

Initial Environmental Examination

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Viet Nam: Renewable Energy Development and Network Expansion and Rehabilitation for Remote Communes Sector Project

Nam Sai Hydropower Sub-project

Prepared by Northern Power Company for the Asian Development Bank.

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RENEWABLE ENERGY DEVELOPMENT AND NETWORK EXPANSION
AND REHABILITATION FOR REMOTE COMMUNES PROJECT

Loan No: 2517-VIE

INITIAL ENVIRONMENTAL EXAMINATION

Nam Sai Hydropower Sub-project

Sa Pa district, Lao Cai province



Prepared and submitted by NPC

Hanoi, August 2012

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CURRENCY EQUIVALENTS

(as of 7 June 2012)

Currency Unit Vietnamese Dong (VND)

US\$1.00 = 20,984.72 VND

ABBREVIATIONS

ADB	Asian Development Bank
CEP	Commitment to Environmental Protection
CREB	Central Rural Electricity Project Management Board
DARD	Department of Rural Development
DONRE	Department of Natural Resources and Environment
EA	Executing Agency
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
ESDU	Environmental and Social Development Unit
GRM	Grievance Redress Mechanism
HH	Household
IEE	Initial Environmental Examination
LEP	Law on Environmental Protection
LURC	Land Use Right Certificate
MARD	Ministry of Rural Development
MOIT	Ministry of Industry and Trade
NO _x	Oxides of Nitrogen
NPC	Northern Power Corporation
O&M	Operation and Maintenance
PAP	Project Affected People
PC	People's Committee
PPC	Provincial People's Committee
PPMU	Province Project Management Unit
RP	Resettlement Plan
RoW	Right of Way
SEA	Strategic Environmental Assessment
SC	Supervision Consultant
SONRE	Section on Natural Resources and Environment
SO _x	Oxides of Sulphur
TA	Technical Assistance

WEIGHTS AND MEASURES

ha	hectare
km	kilometre
km ²	square kilometres
litres/s	litres per second
m	metre
m ³	cubic metre
m ²	square metre
mm	millimetre
s	seconds

I INTRODUCTION

A. Purpose and Scope of Environmental Report

Nam Sai Hydropower Project is a sub-project which has been identified under Loan 2517-VIE: Renewable Energy Development and Network Expansion and Rehabilitation for Remote Communes Sector Project of Asian Development Bank (ADB). The overall project will finance the development of between 5 and 10 mini-hydropower plants, each with a capacity of less than 7.5 MW in the northern and central provinces of Vietnam. The loan will finance the connection of these mini-hydropower plants to the national grid and the expansion of the low voltage network to supply nearby villages which are currently not electrified. The Project is expected to contribute over 30 MW of combined generation capacity to the national power system, and extend the medium voltage power network in remote areas of Viet Nam.

Nam Sai Hydropower project is located in Lao Cai, a mountainous province at the northwest border of Vietnam. At present, the main source of electricity in the Lao Cai province comes from the national grid systems from Yen Bai (110kV line double circuit with a length of 125km through Tang Loong) and Ha Khau-China (110kV double circuit with a length of 12km connection to Lao Cai). The construction of the Nam Sai hydropower project will increase the generation of electricity in the province.

This Initial Environmental Examination (IEE) is part of the overall feasibility study for the Nam Sai Hydropower Project and is designed to meet the requirements for environmental assessment under ADB's Guidelines on Environmental Assessment (2003). This study looks at the potential impacts of the construction and operation of the project on the Nam Cang river and its watershed as well as its impact to the community. This IEE was also conducted along with The Resettlement Plan and Ethnic Minorities Plan of the project. Site investigation, collection of environmental samples and public consultation were undertaken in order to describe the baseline environmental condition of the project area.

The Executing Agency (EA) for the project is the Northern Power Corporation (NPC). This report and the Environmental Management Plan (EMP) should be submitted to the District Office for Environment and Water Resources (DONRE) to assist in the monitoring the project for environmental and permitting processes.

II DESCRIPTION OF THE PROJECT

A. Type of and Category of the Project

1. ADB Categorisation

The 7.5MW Nam Sai hydropower project was screened, classified and assessed based on ADB's Environmental Assessment Guidelines (2003) and the Government of Vietnam's Law on Environmental Protection (LEP). Using ADB's Rapid Environmental Assessment form for hydropower (Annex 1) projects, Nam Sai Hydropower project is deemed to be classified as Category "B." An IEE is required to determine if there are significant impacts and if a more detailed impact assessment is necessary.

