M$		20.8	22.1	21.0	20.0	18.9	17.8	16.7	15.6	9.2	8.8	8.3	7.8	13.6	13.8	13.9	20.1	20.2	20.3	20.3	20.4	20.5	20.6	20.7	20.8	20.9
Debt Service Cover Ratio (DSCR)						1.4	1.6	1.7	1.8	2.0	1.9	2.1	2.2	3.8	4.0	4.3	4.6	8.9	9.5	10.2										

Table 11.3.3 Cashflow for Calculation of EIRR

Year	Total Dividend ($ million)	GoL's Dividend Receipt ($ million)	Royalties ($ million)	Taxes ($ million)	Total Cash Inflow ($ million)	GoL's Capital Contribution ($ million)	Govern't Equity Investment ($ million)	Net Cash Flow ($ million)
2005							8.0	-8.0
2006							6.9	-6.9
2007							18.3	-18.3
2008							0.2	-0.2
2009							0.1	-0.1
2010							0.6	-0.6
2011	0.0	0.0	3.7	0.0	3.7			3.7
2012	4.9	1.5	3.9	0.0	5.4			5.4
2013	9.1	2.7	3.9	0.0	6.6			6.6
2014	13.3	4.0	3.9	0.0	7.9			7.9
2015	17.6	5.3	3.9	0.0	9.2			9.2
2016	14.5	4.4	3.9	6.8	15.1			15.1
2017	18.3	5.5	3.9	7.2	16.6			16.6
2018	22.1	6.6	3.9	7.5	18.1			18.1
2019	41.6	12.5	3.9	7.9	24.3			24.3
2020	43.8	13.1	3.9	8.0	25.1			25.1
2021	45.9	13.8	3.9	8.2	25.9			25.9
2022	48.1	14.4	3.9	8.3	26.7			26.7
2023	50.5	15.2	3.9	8.5	27.6			27.6
2024	51.7	15.5	3.9	8.6	28.0			28.0
2025	52.8	15.8	3.9	8.6	28.4			28.4
2026	46.7	14.0	11.7	7.5	33.3			33.3
2027	47.5	14.2	11.7	7.6	33.5			33.5
2028	48.2	14.5	11.7	7.6	33.8			33.8
2029	49.0	14.7	11.7	7.6	34.0			34.0
2030	49.8	14.9	11.7	7.6	34.3			34.3
2031	50.6	15.2	11.7	7.7	34.6			34.6
2032	51.4	15.4	11.7	7.7	34.8			34.8
2033	52.2	15.7	11.7	7.7	35.1			35.1
2034	53.0	15.9	11.7	7.7	35.4			35.4
2035	53.9	16.2	11.7	7.7	35.6			35.6

Economic internal rate of return (EIRR)	=	19.5%	
Net present value (10% discount rate)	=	62.7	M$

Note: Governement equity investment includes interest during construction.
All cash flows are expressed in 2011 price terms.
The share of government equity of the total equity is assumed 30%.

Table 11.3.4 Cashflow for Calculation of FIRR

Unit: $ million

Year	Capital Cost	Initial Working Capital	Total Capital Outlay	Total Revenue	O & M Cost	Royalty Fee	Income Tax	Internal Cash Genaration	Net Benefits
2005	28.6		28.6						-28.6
2006	24.5		24.5						-24.5
2007	88.3		88.3						-88.3
2008	89.9		89.9						-89.9
2009	74.3		74.3						-74.3
2010	52.1	1.8	53.8						-53.8
2011				74.9	3.9	3.7		67.3	67.3
2012				78.2	3.9	3.9		70.4	70.4
2013				78.2	3.9	3.9		70.4	70.4
2014				78.2	3.9	3.9		70.4	70.4
2015				78.2	3.9	3.9		70.4	70.4
2016				78.2	3.9	3.9	6.9	63.5	63.5
2017				78.2	3.9	3.9	7.2	63.1	63.1
2018				78.2	3.9	3.9	7.6	62.8	62.8
2019				78.2	3.9	3.9	7.9	62.5	62.5
2020				78.2	3.9	3.9	8.0	62.4	62.4
2021				78.2	3.9	3.9	8.2	62.2	62.2
2022				78.2	3.9	3.9	8.3	62.1	62.1
2023				78.2	3.9	3.9	8.5	61.9	61.9
2024				78.2	3.9	3.9	8.6	61.8	61.8
2025				78.2	3.9	3.9	8.6	61.8	61.8
2026				78.2	3.9	11.7	7.5	55.0	55.0
2027				78.2	3.9	11.7	7.6	55.0	55.0
2028				78.2	3.9	11.7	7.6	55.0	55.0
2029				78.2	3.9	11.7	7.6	55.0	55.0
2030				78.2	3.9	11.7	7.6	54.9	54.9
2031				78.2	3.9	11.7	7.7	54.9	54.9
2032				78.2	3.9	11.7	7.7	54.9	54.9
2033				78.2	3.9	11.7	7.7	54.9	54.9
2034				78.2	3.9	11.7	7.7	54.8	54.8
2035				78.2	3.9	11.7	7.7	54.8	54.8

Financial Internal Rate of Return	=	13.1%	
Net Present Value (at 10% discount rate)	=	78.8	M$

Note: Capital cost excludes interest during construction.
All costs and benefits are expressed in 2011 year price terms.
Current costs and revenues are discounted with a US CPI price escalation rate of 1.3%.

Table 11.3.5 Cashflow for Calculation of ROE

Unit: $ million

Year	Equity Capital	Dividend (nominal)	Cash Surplus (nominal)	Total Income (nominal)	Total Income (real)	Net Benefits (nominal)	Net Benefits (real)
2005	26.5					-26.5	-28.6
2006	23.0					-23.0	-24.5
2007	61.1					-61.1	-64.3
2008	0.8					-0.8	-0.8
2009	0.4					-0.4	-0.4
2010	1.9					-1.9	-1.9
2011		0.0	20.8	20.8	20.8	20.8	20.8
2012		4.9	22.1	27.0	26.7	27.0	26.7
2013		9.1	21.0	30.1	29.4	30.1	29.4
2014		13.3	20.0	33.3	32.0	33.3	32.0
2015		17.6	18.9	36.4	34.6	36.4	34.6
2016		14.5	17.8	32.3	30.3	32.3	30.3
2017		18.3	16.7	35.0	32.4	35.0	32.4
2018		22.1	15.6	37.7	34.4	37.7	34.4
2019		41.6	9.2	50.9	45.9	50.9	45.9
2020		43.8	8.8	52.5	46.8	52.5	46.8
2021		45.9	8.3	54.2	47.6	54.2	47.6
2022		48.1	7.8	55.9	48.5	55.9	48.5
2023		50.5	13.6	64.2	55.0	64.2	55.0
2024		51.7	13.8	65.4	55.3	65.4	55.3
2025		52.8	13.9	66.7	55.7	66.7	55.7
2026		46.7	20.1	66.8	55.0	66.8	55.0
2027		47.5	20.2	67.6	55.0	67.6	55.0
2028		48.2	20.3	68.5	55.0	68.5	55.0
2029		49.0	20.3	69.3	55.0	69.3	55.0
2030		49.8	20.4	70.2	54.9	70.2	54.9
2031		50.6	20.5	71.1	54.9	71.1	54.9
2032		51.4	20.6	72.0	54.9	72.0	54.9
2033		52.2	20.7	72.9	54.9	72.9	54.9
2034		53.0	20.8	73.8	54.8	73.8	54.8
2035		53.9	20.9	74.8	54.8	74.8	54.8

Rate of Return on Equity (nominal)	=	17.8%
Rate of Return on Equity (real)	=	16.3%
Net Present Value (at 10% discount rate)	=	101.2 M$

Note: Real costs and benefits are expressed in 2011 price terms.

Table 11.3.6 Cashflow for Calculation of Weighted Average Cost of Capital

Unit: $ million

A. Average Cost of Borrowing

Year	Loan Drawdown	Debt Service				Net Cash Inflow
		Front-end Fee	Commitment Fee	Interest	Principal Repayment	
2005						0.0
2006						0.0
2007	26.9	2.9	1.2			-22.8
2008	88.8		0.8			-88.0
2009	82.1		0.4			-81.7
2010	68.1		0.1			-68.0
2011				22.6	23.9	46.5
2012				20.4	23.9	44.3
2013				18.2	23.9	42.1
2014				16.0	23.9	39.9
2015				13.8	23.9	37.7
2016				11.6	23.9	35.5
2017				9.4	23.9	33.3
2018				7.2	23.9	31.1
2019				5.0	13.5	18.5
2020				4.1	13.5	17.5
2021				3.1	13.5	16.6
2022				2.2	13.5	15.6
2023				1.2	6.9	8.1
2024				0.8	6.9	7.7
2025				0.4	6.9	7.3
2026						
2027						
2028						
2029						
2030						
2031						
2032						
2033						
2034						
2035						
Total	265.9	2.9	2.6	135.8	265.9	

Real Interest Rate ≈ 6.7%

B. Weighted Average Cost of Capital

	% p.a.	Weight
Real Cost of Borrowing	6.7%	70.0%
Rate of Return on Equity	16.3%	30.0%
Weighted Average Cost of Capital	**9.6%**	