2. Vietnamese Environmental Assessment Requirements and other Regulations

Environmental Impact Assessment. Requirements for environmental assessment in Vietnam are laid down in Article 18 of the Law on Environmental Protection, which states when an Environmental Impact Assessment must be prepared. Projects that are likely to impose risks or have adverse impact to national reserves, national parks, historical-cultural relics, natural heritage and on water resources of river basins, coastal areas and protected ecosystems areas are subject to environmental assessment. A Circular issued by the Ministry of Natural Resources and Environment entitled Guiding Strategic Environmental Assessment, Environmental Impact Assessment and Environmental Protection Commitment¹ gives detailed guidelines for Strategic Environmental Assessment (SEA), Environmental Impact Assessment (EIA) and Commitment to Environmental Protection (CEP) including SEA, EIA and CEP report preparations, review and appraisal, monitoring, and confirmation of implementation of the mitigation measures.

Regulations² published in 2011 categorizes which type of projects are required to undertake EIA. With respect to the requirements for environmental assessment of hydropower projects, an "environmental impact assessment" report is required for hydropower plants having reservoir capacity of 100,000m³ or above and for high voltage transmission lines with a length of over 100 km. Power generation projects such as mini-hydropower plants and low and medium voltage transmission and distribution lines need only submit written Commitment of Environmental Protection (CEP). Since 2011, therefore, detailed environmental assessment has been submitted for small hydropower projects.

Commitment of Environmental Protection (CEP) of the Nam Sai Hydropower Project was submitted to the Sa Pa district and the CEP was approved on 12 April 2007 (Annex 3 with English translation). According to Decree No. 29/2011/ND-CP The Nam Sai Hydropower subproject is required to prepare an EIA. At present, the NPC is preparing the EIA for evaluation and approval to Lao Cai Provincial People's Committee (PPC) before construction of the project.

The Section on Natural Resources and Environment (SONRE) at District level is responsible for environmental management in the district/town territory. District People's Committees (DPCs) are responsible for approving CEPs³ and Provincial level environment protection agencies are responsible for certification of registration⁴.

¹ GOV's Circular No.26/2008/TT-BTNMT dated 18 July 2011

² GOV's Circular No. 29/2011/ND-CP dated 18 April 2011

³ Article 26 of the LEP

⁴ Article 17c of Decree 21-2008

SONRE is also responsible for conducting environmental monitoring during project implementation. However, given the current limited capacity of district level SONREs to undertake evaluation of environmental assessment reports, MOIT shall coordinate with the Provincial People's Committees (PPC) to ensure that the respective SONREs are assisted by provincial DONREs during the review and approval of written CEPs. EIA reports shall be submitted to the district PCs for approval.

Utilization of Water Resources. The project must obtain approval also for a permit under Water Resources legislation. Article 24 of The Law on Water Resources⁵ entitled "Issuing permits for exploitation and use of water resources" requires organizations and individuals that exploit and use water resources to get permission from the competent State agencies.

Article 64 of the Act on "the Management of the river basin planning" specifies that the agency managing the planning of river basins is a non-business agency of the Ministry of Agriculture and Rural Development

Decree No 149/2004⁶, Article 4 defines permit issuance principles. Permits are granted initially for 20 years (Article 7). Permits for smaller projects are usually granted at Provincial People's Committee level (Article 14). The Permitting authority will also manage the permit and the dossiers of required information for the project.

Permit owners, among other requirements, are obliged to pay fees, take measures for safety prevention, keep data and information on water resources and make reports to the Peoples Committee (Article 18).

Article 21 "Order and procedures for issuance of surface water exploitation and use permits" defines what is required for a permit application i.e. what should be in the dossier accompanying the permit application. Details of scheme are required and certain other information including an analysis of quality of water sources according to State's regulations. Also papers must be attached regarding land use rights and there must be a written agreement on land use between the exploitation organization or individual and the organization or individual having the land use right and this must be certified by the competent People's Committee.

Environmental Flow. Decree No 112/2008⁷ prescribes the scope of environmental management protection requirements for integrated exploitation of hydropower and irrigation reservoirs (Article 1). It establishes the need for a minimum flow which it defines "the lowest level of flow required for maintaining a river or a river section to ensure the aquatic eco-system's normal development and the minimum level for the exploitation and use of water resources by water users according to the priority level set in the river basin planning."

Reservoir construction must conform with the river basin planning approved by a competent state agency (Article 4) and exploitation and use of natural resources and environment in reservoir protection corridors and reservoir zones must be based on approved master plans (Article 8).

Dam owners shall annually formulate a water regulation plan for reservoirs and notify the People's Committee at all levels of the relevant localities in order to reduce adverse impacts on people's production and life and the environment (Article 9.3). Water regulation plans for reservoirs shall be formulated on the basis of minimum

⁵ Law on Water Resources No. 8/1998/QH10 May 20, 1998

⁶ Decree no 149/2004/ND-CP of Jul 27 2004 on the Issuance of Permits for Water Resource Exploration, Exploitation and use, or for discharge of Wastewater into Water Sources.

⁷ Decree No 112/2008/ND-CP of Oct 20, 2008 on Management, Protection and Integrated Exploitation of Resources and Environment of Hydropower and Irrigation Reservoirs.

flow requirements among other things (Article 9.4).

Ministry of Natural Resources and Environment (Article 12.2) are to assume responsibility for and coordinate the concerned ministries, branches and localities in specifying minimum flow requirements for reservoirs.

Land use permit for the project will be applied for to the District People Committee and water use permit will be applied for to Lao Cai Department of Natural Resource and Environment later when financing is approved for the project.

Archaeological and Cultural Resources. In Vietnam, there are procedures set down relating to chance discoveries of an archaeological nature. The relevant laws and regulations are as follows:

1. Cultural Heritage Law Jun 2001,
2. Decree No. 92/2002/ND-CP November 11, 2002 relating to the implementation of some articles of the Law on Cultural Heritage,
3. Regulation on Exploration of archaeological excavations Decision No. 86/2008/QĐ-BVHTTDL December 30, 2008 of the Minister of Culture, Sport and Tourism.

Chapter II of the 2008 Regulations (Responsibilities of Organizations and Individuals when detecting archaeological sites) states that if Organizations and Individuals find archaeological sites and/or artifacts, they have the responsibility to protect, maintain the status quo at the location and promptly notify and hand the archaeological relics to the closest office of the Department Culture, Sport and Tourism or the Department of Culture and Information.

B. Location and General Description

Project Location. The Nam Sai hydropower project is located in the area of Nam Cang river, in Nam Sai and Thanh Phu communes, Sa Pa district in Lao Cai province. The project site is situated next to Ban Cu hamlet, Nam Sai commune, which catchment basin area with 76.1 km², with coordination 22°13'40" North 104°00'35" East, 30 km from Sa Pa town in the East South. The location of plant is 22°15'05" North latitude 103°59'30" East longitude, lying at the border between Nam Sai and Thanh Phu commune, 4200 m from dam downstream. The hydropower project is designed to generate 7.5MW of power and supply 32MW of electricity. It will provide electricity to Seo Choong Ho, Hoang Lien, Nam Toong, Nam Ngan, Nam Cun, Ta Chung Ho, Mong hamlet- Suoi Ngau commune, Nam Cun, Ta Chung Ho, Mong hamlet- Suoi Thau commune, Nam Than hamlet- Nam Cang commune The location of the project area is shown in Figure 1.