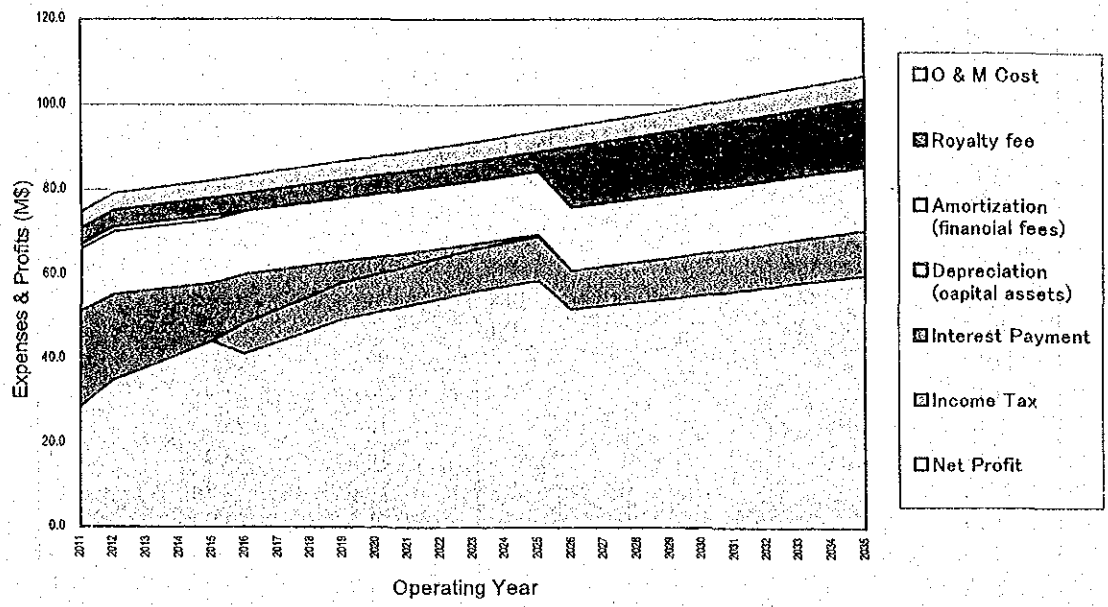

Figure 11.3.1 Movement of Income Components

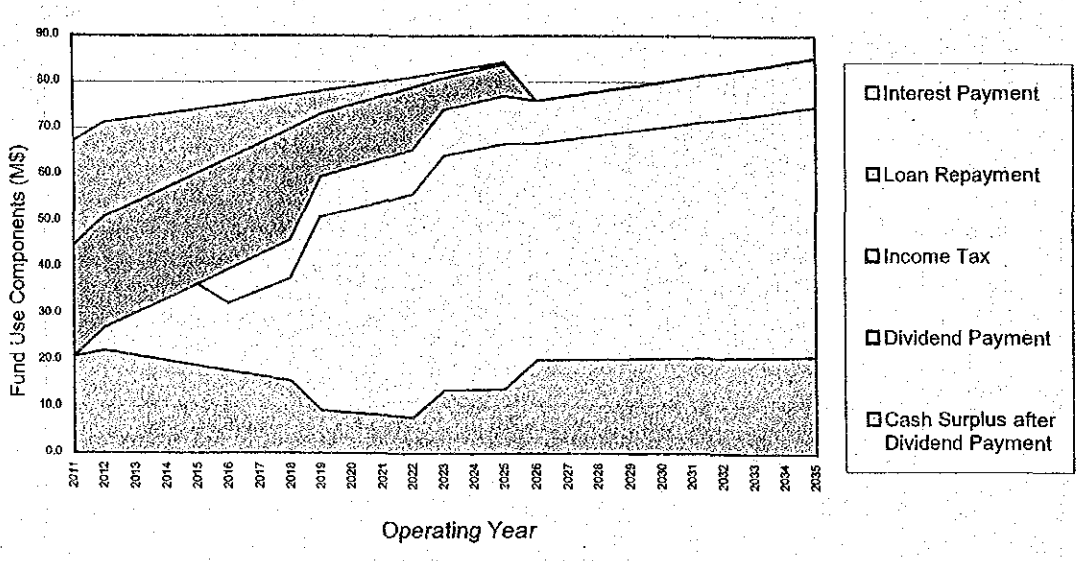

Figure 11.3.2 Movement of Fund Use Components

11.4 SENSITIVITY ANALYSIS

As discussed in Chapter 2.3, the Project is subject to various risk factors which lower the profitability of the project. The following adverse cases are considered as the worst case scenarios:

Table 11.4.1 Case Scenarios for Sensitivity Analysis

Scenario	Risk Case	Cause and Effect
Case 1	half –year construction time overrun	which results in half-year delay in commissioning
Case 2	10% increase in capital cost	which results from increase in work quantity, increased costs of materials, additional works, etc
Case 3	10% reduction in tariff	which results from unexpected low tariff caused by low pool prices
Case 4	20% drop in power output for first 3 years	which results from very dry hydrological conditions hitting the first three years of operation, which causes reduced water flows

A sensitivity analysis has been carried out under the above four adverse scenarios. As indicated in Table 11.4.2, the Project remains viable under all such adverse conditions though Cases 2 and 3 result in marginal values of FIRR. From the table the cases which are most sensitive to the profitability of the Project are 10% increase in capital cost and 10% reduction in tariff.

Table 11.4.2 Sensitivity Analysis Result

No.	Scenario	FIRR (%)	Si[a]	EIRR (%)	SI[a]	ROE (%)	Min. DSCR
Base case	Normal operation	13.1	-	19.5	-	16.3	1.4
Case-1	Half-year construction time overrun	12.6	0.5	17.9	0.8	14.7	1.3
Case-2	10% increase in capital cost	11.9	0.9	17.7	0.9	14.5	1.3
Case-3	10% reduction in tariff	11.8	1.0	17.6	1.0	14.3	1.3
Case-4	20% drop in power output for first 3 year	12.2	-	18.9	-	14.8	1.1

[a] SI (Sensitivity indicator) is a ratio of percent change in FIRR or EIRR to percent change in sensitivity parameters.

11.5 PROJECT RISKS

The main risk associated with the Project is the possible reluctance of commercial banks to provide funding for a private sector BOT venture in Lao PDR. To cope with this issue reference can be made to successful predecessor projects like Theun Hinboun HEPP. For example success factors of Theun Hinboun HEPP are listed as follows:

(i) Highly experimental sponsors and operators (EdL, MDX Thai Company, Nordic Hydropower)

(ii) Funding participation and lead advisory role by the Asian Development Bank

(iii) 95% committed purchase of energy by EGAT (Revenue is fixed and secured by PPA)

(iv) Exchange risk hedging tariff payment arrangement (50% of the payment will be made in US dollars and the balance in Thai Bank)

(v) Setup of an offshore escrow account into which all payments from EGAT will be made to minimize perceived political risk on the part of lenders.

(vi) Thailand's strong support for the Project with commitment from the Thai financial market.

(vii) Strong debt service coverage and investment returns with limited downside risk.

(viii) Obtaining MIGA's political risk guarantee to mitigate country risk.

Similar risk mitigation measures are advantageous for this project. Tariff fluctuation risk under power pool, (as discussed in Chapter 7.5.6) can be reduced by making bilateral contracts with bulk purchasers (Discos, Supplycos, etc). The bilateral contracts are similar to traditional PPAs.

To minimize the risk of implementation delays and cost overruns as discussed in Chapter 2.3, a number of measures have been taken. Additional site investigation to strengthen the feasibility study will be carried out (the cost of which is included in the project cost). This will be followed by tender design for issuing tender for selecting EPC contractors. The EPC contractor to be selected will have ample experience in the construction of hydropower plants similar to the Project and will assume full responsibility for engineering (design), procurement and construction including the interface risk (gaps and omissions in the design) between the civil works contract and the equipment supply contract. Thus most of engineering risks during construction will be mitigated by this contracting arrangement.

Major risks can be shared among major risk takers of GOL, developer and contractor/operator. Political or country risks or force majeure risks can be usually guaranteed by GOL and some of them are required to be insured by multilateral agencies like MIGA, World Bank, etc to satisfy lenders.

Successful mitigation of the risks of commercial, political, and nonpolitical or force majeure events is critical to a project's financial feasibility. Various agreements, contracts, and insurance measures associated with the project are designed to maximize risk mitigation.

The risk allocation matrix shown below is produced on the basis of the principle of "allocate risks to who can best manage them" as a tool to analyze the extent of mitigation and the residual risk for prospective investors.

The residual risks which the project company or lenders eventually should assume are market risk and financial risk (inflation, charge in exchange rate, change in interest rate). These residual risks together with financial profits expected will determine investor interest in participation in the project.

Table 11.5.1 Matrix for Risk Share

Project Risk Analysis			Risk Taker							
Stage	Type of Risks	Cause of Risk and/or Consequence of Risk Occurrence	GOL	Developer	Power purchaser	EPC Contractor	Operator	Insurance Co.	Project Company	Lenders
Pre-operation	Investment risk	Equity non-payment	O	O						
	Planning risk	Land not acquired	O							
		Local people opposition	O	X						
		Adverse geology	X	O						
		Adverse hydrology (flooding & drought)	X	O						
	Construction risk	Design defects				O				
		Cost overrun		X		O				
		Time overrun		X		O				
		Incompletion		X		O				
		Damage to third-party						O		
Operation	Operation risk	Poor operation & maintenance					O			
		Decline in power output (due to low waterflow)							O	O
		Transmission line fault					O			
	Market Risk	Offtaker nonpayment			O			X		
		Decline in power output (due to low demand)							O	O
		Reduction in power tariff							O	O
	Financial risk	Inflation							O	O
		Change in exchange rate							O	O
		Change in interest rate							O	O
Common	Environment risk	Adverse effects on environments		O				O		
	Force majeure	*Natural disaster and calamities*	O	X				O		
	Political risk	Expropriation, no-repatriation/remittance	O					O		

(Note) "O"denotes main risk taker and "X", supporter to main risk taker.

11.6 ECONOMIC IMPACTS AND SOCIAL BENEFITS

Economic Impacts

The impact of the export hydroelectric project like the Nam Ngiep-I HEPP on the Lao economy is principally in terms of an increase in foreign currency earnings for the GOL, which will then transform into an economic development for the country. Foreign currency earnings are definitely needed to procure goods and services for maintaining people's welfare and industrial activities, which leads eventually to alleviate poverty and achieve social development goals the GOL is advocating.

The revenue from power export is essentially made up of the net revenue obtained from royalties and profit tax to the GOL and of dividend payments to the GOL as shareholder in the project company. These revenues are somewhat reduced by the GOL's capital contributions in the form of equity investment. These are shown in Table 11.3.3. The revenue (expressed in 2011 constant price) will increase from 3.8 M$ in 2011 to 9.6 M$ in 2015. It will jump to 15.4 M$ in 2016 and then gradually

expand to 25.1 M$ in2020. These amounts are significant considering that the total electricity export amount was just 112 M$ in 2000.

Social Benefits

Besides the macro economic impact mentioned above there are expected social benefits of domestic electricity supply or electrification to communities hosting the Project. Our host communities include Thatom, Hom, Borikhan and Pakxan districts.

First there is improvement in access to electricity. The Project will supply about 17 MW power or 105 GWh energy to domestic market. With this capacity more than 20,000 un-electrified households are able to enjoy benefits of electricity.