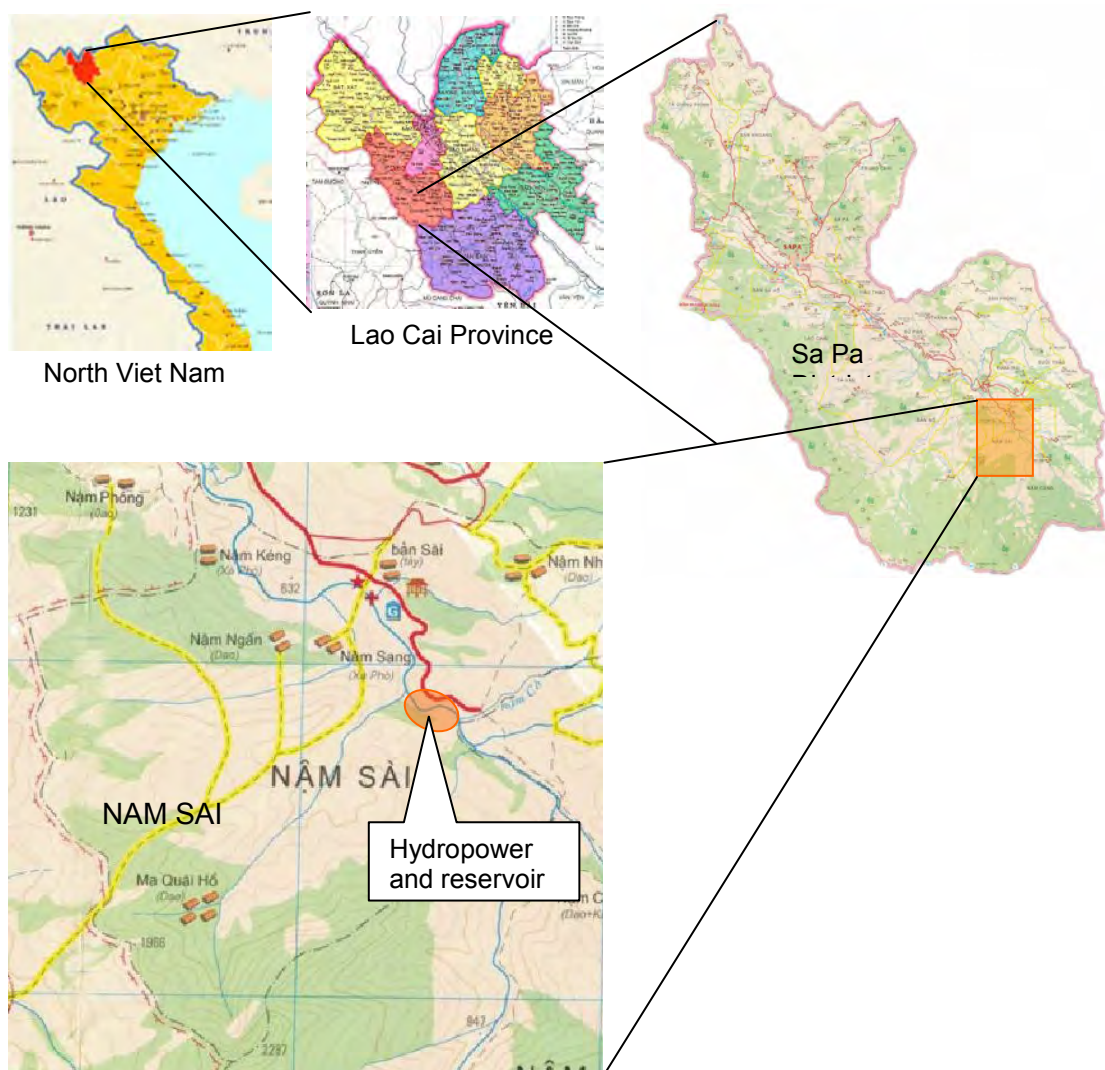


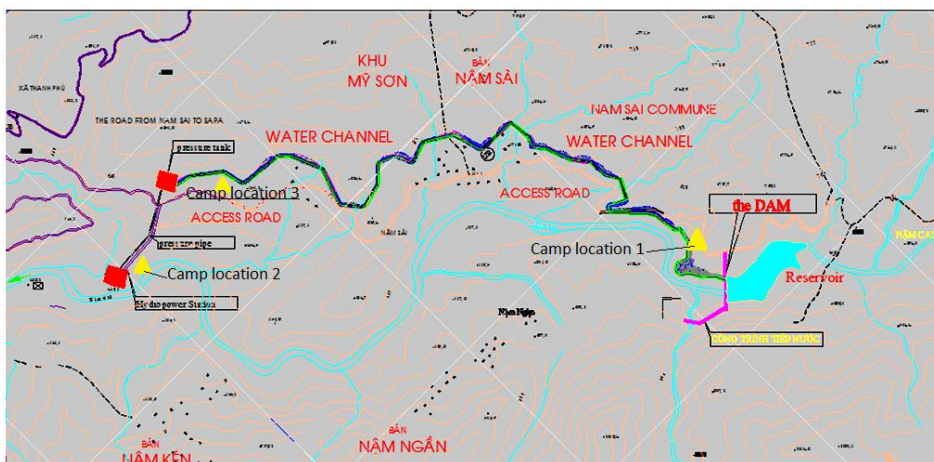
Figure 1: Project Location

The main elements of the project area are shown in Figure 2 and described as follows:

- Reservoir area of 2.91 ha, with normal water level of 593.4 m; dead water level as 591.4 m; Reservoir capacity as 164,000 m³; Effective volume of 52,000 m³.
- Pressure-head dam and flood spillway.
- The water inlet is designed on right side of the dam. The water is conveyed to the rectangular channel with the length of 4,097 m, reinforced concrete with a design discharge capacity of 6.01 m³/s. The canal is to be located on the right bank of the river and passes through the land of Nam Sai and Thanh Phu commune.

- At the end of conveying water channel is a pressure tank, followed by pressure pipe of 1.5 m for diameter and 450m for length and the tributary pipe with diameter of 0.8m and length of 17.08m. Design discharge is $6.01\text{m}^3/\text{s}$.
- The hydropower station with a downstream water level of 425 m to 432 m. It has two units of turbine with an installed capacity of 3914 KW for each, two hydraulic- generators with capacity of 3750 KW, hydraulic-digital-electrical controlling machine
- A powerhouse, which is located on the right bank of the river.
- Access road using the existing road with a length of 5500 m. An additional access road made of concrete will be constructed with a length of 600 m and width of 5m.

Other hydropower infrastructures include permanent office facilities close to the dam while an area of 4.9ha is needed for temporary use close to the dam site for construction activities and camp facilities.



**Figure 2:
Project
Layout Plan**

Location of the quarry area. The soil quarry is located at the hill areas at Nam Sai commune 500m far from the head-works line. The hill slope is low-steep from 15° to 25° , covered by wild trees, in some small lands which are used for the cultivation of bean and rice.

The rock quarry is surveyed in the way to Nam Nheu, three kilometers from the head works and one kilometer from the conveying canal. This quarry is currently exploited at $30\text{m}^3/\text{day}$. The characteristic of the rocks at the quarry site is cubic-granite, medium-large grain, white grey, grey, black dots, and hard.

Expected demand on sand is about $20,000\text{ m}^3$. During this phase, sand mine was surveyed at Ben Den- Bao Thang- Lao Cai, 90 km from the construction site. Other construction materials such as cement and steels will be procured in Sa Pa district, Lao Cai province.

Temporary disposal sites will be determined by the Contractor during construction phase. The summary of the volume of construction material and equipment that will be used for the construction are as follows:

- Excavated soil, rock in every kinds : $829,437.4\text{ m}^3$
- Filling soil, rock in every kinds : $55,616.4\text{ m}^3$
- Open concrete in every kinds : $35,292.2\text{ m}^3$
- Steel in every kind: 1,398.4 ton
- Steel for pressure pipe: 257.6 ton
- Hydraulic-construction- Mechanical Equipment: 327.6 ton
- Hydraulic- Mechanic Equipment : 153.3 ton

The equipments that will be used for the construction are shown in Table 1.

Table 1 : Construction Equipment

Equipment	Quantity
Excavator 0.4–0.8 m³	8
Truck 5-7 ton	10
Truck 5-7 ton in every kinds	12
Bulldozer (110 – 180)	8
Concrete compactor (9-16Ton)	3
Concrete mixing machine 500 lit	3
Concrete mixing machine 250 litter	6
Vibratory plate compactor 1KW	8
Vibrator cylinder 1.5 kW	10
crawler crane 10 T	4
Slot drill = 42 mm	8
Concrete mixing station ,60 m³/hour	1
Pump 200 m³/h	3
Transformer substation 200 KVA	1
Screening crusher (1000m³–15 000 m³/year)	3
Diesel generator 70-100 KVA	3

C. Construction Schedule

The construction of the proposed project will take 24 months until commissioning.

III. DESCRIPTION OF THE ENVIRONMENT

A. Provincial and District Context

Sa Pa District had a population of 41,700 persons in 2009. The district is generally mountainous with a land area of 678.64 square kilometer. The population density is 61 persons per square kilometer. The Kinh who are Vietnam's dominant population comprised only 13.6 % of the district's total population. The rest belonged to the ethnic minorities with H'mong being the largest group comprising 52.7%. The average income per person in the district was 600,000 VND per month. In 2006, 34.9 % of the population was living below the poverty line.

Table 2: Socio-economic Profile and Land Area of the Sa Pa District and Nam Sai and Thanh Phu Commune

Item	Sa Pa District	Nam Sai Commune	Thanh Phu Commune
Population size	41,700 persons	1,675 persons	2,167 persons
Land area	678.64 km ²	28.08 km ²	20.63 km ²
Population density	61 persons/ km ²	60 persons/ km ²	105 persons/ km ²
Number of households	No Data	329	389
Average household size	No Data	5.1	5.6
Ethnic groups (percent distribution)			
H'mong	52.7	0	43.0
Dao	25.5	32.5	53.0
Tay	5.2	32.2	0
Day	1.6	0	0
Kinh	13.6	0.3	4.0
Xa Pho	0	35.0	0
Others	1.4	0	0
Average income per person per month (2006)	600,000 VND	No data	No data
Percentage of poor households	34.9	No data	No data

The population of Nam Sai and Thanh Phu communes composed 9.2 %of the total population of the district. Nam Sai had 1,675 persons while Thanh Phu had 2,167 persons. While Nam Sai is as sparsely populated as the district as a whole, Thanh Phu has 105 persons per square kilometer. The household in Nam Sai is also smaller than in Thanh Phu (5.1 versus 5.6 members). Both communes are mostly populated by ethnic minorities. The population in Nam Sai is almost equally divided between the Dao (32.5 percent), Tay (32.2 percent) and the Xa Pho (35.0 percent). In Thanh Phu, largest population groups are the H'mong (43.0 percent and the Dao (53.0 percent). Agriculture and raising animals are the main income sources in the two communes.

B. Physical Environment

Topography. The area has mountainous, hilly characteristics. The resident area is located safely on the high mountain. The inter- commune road to the project area, runs parallel with Nam Cang river.

Land use. The land use in the project area and near-by land include : (i) Agriculture land ; (ii) wood land, and (iii) residence land. The agricultural land for rice cultivation mainly is located at the spring bank, and is always affected by typhoons during rainy season. The hilly land is mainly used for corn, cassava cropping and wood. The residential area is mainly located on the inter- commune road, hill slope and along Nang Cang spring. There are no irrigation canals in the area

Hydrology. The Nam Cang Spring has a catchment area of 76.1 km² and an average flow of 36.4 m³/s (10.4 m³/s in the dry season and 2 440 m³/s in the wet season). The total annual average volume of water is approximately one million cubic meters.