Secondly social benefits of electrification can be translated into poverty reduction benefits. Not only is electrification associated with economic growth in general, but having access to electricity really touches the lives of the people in remote areas like our host communities. Electricity improves irrigation and agricultural productivity. This is important because the majority of the people in rural areas still rely on agriculture for their main source of income. Brisk agricultural activities of coarse create more employment opportunities. The delivery of basic services, health and education in particular, will significantly improve with electricity. Electric lighting also improves peace and order situation by deterring criminal activities. Ultimately, having access to electricity improves the quality of life of people in the host communities.

To make our project more socially-responsive electric power development, it is conceivable to introduce a development benefits recycling program for the host communities. In this connection, there is an important movement. Recently (as of July 2002), the GOL has agreed with IMF to develop a Poverty Reduction and Growth Fund (PRGF), which is to be initially sourced from IDA funds, and then the GOL taxes, royalties and dividend revenues. The Nam Ngiep-I together with the Nam Theun 2 HEPP might contribute to this fund scheme as the latter part of fund sources in future.

12. RECORDS ON WORK PROCESS

12.1 GENERAL WORKSHOP

12.1.1 1ST GENERAL WORKSHOP

(1) General

The 1st General Workshop named "Inception Workshop" was held to explain the contents of the Inception Report at the Lane-Xang Hotel on June 26-27, 2001. The programs , the attendance list and the discussion proceedings are shown below: The Workshop was carried out by following manner:

No.	Item	Particular
1.	Schedule	2-days: 1st day to present the study results of the Phase I Study and the scope of Phase II Works, 2nd day to discuss about them.
2.	Place	The conference room of the Lane-Xang Hotel in Vientiane.
3.	Participants	About 110 participants including central and local government officials, local peoples, international agencies (MRC, etc.), and others (cf. NTEC). A list of parties sent invitations is attached hereto.
4.	Facilitating	Facilitator, interpreter, LCD-projector, microphone, VTR, etc. were used. For the rear-seated participants, multi-units of projector were used.
5.	Discussion	To categorize theme summarizing results by representatives. Prior submission of agenda from participants for smooth facilitation of discussion.
6.	Programming	Minimizing explanation by Team, time to be spent for discussion as long as possible.
7.	Distribution papers	All explanatory papers were prepared in English and Lao, they included copies of slides of computer.
8.	Transportation	Helicopter for villagers in the reservoir area, Mini-bus for the officials near districts.
9.	Participants from JICA/Tokyo	(i) Mr.Yuji Otake (Director, JICA/Tokyo), (ii) Mr.Hayao Adachi (Director, Japan Electric Power Information Center), (iii) Mr.Hiroyuki Kobayashi (Program Officer, JICATokyo), (iv) Mr.Kazuya Miyazaki (METI)

(2) Program

LIST OF PROGRAM

1st General Workshop for Inception Report

First Day (June 26, Tuesday, 2001)			
No.	Time	Program	Presented By
1.	08:30 - 09:00	Registration	All participants
2.	09:00 - 09:30	Opening Speech	MIH, JICA/Tokyo
3.	09:30 - 10:30	Introduction (S/Team, Background) Phase I Study Results, Phase II Study Schedule	Study Team, Leader
4.	10:30 - 11:00	Coffee Break	All participants
5.	11:00 - 12:00	Detailed presentation for PFI Planning	S/Team, PFI Planner
6.	12:00 - 13:30	Lunch Time	All participants
7.	13:30 - 14:30	Detailed presentation for Hydropower Planning	S/Team, Hydropower Planner

LIST OF PROGRAM

1st General Workshop for Inception Report

First Day (June 26, Tuesday, 2001)			
No.	Time	Program	Presented By
8.	14:30 - 15:30	Detailed presentation for EIA Issues	S/Team, Environmentalist
9.	15:30 - 16:00	Coffee Break	All participants
10.	16:00 - 17:30	General Discussion (I)	All participants
11.	17:30 - 18:00	Break Time (Collection of Suggestion Papers)	All participants
12.	18:00 - 20:00	Dinner Time	All participants

Second Day (June 27,Wednesday, 2001)			
No.	Time	Program	Presented By
1.	08:30 - 09:00	Registration	All participants
2.	09:00 - 09:15	Review of 1st Day Workshop	Study Team, Leader
3.	09:15 - 09:30	Power Policy and Market Situation	MIH/DOE
4.	09:30 - 10:00	ODA Policy of Japan	JICA/Laos Office
5.	10:00 - 10:30	Coffee Break	All participants
6.	10:30 - 11:00	Answer to Suggestion Papers	Study Team, Leader
7.	11:00 - 12:00	Review of Answer to Previous Questionnaires	S/Team, Environmentalist
8.	12:00 - 13:30	Lunch Time	All participants
9.	13:30 - 15:00	General Discussion (II)	All participants
10.	15:00 - 15:30	Coffee Break	All participants
11.	15:30 - 16:00	Gender Thinking in Project	Gender Specialist
12.	16:00 - 16:10	Orientation of Site Workshop	S/Team & Gender Specialist
13.	16:10 - 16:15	Advance Billing of 2nd Workshop	Study Team, Leader
14.	16:15 - 16:30	Closing Speech	MIH

(3) Attendance List

ATTENDANCE LIST

1st General Workshop for Inception Report

No.	Name	Position	Organization	26th	27th
I.	**Chairman**				
1.	Mr. Somboun RASASOMBATH	Vice Minister	Ministry of Industry and Handicrafts	O	O
2.	Mr. Soukata VICHITH	Director	STEA	O	O
3.	Mr. Khamvone PHANOUVONG	Director	Ministry of Foreign Affair	O	O
4.	Mr. Yuji OTAKE	Director	JICA/Tokyo	O	O
5.	Mr. Hayao ADACHI	Adviser	JICA/Tokyo	O	O
6.	Mr.Makoto AOKI	Resident Representative	JICA/Laos	O	X
II.	**Central Government**				
1.	Mr. Sayasak VONGSACK	Engineer	EDL	O	O
2.	Mr. Visiane SONGHAPHUP	Engineer	EDL	O	O
3.	Mr. Phouvieng KEOBOUPHA	Head of Division	Ministry of Industry and Handicrafts	O	O
4.	Mr. Khamchane KHONSAY	Engineer	Ministry of Industry and Handicrafts	O	O
5.	Ms. Lathdavane Southammavong	Engineer	Ministry of Industry and Handicrafts	O	O
6.	Ms. Southsada MOUANGKAO	Engineer	Ministry of Justice	O	O
7.	Mr. Soumontha Somchanmavong	Engineer	Ministry of communication Transport	O	O
8.	Mr. Kam PHALAKHONE	Engineer	Ministry of Agriculture & Forestry	O	O
9.	Mr. Outhai PHATHPHONE	Engineer	National Assembly	O	O
10.	Mr. Vilayvong	Engineer	National Assembly	O	O
11.	Mr. Anousack PHONGSAVATH	Deputy Chief of Division	Division of Rural Electrification	O	O
12.	Mr. Oudomsack PHILAVONG	Engineer	LNMC	O	O
13.	Mr. Thongkhane Vongphachang	Head of Division	Department of Handicraft	O	O
14.	Mr. Somdy INMISAY	Deputy Director	Department of Industry	O	O
15.	Mr. Aravane BOUNYAPHALOM	Head of Division	Department of Mine	O	O
16.	Ms. Thongsy BOUNYAPANYO	-	National Front	O	O

ATTENDANCE LIST

1st General Workshop for Inception Report

No.	Name	Position	Organization	26th	27th
17.	Mr. Bouathep MALAYKHAM	Head of Division	Division of Rural Electrification	O	O
18.	Ms. Bounkham VORACHITH	Engineer	STEA	O	O
19.	Mr. Phouvong ONSYSALEUM	Engineer	STEA	O	O
20.	Mr. Ounheane	Chief of Division	STEA	O	O
21.	Mr. Chansanouk Khonnavong	Engineer	STEA	O	O
22.	Mr. Chantho Milathanapheng	Chief of Division	Division of Development	O	O
23.	Dr. Tayphasavane	-	Ministry of Public Health	O	O
24.	Mr. Sythang VANG OUTHAI	-	Lao Youth Union	O	O
25.	Mr. Khampheth VILAPHONDETH	Engineer	Price Minister Office	O	O
26.	Mr. Phonpaseth PHOULIKHAM	-	SPC	O	O
27.	Ms. Khammanh THAVONGLATH	Engineer	Lao Women Union	O	O
28.	Mr. Sounthone SAYASING	Engineer	Lao Union Trade	O	O
29.	Ms. Anouphone KITHTILATH	-	Ministry of Foreign Affair	O	O
30.	Mr. Phanomkhone Daralathsamy	-	CIC	O	O
31.	Mr. Bounkhong KEODALIN	-	Ministry of Defend	O	O
32.	Ms. Vanida	-	Ministry of Finance	O	O
33.	Mr. Bounsalong	Chief	Nam Theun 2	O	O
34.	Mr. Phetsavanh Lathanathonggasy	Deputy Chief of Division	MIH/DOE	O	O
35.	Mr. Voradeth PHONEKEO	Engineer	MIH/DOE	O	O
36.	Mr. Viengsay CHANTHA	Engineer	MIH/DOE	O	O
37.	Mr. Seumkham Thoummanvongsa	Engineer	MIH/DOE	O	O
38.	Mr. Chansaveng BOUNGONG	Deputy Head of Division	MIH/DOE	O	O
41.	Mr. Khammanh SOPASEATH	Engineer	MIH/DOE	O	O
42.	Mr. Sanya SOMVICHITH	Engineer	MIH/DOE	O	O
43.	Mr. Sengdeane VONG-IN	Engineer	MIH/DOE	O	O
44.	Mr. Inthila CHANTHAVISOUK	Engineer	MIH/DOE	O	O
45.	Mr. Lithanoulok RASAPHO	Engineer	MIH/DOE	O	O
46.	Mr. Vithounlabundith	Engineer	MIH/DOE	X	O
47.	Ms. Viengkham SAYASOUK	Engineer	MIH/DOE	O	O
III.	**Local Government/Local People**				
1.	Mr. Somdy KEODALAVINE	Head of Cabinet	Khetpiseth Saysomboun	O	O
2.	Mr. Singkham SIVONGKHAM	Head of Division	Khetpiseth Saysomboun	O	O
3.	Ms. Phetnakhon NAMAVONG	Engineer	Khetpiseth Saysomboun	O	O
4.	Mr. Vilayvone	Chief	Thaviang	O	O
5.	Mr. Khammang	Head of Village	Thaviang	O	O
6.	Mr. Douangta	Head of Village	Thaviang	O	O
7.	Mr. Xienglot	Head of Village	Thaviang	O	O
8.	Mr. Phao	Head of Village	Thaviang	O	O
9.	Mr. Inta	Head of Village	Thaviang	O	O
10.	Mr. Line	Head of Village	Thaviang	O	O
11.	Mr. Khamphane	Head of Village	Thaviang	O	O
12.	Ms. Singphone	Head of Village	Thaviang	O	O
13	Mr. Bounkeo	Head of Village	Thaviang	O	O
14.	Ms. Phomvisay	Chief	Hom District	O	O
15.	Mr. Kongkham	Head Office	Hom District	O	O
16.	Mr. Yearlongvang	Head of Village	B. Houaypamom	O	O
17.	Mr. Songvang	Head of Village	B. Sopphouan	O	O
18.	Mr. Yearto	Head of Village	B. Namyouak	O	O
19.	Mr. Vanvilay DENEPHOULUANG	Deputy Head of Cabinet	Bolikhamsay Provine	O	O
20.	Mr. Phonethilat SITHSATHONE		Bolikhamsay Province	O	O
21.	Mr. Thongma Sisouvannasane	Deputy Head of Bolikhan	Bolikhamsay Province	O	O