Table 4: Hydrologic Information of Nam Cang Spring

No	Parameter	Unit	Value
1	Annual Average rainfall	mm	1800 – 3000
2	Catchment Area	km ²	76.1
3	Flow average	m ³ /s	36.4
	- Flow (dry season)	m ³ /s	10.4
	- Flow (wet season)	m ³ /s	2440
4	Total annual average water volume	m ³	1.148 10 ⁶

Climate. There are two seasons in the project area, which are winter and summer. The winter is often dry and cold lasting from October to March while the summer is hot and humid lasting from April to September. Heavy rains are usually experienced during the months of June, July and August with the rainfall ranging from 160 to 600 mm. The total rainfall during these months contributes up 45 to 55 percent of the total annual rainfall. The average monthly rainfall the Ngoi Bo basin is shown in Table 4.

Table 4: The average monthly rainfall at Ngoi Bo Basin

Station	Month												Annual
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	
SaPa	69.0	85.5	101	205	359	407	463	459	322	213	108	63.4	2855
Hoang Lien Son	62.4	69.1	77.3	207	393	533	641	596	394	223	92.2	68.0	3356
Cat Cat	61.3	69.4	79.5	193	334	371	420	469	284	218	97.4	64.6	2661
Ta Van	60.3	81.1	86.2	204	281	312	328	322	226	150	92.3	43.0	2186.5
Ta Trung Ho	62.7	70.1	78.5	140	234	228	276	265	191	140	79.8	60.9	1825
Thanh Phu	28.5	42.74	47.82	150.7	160.1	245.1	222.1	292	193.2	136.8	46.0	27.1	1592
Ta Thang	29.4	39.4	60.0	154	142	267	309	364	283	129	64.6	25.4	1867.7
Van Ban	24.4	41.7	74.8	135.0	174.4	163.0	187.9	242.6	153.2	110.1	42.4	17.2	1366.8
Minh Luong	19.6	19.2	37.6	119	166	256	263	256	177	75.4	33.3	8.9	1431.3
Duong Quy	41.3	30.8	49.1	119.2	149.6	197.6	229.2	241.4	154.1	98.9	40.2	16.9	1368.4

Unit: (mm)

Air quality. The area is characterized as typical countryside and mountainous land with low population density (61 Person/km²). There are no major factors that can affect air quality in the area as industry and other production activities are not present.

Water quality. The Nam Sai project is to be built on Nam Cang natural spring. There are no irrigation canals taken from the main river below the proposed dam site and hydropower plant. Ground water source can be encountered at depth of 5 m – 15 m. There are drilled wells and sometimes ground water is used for domestic water and agricultural purposes. Water sampling at Nam Cang spring was conducted on October 25, 2003 at the upstream and downstream of the proposed project. Figure 4 shows the water quality sampling stations.

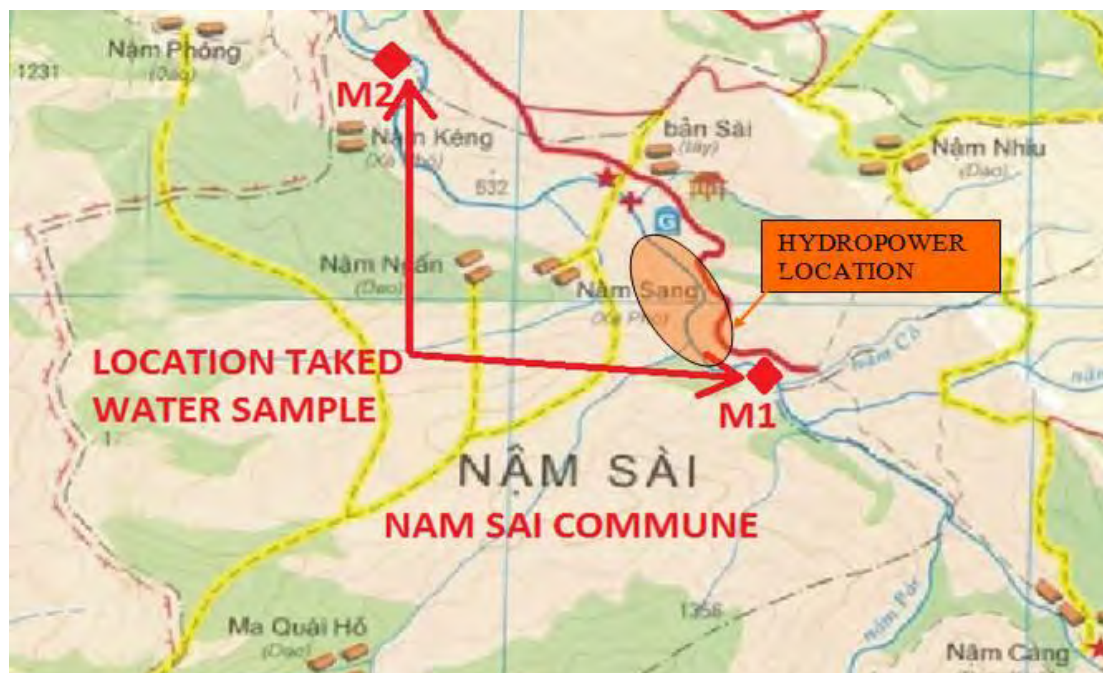


Figure 3: Map for the Water Quality Sampling Station

The results of the water quality testing are shown in Table 5. All parameters are within the Vietnamese Standards except for the suspended solid and coliform in M1 which may be accounted for runoff of sediments and domestic and animal wastes. Based on the results, the water sources at Nam Cang can be used for industrial and agricultural purposes.

Table 5: Result of the Water Quality Testing (M1 and M2)

Parameter	Unit	Result		Vietnam Standard 5942 - 1995
		M1	M2	
pH	-	7.35	7.8	6.5-9.5
Turbidity	NTU	2.3	1.8	2
Suspended Solid	mg/l	22	9	<20
Hardness (CaCO ₃)	mg/l	4.58	34.38	300
BOD ₅	mgO ₂ /l	1.4	0.86	--
COD	mgO ₂ /l	2.1	1.25	2-6
SO ₄ ⁻²	mg/l	0.9	1.28	250
NH ₄ ⁺	mg/l	0,11	1,5	<3
CO ₃ ²⁻	mg/l	0	18	--
Cu	mg/l	<0.01	<0.01	2
Coliform	MPN/100ml	110	20	20

C. Ecological Resources

Terrestrial ecology. The project area is covered by stable wood layer, wide leaf, coniferous leaf and bamboo wood. This is the area of verified botanic layer of tropical and temperate areas. Thao and Nam Cang areas are used as sources for fire wood and cropping land. Based on the random interview with local residents, there are no observed rare terrestrial fauna and flora in the project area.

The nearest nature reserve is Hoang Lien National park, located at the western and about 20km away from Sa Pa district. The national park is one of the 21 main tourist spot in Vietnam. The distance from project area to Hoang Lien National park is 50 km.