ATTENDANCE LIST

1st General Workshop for Inception Report

No.	Name	Position	Organization	26th	27th
22.	Mr. Khamsay THONGLATH	Deputy Director of Division	Bolikhamsay Province	O	O
23.	Mr. Phouviang	Head of Village	B. Hattheun (Hatkham)	O	O
24.	Mr. Xiengmai PHIAKEO		B. Hattheun (Hatkham)	O	O
25.	Mr. Phonesy	Head of Village	B. Thahua	O	O
26.	Mr. Samai		B. Muangmai (Somseun)	O	O
27.	Mr. Bounsou SAYAVONG	Head of Village	B. Nam Pa	O	O
28.	Mr. Sythane		B. Nam Pa	O	O
29.	Mr. Oudong Phongphaypadith	Deputy Director of Division	Vientiane Province	O	O
30.	Mr. Khammuan Thongmanivong		Vientiane Province	O	O
31.	Mr. Hath SYSOMBATH	Head of Division	Vientiane Province	O	O
32.	Ms. Saykeo SISOMSAY	Deputy Head	Vientiane Province Lao Women Union	O	O
33.	Mr. Niphone SAYSANAVONG	Deputy Head of Division	Vientiane Province	O	O
IV.	***International Organization***				
1.	Mr. Shusaku HIRATAMA		Embassy of Japan	X	O
2.	Dr. S. KURODA		JICA/STEP	O	X
3.	Mr. T. TADA		JICA/STEP	O	X
4.	Mr. T. OTA		JICA/STEP	O	X
5.	Mr. K. NAKAJIMA		JICA T/L M/P Study Team, T/Leader	O	O
6.	Mr. T. SAKUMA		JICA T/L M/P Study Team	O	X
7.	Mr. Takamaru HORIUCHI		JICA T/L M/P Study Team	X	O
8.	Mr. Kenichi KITAMARA		JICA T/L M/P Study Team	X	O
9.	Mr. N. IKEDA		JICA/Laos	O	O
10.	Mr. Miori OGAWA		JICA/Laos	O	X
11.	Ms. Vilakhone		JICA/Laos	X	O
12.	Mr. Hatsadong		JICA/Laos	X	O
13.	Mr. Koichi MOTOMURA		JICA/Laos	X	O
14.	Mr. H. KOBAYASHI		JICA/Tokyo	O	O
15.	Mr. K. MIYASAKI		JICA/Tokyo(METI)	O	O
16.	Mr. Abe		JICA Expert (MIH)	O	O
17.	Mr. K. SATO		JICA Expert (EDL)	O	O
18.	Mr. Hirijuki GOTO		JICA Expert (STEA)	O	X
19.	Mr. Derek RATCUFF	Adviser	STEA	O	O
20.	Ms. Robin ENDERRIN	Adviser	UNDP	O	O
21.	Ms. San Hee Hong		UNDP	O	O
22.	Mr. Xedeg THIBAULT		UNDP	O	X
23.	Mr. T. ISHIHATA		MRCs	O	O
V.	**NGOs in Lao PDR**				
1.	Mr. Chanhom pheanephayvong	-	Cross-red	O	O
2.	Dr. Kideng THAMMALUNGSY	Chief	Cross –Red Lao	O	O
VI.	**NGOs Overseas in Lao PDR**				
	None	-	-	X	X
VII.	**Facilitator, Media& Interpreter**				
1.	Mr. Thongphet DOUANGNEN	Facilitator	-	O	O
2.	Mr. Soradeth BANNAVONG	Translator	-	O	O
4.	Mr. Detmahinh SOUPHANH	Translator	-	O	O
5.	Mr. Soulivanh SITHPHRASAY	Translation	-	O	O
6.	Mr. So SAYMONTY	-	Viantiane Mai	O	O
7.	Mr. Khambong	-	TV	O	X
8.	Mr. Phetsavanh	-	TV	O	X
9.	Mr. Phonesay	-	Business Newspaper	O	O
10.	Mr. Bounkong RASAVONG		Lao Newspaper	O	O

ATTENDANCE LIST

1st General Workshop for Inception Report

No.	Name	Position	Organization	26th	27th
11.	Mr. Vongdeane		Lao Newspaper	O	O
VIII	Study Team				
1.	Mr. Ichiro ARAKI	Team Leader	JICA Study Team	O	O
2.	Mr. Nobuhiro MORI	PFI Planner	JICA Study Team	O	O
3.	Mr. Masaki WADA	Hydropower Planner	JICA Study Team	O	O
4.	Mr. Jack PROSSER	Natural Envir. Expert	JICA Study Team	O	O
5.	Mr. Nejat IMECE	Hydropower Planner	JICA Study Team	O	O
6.	Mrs. Kesone SYASONE	Gender Specialist	JICA Study Team	O	O
	Ground Total : 128 participants	1st day (June 26)	: 120 participants		
		2nd day (June 27)	: 118 participants		

(4) Proceedings

1st day (June 26, 2001)

Inception

1. Opening speech by H.E Somboun Rasasombat – Vice Minister, Ministry of Industry and Handicraft

As a representative of the Ministry of Industry and Handicraft of the Laos People Democratic Republic, I wish to congratulate and thank Your Excellency and all the distinguished guests as well, for giving us a part of your valuable time to attend our today's consultation workshop for Nam Ngiep1 Hydroelectric Power Project Feasibility Study - Phase II.

Laos is blessed with rich varieties of natural resources of which the existence of mountains with dense forests and rivers, offer the opportunities to build various scales of hydropower.

Today our country is still undeveloped, rural community remains predominant society; people live with primitive means and rely strongly on Nature.

From the fact that favorable conditions to foster economy development or large income generation alternatives in our country are so limited, the government has consequently given priority to the development of Hydropower resources which are so abundant in our country. Small projects can be implemented to provide electric power to remote rural areas, whilst the medium and large scales can be destined to satisfy the domestic demand and part of it to be exported to neighboring countries for more foreign currencies.

As all of us may know, since the implementation of the market oriented policy calling for economic cooperation with foreign countries, there were businessmen and investors interesting in investments in hydropower projects in our country. The government understands the importance of the private sector participation in hydropower development, and consequently has given opportunities to investors to open up to many hydropower projects. Nevertheless, by taking the technical parts of the projects into account, the government has paid great attention to the

possible impacts on the environment as well. The government has also explored the possible appropriate counter measures capable to remedy these impacts prior to granting the investors the right to the projects.

Nam Ngiep1 Hydropower project is located in Bolikhamxai Province 140 km North East of Vientiane. The government has received a grant fund from Japan dedicated to the Feasibility Study of the aforementioned project. Phase I (1998-2000) of the Project has dealt with the likely impacts caused to the Environment and local residents, while Phase II is taking specifically on the technical side. The main objectives of our today consultation workshop are firstly to review all the results obtained from Phase I study and, secondly to make suggestions on various possible approaches for Phase II study.

I, therefore, invite all of the participants to give their best endeavors and make their comments in order to achieve a good and complete report for Phase II study.

In this occasion, I would like to extend my sincere thanks to the Embassy of Japan in Laos PDR, the representatives from various Ministries, and the representatives from the provincial Authority as well, for joining this workshop. I hope also to receive your continuous support and help to enable this project to continue in line with the project work program.

Once again, I wish to thank and congratulate both JICA and Laos study teams for the preparation of this workshop. Finally, I have the great honor to declare opening the consultation workshop for the Phase II of the Nam Ngiep1 Feasibility Study, and wish it to be carried out fruitfully. Thank you.

Discussions

2. Mr. Somdy Keodalavin - Director of the Cabinet, Xaysomboun Provincial Office

In principal I agree with the outcomes presented by the experts of JICA Study Team. At the same time, I would like to congratulate them not just for their great effort made during the previous study but also for being able to make Phase II of the study happening. I would like to draw your attention on specific resettlement issues. If the Project proceeds, obviously it will be implemented only after some years. By that time there will be significant changes in nearly all aspects. Therefore, I would like to ask the Study Team if they have taken into account such fact. For instance, in case of Thavieng District, which is classified as focal zone, we are implementing the poverty alleviation program by carrying out 3 main tasks, whereas:

(i) Enough food for everybody

(ii) Adequate housing for each family

(iii) Enough Income generation for basic needs for each family, this is particularly important for emergency time and sickness.

Accordingly, each family has to make its own planning on how they can achieve the 3 tasks. Therefore, if their today planning have came up with a defined plan and budget, then at the day of the project implementation, many years later, obviously their actual budget will not be sufficient to cover additional works in case if resettlement takes place. Has the Project taken into account such situation? Are there any provisions for additional budget to cope with such situation? I hope that your study is able to give recommendations.

Answer by JICA Study Team : We understand that your province and your people have your own plan for rural development. In the Feasibility study of Phase I, we have explained why we have selected the Medium scale Dam. In brief, I would like to say that that option is also an optimal alternative to minimize damage to Thavieng District. And, while speaking about poverty alleviation, Thavieng District people can get benefit from the use of the future reservoir such as for fishery, transportation and so forth. This issue has been treated in Phase I study. Our RAP has made estimate for Resettlement cost and that cost will be paid by the Project. We will update it again after completing the mapping of the reservoir in Phase II study, because only then we can be sure how much of land and infrastructure will be affected by the Project.

3. Mr. Sounthorn Sayasing, Labor Trade Union, Head quarter office

This is my first time to join Nam Ngiep1 Workshop. After I have followed today's presentation I entirely agree with your findings.

In addition to the impacts that you have identified, my utmost worry concerns the market. So far the markets proposed by you are just Thailand and Vietnam. To my knowledge, these countries are striving hard also to build power stations in their own land to satisfy their domestic demand. What happens if they decline to purchase the power from this project after some years of operation? Moreover, I have heard that the past negotiations regarding the electricity price of Nam Ngum Hydropower station were so difficult.

Answer by JICA Study Team : Yes, we appreciate your concern. Indeed the electricity price of Nam Ngum is quite low, and that make people think about stopping transmitting power to Thailand and to dispatch it for domestic power consumption exclusively, since Laos is having power shortage. In the case of Nam Ngiep1 we have made several assumptions, including a simulation of power demand in 30 years later. Thailand has some 5 % economic growth per year. From the macro-economic point of view, in average, Asian countries enjoy around 5% economic growth, then if we assume that the growth is just about 1.5 or 2% we can also forecast the power demand which will be in this case approximately 7.5 % or 8%. Thus, with such figures there should not be any problem to supply power from our Project to our neighbors. However, the critical issue remains with electricity price, since the market determines it, which is a balance between supply and demand. In our forthcoming study we will have to look on electricity pricing and for a long term, since we have to compete with many rivals.

4. **Mr. Somdy Inmixai - Deputy General Director of the Department of Industry, Ministry of Industry and Handicrafts**

According to your findings, there are two options, where the first option is FSL320m and the second is FSL360 m. The second option shows better return, nevertheless you suggest the first option. What are the risks we should expect?

Answered by JICA Study Team : Preference was given to the first option with FSL 320m, despite the study shows that higher dam gives higher economic return. With FSL 320m, we lose 40m head and some 100 MW installed capacity. The main reason behind the selected option is that we can minimize resettlement. If we selected the FSL 360m option, there will be at least some 6,000 people to be displaced, while only 1,600 people to move out in the FSL 320m option. Moreover, beside the presence of the actual large number of paddy rice fields in Thavieng District, nowadays this district becomes actively developed. Transmission line is under construction and will bring electricity to Thavieng District. 10-20 years later, Thavieng may become the focus point of East Asia, given that a road will be built across that region and will link Phonsavan and Paksane.

5. **Ms. Khammanh Havonglat from Central Lao Women Union(LWU)**

I agree with the findings presented by the experts of JICA Study Team. However, I would like to address my concern on water quality issue, since the quality of the water from the reservoir will not be good enough for domestic consumption, what will be the measures taken to allow people living in the downstream area to have access to clean water? I still not clearly understand about the new resettlement area. Will there be enough land for the resettled people to work on? Are there any kinds of job opportunities they can practice and live on? I would like also to see the resettlement action plan as a fully integrated development plan, where the resettled people can find schools, health center, clean water, and so on. What regards the electricity market, I agree with the concern previously raised by the participants.

Answered by JICA Study Team : The Study Team is aware of all the issues raised by the LWU and appreciated their comments and that all of the LWU's concerns would be considered and included in the Final Resettlement Planning for NNHEP.

In terms of water quality control and management, we have treated this issue in our Environment Management Plan, where we have explained how water quality will be affected, and how to provide clean water to the villagers. This time we will suggest some regulation for water use and water quality, to prevent abuses and minimize the associated risks. There will be a number of mitigation measures to control these issues. By that means, Contractors shall obey the rules during the construction. Waste or used water will be treated prior to discharging back to the river. With respect to the resettlement areas, in our past studies we have identified some potential areas suitable for resettlement. Job opportunities and new occupations capable to make them better off

are described in our proposed Resettlement Action Plan (RAP). The scope of the recommendations covers also the case where the villagers choose to move to some other place different from the ones suggested by the Project. If your concern touches the area of compensation, in the RAP you can also find many sections treating this issue. In brief, the rule is that whoever sustains loss must be compensated no matter if the Developers or the Government will do that. RAP gives also good recommendation on the establishment of Resettlement and Grievance committees as well. Finally, for your last concern regarding the power market, we can tell you that according to our schedule, we intend to start the survey next month.

6. **Mr. Hat Sisombat:- Department of Agriculture of Vientiane Province**

I have been living in Hom District for more than 10 years. I know quite well the particularities of Nam Youak, Sop Youak areas. I fully agree with the presentation of JICA experts.

However, I am very interested in the impact that the project will cause to the villagers. I share the same concern as mentioned by the representative of Laos Woman Union. Where will these villagers be displaced? What are the facilities to support their livelihood? Ethnic people living in those areas are almost Hmong people and they have their own traditions.

Are there any lands for them to work on? Our lessons learned from Nam Ngum 1 have shown that it was really complicated to move them, and as a result many did follow but some did not. Therefore I would like to propose to reserve at least 1% of the Project cost or, as a second alternative the Government may deduct some 2% from the revenue of the electricity sale and use that money for rural development. Would that make a sense? On the other hand, I think it would be too difficult for the Government to allocate a separate National budget just for the purpose of developing that area. I agree with the concept of establishing the Resettlement and Grievance committees prior to displace people. However, I would like to emphasize that the committees should not be only at the National level, but also similar committee must be set in the Provincial, the District and the village level as well.

Answer by JICA Study Team : Nam Ngum 1 Hydropower Project had been built 30 years ago, and that was during the time of Vietnam War, thus unfortunately resettlement was made with very poor standards. In our RAP we have made an estimate for Resettlement Budget, in which compensation cost and budget are all included. However, in practice, some 5-8% of the construction cost may be used to estimate the Resettlement cost. Nevertheless, in Phase II, we planned to get more details from more socio-economic studies and surveys aiming at creating a better understanding on resettlement issues. We intend also to draw good lessons and practices from other projects, too. We agree with your viewpoint regarding Resettlement and Grievance committee's structure, and what you are proposing is well described in the content of our RAP. Please continue to support us, so that the environmental & social problems can be sorted out properly for everyone's benefit

7. Mr. Thongma Sisouvannasan, From the Bolikhan District office

On the behalf of the local authority and people as well, I fully agree with Phase II Study and wish to make the following comments:

(i) The findings of Phase I Study were very useful for the government of Laos to make a decision in choosing the best alternative with the smallest impact to the environment and the surrounding communities with some hope in the power market. With respect to the dam selection, our district authority supports the decision made by the government. Even if there are various impacts on the environment and people, counter measures are considered. Fishery and fish consumption today are still randomly practiced. However after the construction of the dam, it will be systematic and people can adopt this profession at any time.

Since many years ago, we tried hard to stop slash and burn practices to preserve the forest and its fauna and flora. We have allocated new agricultural lands to the villagers. The forest has been recovered since then and is denser now. The damming of the river will create a reservoir, and the problem to follow the inundation of the forest will be water quality. People living in the downstream area of the dam will suffer from the release of low quality water. This phenomenon will be one of the critical issues of the project. With respect to resettlement and livelihood component, the local authority has to make their best endeavors to maintain good spirit among the villagers. In the Bolikhan district we have identify two zones appropriate for agriculture activities: the plain of Na-O and Phamuong-BanBo. In Na-O , we believe that rice can be cultivated in market oriented manner, while fishery can be practiced as main occupation.

About 800 to 1,000 families can be fit in this zone. Likewise, in Phamuong-BanBo zone cattle (cows and buffaloes) raising and agriculture can be practiced in market oriented manner. 400 to 500 families can be accommodated in this zone. In terms of people health, we have to plan early ahead of the project implementation. Particular attention must be devoted to the access to clean water, health education, and improvement of public service. Social problem can be minimize with the application of efficient administrative management and the involvement of the people who have experience in resolving gender issues.

(ii) Preventive measures and solutions to issues require the active participation of all concerned parties including government agencies, project staff, various agencies, private sector and the villagers as well. In general, the government can gather considerable experiences from as many projects implemented so far.

(iii) On the other hand, if we confine ourselves with problems and difficulties only, and neglect the common benefit that the project can bring to the Nation, the development will then be

faced with serious obstacles. We will never be able to come over our undeveloped country status. Definitely, only development of the country can strengthen the economy and promote justice in the society. Beside the economic development, that Nam Ngiep 1 HPP can bring to the country, this project will also result in an important contribution to the human resource development in our country at all levels of which among them are people actively involved at central level, local authority and the population as well. Moreover, the implementation of the Project will create job opportunities to some groups of people and improve their standard of living and reduce poverty. Such event will also reduce significantly the work volume by the local authority on the local project consisting of reduction of slash and burn cultivation practice.

(iv) In order to realize the implementation of Nam Ngiep 1 HPP, it is necessary that the project must comply with international standards. In Laos PDR, the project must get 1st priority and actively supported by government agencies, international organizations, private sector, and the population. All work should be done under the leadership of the Ministry of Industry and Handicraft, which should also work hard to mobilize fund for the implementation of the project. We also wish JICA to continue its cooperation and support to the project. At any case, according to the government guidance, the local authority will always make their assistance available to the project.

I strongly believe that the project will continue until the achievement of its implementation. Finally, may I wish this workshop to come up with constructive and fruitful findings. Thank you.

Answer by JICA Study Team : Thank you for your valuable comments and support to the project. Please let us know of any additional recommendations. You can reach us through JICA or MIH offices.

8. Mr. Thongkhan Vongphachan – Department of Handicraft. Ministry of Industry and Handicraft

According to the findings and the presentation by JICA Study Team this morning, I understand that so far and to certain extend, this project seems to be feasible. To increase the effectiveness of this Project, I would like to suggest some additional studies to be carried out on the possibility of electricity supply for domestic consumption, where local industries will be involved; manufactures for agricultural product handicraft, or cattle farms. This can be another solution for the market, since marketing is actually one of the critical concerns of many of us.

This morning JICA Study Team has made an introduction to Private Finance Initiative (PFI) Planning. If the government accepts to follow PFI method, what are the additional regulations or legal acts that the government must prepare to enable its practice? Can you please give more explanation on the advantages and disadvantages or risks of the government with PFI?

Answered by JICA Study Team : Thank you for your valuable comments and questions as well.

In PFI method, the government is sharing some responsibilities. The government should make and maintain good balance between their role and the role of the developers. There is definitely some regulatory framework required by the sovereign government such as GOL with its main role required to control prices and to suppress "too much profit by the private enterprise involved".

Assistance and advice to the Ministry on these matters would be part of any PFI type development proposed for NNHEP

9. Mr. Monvisay - Hom District

I fully agree with the findings made by JICA Study Team. May I have two questions:

(i) As our forest is rich of valuable timbers it will be a pity to let them spoil under water. Will there be any logging operation prior to the project implementation? I understand that logging operation is also considered as part of reservoir clearing for a better water quality.

(ii) Since not everybody will go to the suggested resettlement sites, many of them may choose to go to " the Thong Nami plain". However, Thongnami is not included in the development plan. In our district we still have two more potential sites called Long Nam Houay and Phou Sam Liem, which can be included in the resettlement sites options for the people to be displaced. However, we need roads to access to these places. Please also note that the road leading to Long Nam Houay is about 18 km.

Answer by JICA Study Team : In our study, we do have some recommendations on reservoir clearing and logging operation, as well. However, removal of the valuable timbers and vegetation ought to be done some years later after the project has commenced the construction. If we cut trees in the wrong time we may need to cut them again, because the trees in tropical areas use to grow fast. Therefore, today we cannot cut the trees for the purpose of reservoir clearing. We have to wait until we are completely sure that this project can really be implemented. Thank you for your information, we will continue to investigate about resettlement sites. Access roads to resettlement sites are necessary and they will be built before displacing people to the resettlement sites.

Although Phase I RAP study was preliminary, it did recognize the potential problems in finding acceptable resettlement sites and plans for them, and that the concerns were recognized and would be important factors in preparing the Final RAP

2nd Day: June 27, 2001 DISCUSSIONS

10. H.E Somboun Rasasombat – Vice Minister, Ministry of Industry and Handicraft

There are certain points that need to be more elaborated. Among them is the domestic market, which must be well investigated, since the demand is quite significant and an assumed allocation

of 5 % of power from the project is not prerequisite set by the GOL. The GOL policy is to use its own electric power rather than importing it.

Therefore, domestic market must be also assessed with the same diligence, as it has been the case with Thai market. Actually, Savannakhet and Bolikhamxai Provinces consume together more than 100 MW. They could absorb a good portion of the project output.

The study of Laos PDR market must be done without any favor in term of pricing, and it should be done in conjunction with Laos Energy Development Plan up to 2020.

Answer by JICA Study Team : Indicated remarks would be considered in Phase II studies and in their analyses and recommendations.

11. Mr. Kham Phalakhob - Ministry of Agriculture and Forestry

I think at this stage, it is still difficult to say if the project is likely to proceed or not.

(i) However, I would like to ask if it is possible to use the water to irrigate the rice fields located downstream of the powerhouse.

(ii) I agree with the Resettlement Plan. Is there any rescue plan to save animals being stranded on the various islands in the future reservoir? I know that Nam Theun 2 Project does have it.

Answer by JICA Study Team : Your concern regarding the integration of an irrigation system in the new resettlement sites below the power station reminds me the workshop we have had in Paksane, where Bolikhamxai officials have asked the same question. At that time, they have already some irrigation plan and location of their favorite resettlement areas. Technically, I think that irrigation system can be implemented there. However, will it be economically justified or not, nobody knows yet. We hope to do more analysis on that issue when we will start the section on "Rural development option". For the time being it would be very helpful, if you can provide us with more information and data regarding the sites that you just mentioned.

Regarding wild life rescue, we do have preliminary thought described in our proposed Environmental Management Plan. This matter will be reviewed again after we received more information about the topology of the area. The information will give us knowledge on how many islands to evolve, what can be the water level in the reservoir, how much land to be submerged and how much to be left... etc. Definitely, Nam Ngiep 1 HPP will have its own wild life rescue plan, too.

12. Mr. Saysavanh Sengthong - Department of Hygiene and epidemic prevention.

I have joined this workshop once. I find the Feasibility Study well prepared. However, I noticed that the section regarding health data is missing, and little information about the present health status of the villagers. Likewise, very little is known about Cultural issues. I suggest modifying the chapter title "Human resource development" by adding "and gender issue". The whole title

should be read as "Human resource development and gender issue". I believe that woman involvement is very important and can be a key success. I found that Environment issues and Social issues are two separate subjects to be discussed and presented in two different volumes.

Answer by JICA Study Team : The problems of public health and sanitation problems are real ones for major construction projects and they deserve care. In our preliminary Resettlement Action Plan, we have reported on education and health present status. We also made recommendation on both issues. Health situation in camps and project areas will be monitored and programs set for contractors to take care of workers migrating into the construction camps. It is now common and requires that the EMP & RAP contain detailed public health situation evaluations, mitigation programs & health programs for construction camps and resettlement sites and surrounding project areas

The gender issues were studied in Phase I and Ms Kaysone, Gender specialist will be reporting on this in more details later this afternoon.

13. Mr. Khammang Phouthavong -Thathom District, Saisomboun Special Zone

I represent and speak on behalf of 12 villages and 9 village chiefs at this Workshop and would like to make the following comments:

(i) Our villages welcome the NNHEP and have no objection to it at the FSL 320 m, as introduced at carlier workshops, both in the reservoir area and in Vientiane

(ii) We do not have any major issues against the project.

Answer by JICA Study Team : Thank you for your kind support. We believe that you have some knowledge and experience on Resettlement aspects and hope to get your assistance. Please, explain why Hom District became part of Vientiane Province.

14. Mr. Oudong Phongphaipadit – Planning division, Vientiane Province Office

I wish to congratulate the Study Team for their effort and success in the First Phase of the NNHEP study. With respect to Hom District, it was part of Saysomboun. Now it is under the administration of Vientiane Province. That arrangement is due to administration reasons.

We have got some experience from the resettlement of the people in Nam Ngum 1 dam project area. We noticed that the most critical element for a successful resettlement is land for cultivation.

Next, I wish to comment on the power market. I have had the opportunity to talk with Malaysian engineers. They said; " Malaysia needs cheap electric power since they use gas to produce electricity. Laos PDR has great and cheap hydropower resource. Why not to sell them to Malaysia?".

Therefore, apart Thailand, Vietnam, and domestic consumption we should also include Malaysia.

Answered by JICA Study Team : Thank you for your recommendation. In our first stage study, we have reported on many resettlement sites with their respective agricultural lands.

15. Mr. Houmphone Boulyaphol – Director, Department of Electricity. MIH

(i) Our Power Purchase Agreement with Thailand has been made on country to country basis, or so called bilateral cooperation. Nam Ngum1, Xeset, Nam Leuk can be cited as examples. Obviously, Nam Ngiep 1 will follow the same manner.

(ii) Actually, a study funded by EU is researching on the power grid interconnection possibility. Interconnection points identified are about 10. Hopefully the study should be completed by the year 2002. The study is very complicated since it involves rules and regulation from many aspects. The transmission line to link all Asian countries is very expensive, and is not probably to be implemented soon. Therefore, NNHEP is likely to rely on its own transmission line.

(iii) Power pool in Thailand is doubling challenge in the power market. It opens the market for more competition. It is hard for hydropower investors, since they want to know concretely the electricity price before committing any further agreement.

16. Ms. Vanida – Ministry of Finance

(i) Comment on the NNHEP's fund sources where it is indicated by the Study Team that Thai investors (20%) plus multi-lateral lenders could be involved, whether policies to protection of the environment would be still supported as for NT2 where funding is linked to protection of impacts on wildlife.

(ii) Comment on the care needed by the Study Team on risks of over-runs on project costs as it evolves.

Answered by JICA Study Team : With NT2, a major European Bank was involved with the EdF & Transfield and two Thai banks with the Thai companies, that the Merchant Banker commissioned its own "due diligence" on EIA work and all banks kept stating that if World Bank policies were met & guidelines followed, this was acceptable to the private banks involved

17. Comments on Onsite Workshops by Study Team

The topic of onsite workshops and getting information about this Workshop & Phase II back to the Project Area's communities was discussed in context of:

(i) Hope that those who are present, would undertake mini and onsite workshops in their villages base on information in the Workshop handbook with Lao versions of Phase II Inception Report, supporting materials and what they had heard at this Workshop.

(ii) It is now the rainy season and difficult for Study Team to go to these areas, so we ask your

help and support in getting our information to others.

(iii) Participants here are leaders in their communities, you have been involved in several workshops, know the Project and so we wish your success with this in your villages.

18. **Closing Comments by Chairman**

First Workshop of Phase II of NNHEP has come to its final stage and I would like to:

(i) Express gratitude to participants and delegates on the good effort on exchange of information.

(ii) Congratulate experts on their clear presentations and good documents on Phase II program.

(iii) Delegates paid good attention to the presentations and made contributions with an open manner. This will help the Study Team to improve and adjust project documents to reflect GOL policy, the peoples wishes and carefully consider the technical, environmental and social impacts.

(iv) The free dissemination of information is an important factor and we have studied and found out concerns about the Project and done good things for progress on the study.

(v) I want to express gratitude to JICA and the Japanese Embassy for their continuing support for NNHEP.

(vi) I want to say "thank you" to all the provincial, district and grassroots level participants and have a safe trip home.

Answers to Questionnaires on Suggestion Papers

19. **Question**: Power market has been confined to survey in Thailand only. It should be covering Laos consumption too, even if the domestic demand is estimated to be low. This information must be reflected in the Feasibility document. Would this be possible?

Answer by JICA Study Team : At least 5% of the power produced will be dispatched by the project to the local, on a regular basis. That amount of electricity would be more than sufficient to cover the domestic demand for several years. Our Transmission Line is located at a distance of less than 20 km from the National grid. We do not see major difficulties to connect our lines with National grid. We will follow your recommendations and will add additional information on domestic demand.

20. **Question**: Why geological investigations at the dam site and in the reservoir will not be performed during the field survey of Phase II, since this dam is high and the reservoir is huge?

Answer by JICA Study Team : We understand your concern. However, JICA still hesitate to proceed with a geological drilling team. We hope that in the near future things will get clearer.

21. **Question**: I hope that the unit price of electricity for export has been carefully assessed. Then, I

would like also to suggest to extend the resettlement period to 8 to 9 years and at every year to use part of the revenue from electricity sale to assist the resettle people throughout the concession period.

Answer by JICA Study Team : This question is dealing with the social program based on some type of continuing payment which agrees with your suggestion.

22. **Question**: Why JICA Study Team has focused on the Thai market only? Why not to study the Vietnamese market, too?

Answer by JICA Study Team : Potential buyer is not Thailand only, Vietnam can be also a potential buyer. In our work program we intend to visit Hanoi, and start the investigation on the Vietnamese market.

23. **Question**: Has JICA Study Team carried out a thoroughly assessment on all possible impact from the Project? Will there be any unforeseen impact as it was the case in Theun Hinboun Project? Will the local community get any advantage from the project? Are there any studies on the Impact from the construction of the Transmission Line?

Answer by JICA Study Team : So far, our Experts have contributed considerable effort in identifying impacts. In their proposed Environment Management Plan they have suggested remedial measures too, where recommendations are to be followed during construction and operation periods. We hope that we have covered the major issues, or at least the critical ones despite the difficult access to the project area. In this Phase II, we still keep eyes on it and update for some issues may be necessary.

With respect to the Transmission Line route, we have a preliminary trace. We are still studying it. Only after we have finalized the route, we will carry out EIA study along it.

24. **Question**: Are there any studies on the livelihood components for the people to be resettled from the reservoir?

Answer by JICA Study Team : We have achieved a comprehensive preliminary Resettlement Action Plan and an Environment Impact Assessment. Their content will be reviewed and optimized after the technical findings of Phase II. Only then we will be able to know precisely which villages and how much land use will be the affected. Afterwards, we will explain to you on a more accurate basis, what needs to be done in terms of resettlement requirement and livelihood components. We will advise also on how long the transition period should be before a complete restoration of the living standard.

25. **Question**: I noticed that the participants are from various education background and levels. The use of technical words make many of us confused, even if the words are from Lao language, such as "Flora", "Fauna"...and so forth.

Answer by JICA Study Team : The purpose of this workshop is to make people understand about the Project thorough findings and researches as well. Therefore, we always tried to make our presentation as simple as possible, by Means of simple wordings, pictures, photos...etc. We admit that some topics are not easy to understand such as: construction technology, PFI investment method.... etc.

However, please also understand that this is a part of human resource development program as well, or a kind of learning process. And, you must contribute with a part of your effort to learn and to understand, since the impacts, the benefits and losses are acting primarily on you. Should you have any questions, concerns or suggestions please never hesitate. Speak to us. If you cannot do it verbally put them on paper and give it to us. We will try to do our best to clarify those issues.

26. **Question**: How PFI investment method can be fitted into a multi-lateral funding program? How a country like Laos PDR can use this method? What are the risks for the government and the investors as well? Could you please provide a copy of your presentation (in electronic format) to us?

Answer by JICA Study Team : We are not sure on what you mean by Multi-lateral funding program, and are not sure how PFI can be fitted there. We will think about your questions and will answer you later. The risks for both sides were presented yesterday by our expert and described in our handout distributed to you. DOE staff for translation preparation has used a copy of the PFI presentation. So that it means that you already have them.

12.1.2 2ND GENERAL WORKSHOP

(1) General

The 2nd General Workshop named "Interim Workshop" was held to explain the contents of the Interim Report at the Borikhamsay Provincial Office in Pakxan on March 6-9, 2002. The programs, the attendance list and the discussion proceedings are shown below. The Workshop was carried out by following manner:

No.	Item	Particular
1.	Schedule	4-days: 1st day to present the study results of the Interim Report, 2nd day to discuss in detail, as well as visitation to Theun Himboune powerhouse, 3rd day to sum up main points, and 4th day for visitation to Nam Ngiep dam site..
2.	Place	The conference room of Borikhamsay Provincial Office in Pakxan.
3.	Participants	About 100 participants including central and local government officials, local peoples, international agencies (MRC, etc.), and others. A list of parties sent invitations is attached hereto.
4.	Facilitating	Facilitator, interpreter, LCD-projector, microphone, VTR, etc. were used.
5.	Discussion	To categorize theme summarizing results by representatives. Prior submission of agenda from participants for smooth facilitation of discussion.
6.	Programming	Minimizing explanation by Team, time to be spent for discussion as long as possible.
7.	Distribution papers	All explanatory papers were prepared in English and Lao, they included copies of slides of computer.

No.	Item	Particular
8.	Transportation	8 nos. of 4WD cars for villagers in the reservoir area, large-bus for trip between Vientiane - Pakxan and Pakxan - Theun Himboune P/S.
9.	Participants from JICA/Tokyo	(i) Mr. Hayao Adachi (Director, Japan Electric Power Information Center), (ii) Mr. Shingo Tatematsu (Program Officer, JICATokyo)
10.	Participants from JICA/Laos	(i) Mr. Nobuaki Miyata, Deputy Resident Representative, JICA Laos Office (ii)Mr. Masatoshi Kaimasu, Project Formulation Advisor, JICA Laos Office
11.	Embassy of Japan	None

(2) Program

LIST OF PROGRAM

2nd General Workshop for Interim Report

First Day (March 6, Wednesday, 2002)				
No.	Time		Program	Presented By
1.	08:30 - 09:00	0:30	Registration at MIH, Vientiane	All participants
2.	09:00 - 11:00	2:00	Trip to Pakxan	
3.	11:00 - 13:00	2:00	Lunch Time at Restaurant	All participants
4.	13:00 - 13:30	0:30	Registration at Prefectural Office, Pakxan	
5.	13:30 - 14:00	0:30	Opening Address	MIH, JICA/Tokyo
6.	14:00 - 15:00	1:00	Introduction (S/Team, Background) Phase II Study Interim Results	Study Team, Leader
7.	15:00 - 15:30	0:30	Coffee Break	All participants
8.	15:30 - 16:10	0:40	Detailed presentation for PFI Planning	S/Team, PFI Planner
9.	16:10 - 16:50	0:40	Detailed presentation for Power Planning	S/Team, Power Planner
10	16:50 - 17:30	0:40	Detailed presentation for Environmental Issues	S/Team, Environmentalist
	17:30 - 17:35	0:05	Orientation of Theun Himbon HEPP	Study Team, Leader
	17:35 - 17:40	0:05	Orientation of Nam Ngiep Dam Site Visit	Study Team, Leader
11	17:40 - 18:00	0:20	Break Time (Move to Restaurant)	All participants
12	18:00 - 20:00	2:00	Dinner Time at Restaurant	All participants
	GROUP-A		**Second Day (March 7 Thursday, 2002)**	
No.	Time		Program	Presented By
1.	07:30-08:00	0:30	Registration at Prefectural Office, Pakxan	All participants (Group-A)
2.	08:00-11:00	3:00	Trip to Theun Hinboune HEPP	All participants (Group-A)
3.	11:00-11:30	0:30	General Explanation at Meeting Room	All participants (Group-A)
4.	11:30-12:00	0:30	Inspection (Powerhouse)	All participants (Group-A)
5.	12:00-13:30	1:30	Lunch at Canteen	All participants (Group-A)
6.	13:30-14:30	1:00	Inspection (R/R Dam & Resettlement Area)	All participants (Group-A)
7.	14:30-15:00	0:30	Trip to Intake Dam	All participants (Group-A)
8.	15:00-15:30	0:30	Inspection (Intake Dam)	All participants (Group-A)
9.	15:30-19:00	3:30	Trip to Pakxan	All participants (Group-A)
10	19:00-20:30	1:30	Dinner at Restaurant	All participants (Group-A)
Second Day (March 7 Thursday, 2002)				
No.	Time		Program	Presented By
1.	08:30 - 09:00	0:30	Registration at Prefectural Office, Pakxan	All participants (Group-B)
2.	09:00 -10:00	1:00	Discussion I	Study Team
3.	10:00 - 10:30	0:30	Coffee Break	All participants (Group-B)
4.	10:30 - 12:00	1:30	Discussion II	Study Team
5.	12:00 - 14:00	2:00	Lunch Time at Restaurant	All participants (Group-B)
6.	14:00 - 15:00	1:00	Discussion III	Study Team
7.	15:00 - 15:30	0:30	Coffee Break	All participants (Group-B)
8.	15:30 - 17:00	1:30	Discussion IV	Study Team
9.	17:00 - 18:00	1:00	Break Time	All participants (Group-B)
10.	18:00 - 20:00	2:00	Dinner Time	All participants (Group-B)
Third Day (March 8,Friday, 2002)				
No.	Time		Program	Presented By
1.	08:30 - 09:00	0:30	Registration at Prefectural Office, Pakxan	All participants
2.	09:00 - 09:15	0:15	Review of 1st & 2nd Day Workshop	Study Team, Leader

LIST OF PROGRAM

2nd General Workshop for Interim Report

3.	09:15 - 09:30	0:15	Report of Site Visit	Leader of Group-A
4.	09:30 - 10:00	0:30	Report of Discussion	Leader of Group-B
5.	10:00 - 10:30	0:30	Coffee Break	All participants
6.	10:30 - 11:00	0:30	Answer to Suggestion Papers	Study Team
7.	11:00 - 11:30	0:30	Orientation of Site Workshop	Study Team
8.	11:30 - 12:00	0:30	Advance Billing of 3rd Workshop	Study Team
9.	12:00 - 12:30	0:30	Closing Speech	MIH
10.	12:30 - 14:30	2:00	Lunch Time	All participants
11.	14:30 - 18:00	3:30	Break Time	All participants (Special day)
12.	18:00 - 20:00	2:00	Dinner Time	All participants (Special day)

Special Day **Forth Day (March 9, Saturday, 2002)**

No.	Time		Program	Presented By
1.	08:00-08:30	0:30	Registration at Rose Garden, Pakxan	All participants
2.	08:30-10:00	1:30	Trip to B.Hatkham	All participants
3.	10:00-10:30	0:30	Trip to Dam Site	All participants
4.	10:30-11:00	0:30	Rest at Dam Site	All participants
5.	11:00-11:30	0:30	Trip to B.Hatkham	All participants
6.	11:30-13:00	1:30	Lunch at B.Hatkham	All participants
7.	13:00-14:30	1:30	Trip to Pakxan	All participants
8.	14:30-16:30	2:00	Trip to Vientiane	All participants

(3) Attendance List

ATTENDANCE LIST

2nd General Workshop for Interim Report

No.	Name	Position	Organization	6th	7th	8th	9th
I.	**Chairman**						
1.	Mr. Somboun RASASOMBATH	Vice Minister	Ministry of Industry and Handicrafts	O	O	O	O
2.	Mr. Soukata VICHITH	Director	STEA	O	O	O	O
3.	Mr. Khamvone PHANOUVONG	Director	Ministry of Foreign Affair	O	O	O	O
4.	Mr. Hayao ADACHI	Adviser	JICA/Tokyo	O	O	O	O
5.	Mr.Makoto AOKI	Resident Representative	JICA/Laos	O	O	O	O
II.	**Central Government**						
1.	Mr. Sayasak VONGSACK	Engineer	EDL	O	O		
2.	Mr. Visiane SONGHAPHUP	Engineer	EDL	O	O		
3.	Mr. Phouvieng KEOBOUPHA	Head of Division	Ministry of Industry and Handicrafts	O	O		
4.	Mr. Khamchane KHONSAY	Engineer	Ministry of Industry and Handicrafts	O	O		
5.	Ms. Lathdavane Southammavong	Engineer	Ministry of Industry and Handicrafts	O	O		
6.	Ms. Southsada MOUANGKAO	Engineer	Ministry of Justice	O	O		
7.	Mr. Soumontha Somchanmavong	Engineer	Ministry of communication Transpo	O	O		
8.	Mr. Kam PHALAKHONE	Engineer	Ministry of Agriculture & Forestry	O	O		
9.	Mr. Outhai PHATHPHONE	Engineer	National Assembly	O	O		
10.	Mr. Vilayvong	Engineer	National Assembly	O	O		
11.	Mr. Anousack PHONGSAVATH	Deputy Chief of Division	Division of Rural Electrification	O	O		
12.	Mr. Oudomsack PHILAVONG	Engineer	LNMC	O	O		
13.	Mr. Thongkhane Vongphachang	Head of Division	Department of Handicraft	O	O		
14.	Mr. Somdy INMISAY	Deputy Director	Department of Industry	O	O		
15.	Mr. Aravane BOUNYAPHALOM	Head of Division	Department of Mine	O	O		
16.	Ms. Thongsy BOUNYAPANYO	-	National Front	O	O		
17.	Mr. Bouathep MALAYKHAM	Head of Division	Division of Rural Electrification	O	O		
18.	Ms. Bounkham VORACHITH	Engineer	STEA	O	O		
19.	Mr. Phouvong ONSYSALEUM	Engineer	STEA	O	O		
20.	Mr. Ounheane	Chief of Division	STEA	O	O		
21.	Mr. Chansanouk Khonnavong	Engineer	STEA	O	O		
22.	Mr. Chantho Milathanapheng	Chief of Division	Division of Development	O	O		
23.	Dr. Tayphasavane	-	Ministry of Public Health	O	O		

ATTENDANCE LIST

2nd General Workshop for Interim Report

No.	Name	Position	Organization	6th	7th	8th	9th
24.	Mr. Sythang VANG OUTHAI	-	Lao Youth Union	O	O		
25.	Mr. Khampheth VILAPHONDETH	Engineer	Price Minister Office	O	O		
26.	Mr. Phonpaseth PHOULIKHAM	-	SPC	O	O		
27.	Ms. Khammanh THAVONGLATH	Engineer	Lao Women Union	O	O		
28.	Mr. Sounthone SAYASING	Engineer	Lao Union Trade	O	O		
29.	Ms. Anouphone KITHTILATH	-	Ministry of Foreign Affair	O	O		
30.	Mr. Phanomkhone Daralathsamy	-	CIC	O	O		
31.	Mr. Bounkhong KEODALIN	-	Ministry of Defend	O	O		
32.	Ms. Vanida	-	Ministry of Finance	O	O		
33.	Mr. Bounsalong	Chief	Nam Theun 2	O	O		
34.	Mr. Phetsavanh Lathanathonggasy	Deputy Chief of Division	MIH/DOE	O	O		
35.	Mr. Voradeth PHONEKEO	Engineer	MIH/DOE	O	O		
36.	Mr. Viengsay CHANTHA	Engineer	MIH/DOE	O	O		
37.	Mr. Seumkham Thoummanvongsa	Engineer	MIH/DOE	O	O		
38.	Mr. Chansaveng BOUNGONG	Deputy Head of Division	MIH/DOE	O	O		
41.	Mr. Khammanh SOPASEATH	Engineer	MIH/DOE	O	O		
42.	Mr. Sanya SOMVICHITH	Engineer	MIH/DOE	O	O		
43.	Mr. Sengdeane VONG-IN	Engineer	MIH/DOE	O	O		
44.	Mr. Inthila CHANTHAVISOUK	Engineer	MIH/DOE	O	O		
45.	Mr. Lithanoulok RASAPHO	Engineer	MIH/DOE	O	O		
46.	Mr. Vithounlabundith	Engineer	MIH/DOE	X	O		
47.	Ms. Viengkham SAYASOUK	Engineer	MIH/DOE	O	O		
III.	**Local Government/Local People**						
1.	Mr. Somdy KEODALAVINE	Head of Cabinet	Khetpiseth Saysomboun	O	O		
2.	Mr. Singkham SIVONGKHAM	Head of Division	Khetpiseth Saysomboun	O	O		
3.	Ms. Phetnakhon NAMAVONG	Engineer	Khetpiseth Saysomboun	O	O		
4.	Mr. Vilayvone	Chief	Thaviang	O	O		
5.	Mr. Khammang	Head of Village	Thaviang	O	O		
6.	Mr. Douangta	Head of Village	Thaviang	O	O		
7.	Mr. Xienglot	Head of Village	Thaviang	O	O		
8.	Mr. Phao	Head of Village	Thaviang	O	O		
9.	Mr. Inta	Head of Village	Thaviang	O	O		
10.	Mr. Line	Head of Village	Thaviang	O	O		
11.	Mr. Khamphane	Head of Village	Thaviang	O	O		
12.	Ms. Singphone	Head of Village	Thaviang	O	O		
13	Mr. Bounkeo	Head of Village	Thaviang	O	O		
14.	Ms. Phomvisay	Chief	Hom District	O	O		
15.	Mr. Kongkham	Head Office	Hom District	O	O		
16.	Mr. Yearlongvang	Head of Village	B. Houaypamom	O	O		
17.	Mr. Songvang	Head of Village	B. Sopphouan	O	O		
18.	Mr. Yearto	Head of Village	B. Namyouak	O	O		
19.	Mr. Vanvilay DENEPHOULUANG	Deputy Head of Cabinet	Bolikhamsay Provine	O	O		
20.	Mr. Phonethilat SITHSATHONE		Bolikhamsay Province	O	O		
21.	Mr. Thongma Sisouvannasane	Deputy Head of Bolikhan	Bolikhamsay Province	O	O		
22.	Mr. Khamsay THONGLATH	Deputy Director of Division	Bolikhamsay Province	O	O		
23.	Mr. Phouviang	Head of Village	B. Hattheun (Hatkham)	O	O		
24.	Mr. Xiengmai PHIAKEO		B. Hattheun (Hatkham)	O	O		
25.	Mr. Phonesy	Head of Village	B. Thahua	O	O		
26.	Mr. Samai		B. Muangmai (Somseun)	O	O		
27.	Mr. Bounsou SAYAVONG	Head of Village	B. Nam Pa	O	O		
28.	Mr. Sythane		B. Nam Pa	O	O		
29.	Mr. Oudong Phongphaypadith	Deputy Director of Division	Vientiane Province	O	O		
30.	Mr. Khammuan Thongmanivong		Vientiane Province	O	O		
31.	Mr. Hath SYSOMBATH	Head of Division	Vientiane Province	O	O		

ATTENDANCE LIST

2nd General Workshop for Interim Report

No.	Name	Position	Organization	6th	7th	8th	9th
32.	Ms. Saykeo SISOMSAY	Deputy Head	Vientiane Province Lao W/Union	O	O		
33.	Mr. Niphone SAYSANAVONG	Deputy Head of Division	Vientiane Province	O	O		
IV.	**International Organization**						
1.	Mr. Shusaku HIRATAMA		Embassy of Japan	X	O		
2.	Mr. N. IKEDA		JICA/Laos	O	O		
3.	Mr. KAIMASU		JICA/Laos	O	X		
4.	Ms. Vilakhone		JICA/Laos	X	O		
5.	Mr. Hatsadong		JICA/Laos	X	O		
6..	Mr. Koichi MOTOMURA		JICA/Laos	X	O		
7.	Mr. Shingo TATEMATSU		JICA/Tokyo	O	O		
8.	Mr. K. SATO		JICA Expert (EDL)	O	O		
9.	Mr. Azuma TSUNODA		JICA Expert (MIH)	O	O		
10.	Mr. Hirijuki GOTO		JICA Expert (STEA)	O	X		
11.	Mr. Derek RATCUFF	Adviser	STEA	O	O		
12.	Ms. Robin ENDERRIN	Adviser	UNDP	O	O		
13	Ms. San Hee Hong		UNDP	O	O		
14.	Mr. Xedeg THIBAULT		UNDP	O	X		
15.	Mr. T. ISHIHATA		MRCs	O	O		
V.	**NGOs in Lao PDR**						
1.	Mr. Chanhom pheanephayvong	-	Cross-red	O	O		
2.	Dr. Kideng THAMMALUNGSY	Chief	Cross –Red Lao	O	O		
VI.	***NGOs Overseas in Lao PDR***						
	None	-	-	X	X		
VII.	**Facilitator, Media& Interpreter**						
1.	Mr. Thongphet DOUANGNEN	Facilitator	-	O	O		
2.	Mr. Soradeth BANNAVONG	Translator	-	O	O		
4.	Mr. Detmahinh SOUPHANH	Translator	-	O	O		
5.	Mr. Soulivanh SITHPHRASAY	Translation	-	O	O		
6.	Mr. So SAYMONTY	-	Viantiane Mai	O	O		
7.	Mr. Khambong	-	TV	O	X		
8.	Mr. Phetsavanh	-	TV	O	X		
9.	Mr. Phonesay	-	Business Newspaper	O	O		
10.	Mr. Bounkong RASAVONG		Lao Newspaper	O	O		
11.	Mr. Vongdeane		Lao Newspaper	O	O		
VIII	**Study Team**						
1.	Mr. Ichiro ARAKI	Team Leader	JICA Study Team	O	O		
2.	Mr. Nobuhiro MORI	PFI Planner	JICA Study Team	O	O		
3.	Mr. Masaki WADA	Hydropower Planner	JICA Study Team	O	O		
4.	Mr. Jack PROSSER	Natural Envir. Expert	JICA Study Team	O	O		
5.	Mr. Nejat IMECE	Hydropower Planner	JICA Study Team	O	O		
6.	Mrs. Kesone SYASONE	Gender Specialist	JICA Study Team	O	O		
	Ground Total : 128 participants	1st day (June 26)	: 120 participants				
		2nd day (June 27)	: 118 participants				