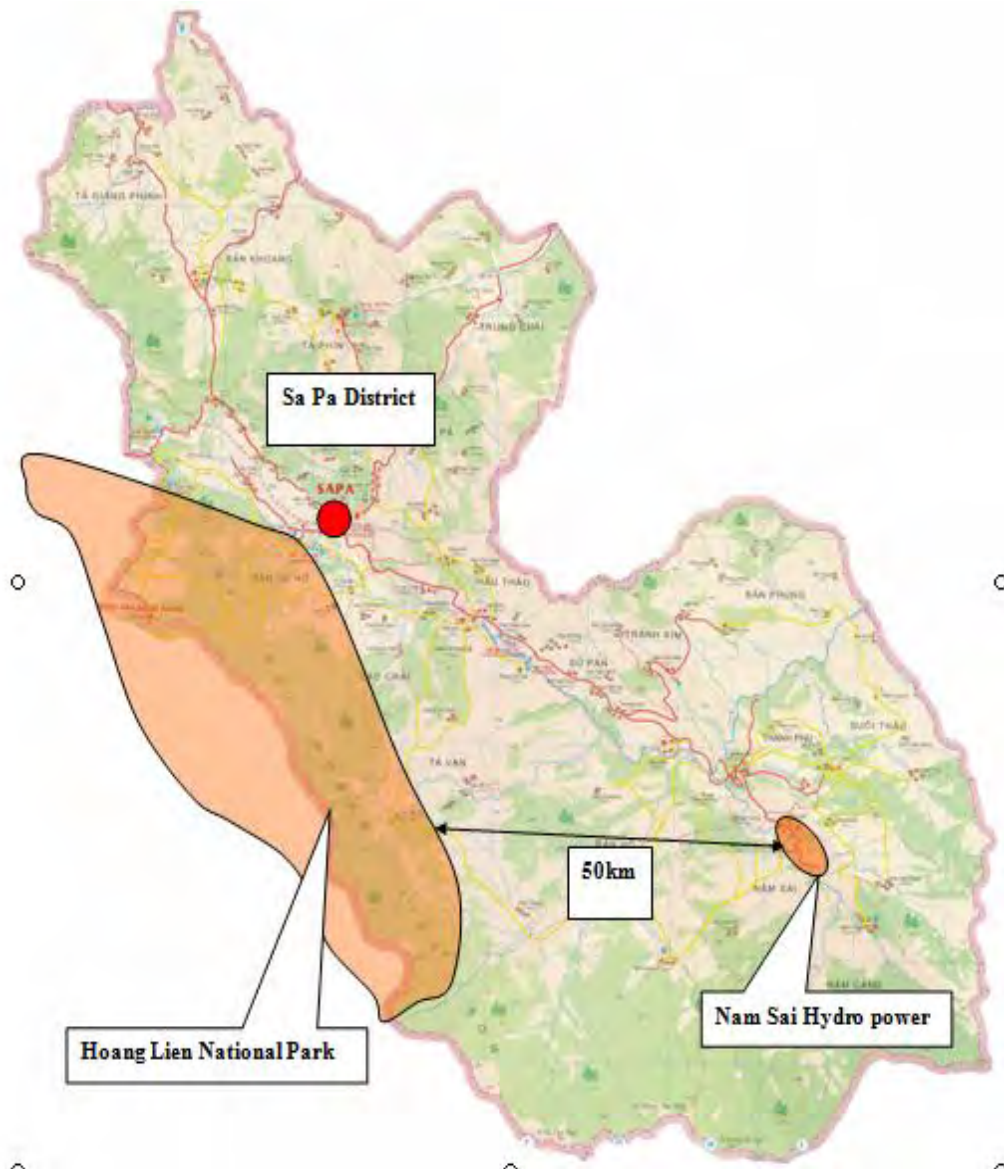


Figure 4: Project area and distance from the nature reserve

Aquatic ecology. The aquatic ecology in the project area is mainly composed of algae such as green algae and blue algae. Fish and aquatic species include sailing leg, wheel bald, small shrimp, small fish and larva. On the other hand, the bottom creatures are oyster, screw, craft and shrimp. Based on observations and interviews, the fish species in the project area are carp, snake-head, eel, anabas, and loach. The residents catch fish for daily food consumption and not for commercial use. The fishing population is approximately 10% of the total population.

D. Socio-Economic and Cultural Environment

1. Socio-economic features

a) Population

The Nam Sai hydropower project is located in Nam Sai Commune where the reservoir affects Ban Cu village and the canal passes through Nam Sai village. The penstock and power house site are in Thanh Phu Commune. Both Communes are in

Sa Pa District, Lao Cai Province.

Sa Pa District. Sa Pa is a mountainous district of Lao Cai. The average height over sea level is 1600m with a mean annual temperature of 15°C. It has a natural area 678.64 km² and a population 41,700 people. Sa Pa district has 17 communes and 54.8% of the total population belongs to the following ethnic groups: Dao-24%, Kinh-14.8%, Tay-5% and Day-3%. Trade and services account for over 56% of the gross domestic product (GDP) while agriculture and forestry accounts for 36% of the GDP. Income per capita in 2009 is 4.45VND/person, but unevenly distributed. Household income in the town area is much higher than in rural areas. The poverty rate of the district is 11%.

Nam Sai Commune. Nam Sai commune has a total area of 28.08km². Based on the 2009 statistics, the whole commune has a population of 1,675 with 329 households. In general, Nam Sai commune has a variety of ethnic group. Most of the members of the community are engaged in farming and rice cultivation. The community is a remote area and far from the district center. For the people in the project area, living conditions are relatively poor.

Thanh Phu commune. Thanh Phu commune has a total area of 2,063ha. Based on the 2009 statistics, the whole commune has a total population of 2,167 had natural area of 2 063 ha with 389 households. The three ethnic groups in the community are Dao, Tay and Kinh. Most of the members of the community are farmers and a few teachers and nurses (23 persons).

b) Agriculture

Sa Pa district. The total rice area of the district is 2 113 ha. The total grain production in 2009 is 11,661 tons. There are also other crops in the district, such as fruit, flowers, special tea, vegetables, medicinal plants etc.

Nam Sai commune. The following are the agricultural productivity in the Nam Sai commune:

- Rice: a total of 132 and an average productivity of 4.3 ton/ha;
- Corn: a total area of 45 ha with a total yield of 58.5 ton;
- Cassava: a total area of 33 ha and an average productivity of 7.0 ton/ha; and
- Beans and other vegetables: total area of 15ha and a yield of 100 ton.

The average food (rice) per person is 390 kg/year.

Thanh Phu commune. The total area of agricultural land is 219.9 ha, in which, rice is 98.6 ha; hilly land is 52 ha; land for growing perennial trees is 42.8 ha and mixed garden land is 26.5 ha. The average rice productivity reached 4.38 ton/ha. The average corn productivity is 1.75 ton/ha.

Total grain food yield is 676.3 ton, in which, rice is 588.3 ton. Average food per person is 378 kg/year.

c) Animal Production and Breeding

In terms of animal breeding, the whole commune has 367 buffalos, 68 cows, 107 horses, and 584 pigs.

d) Tourism Trade

Tourism and trade is a key economic sector of the district. The district has 90

motels and hotels with 1,260 rooms. In 2009, the number of visitors reached over 124,678 visitors, including 27,969 foreigners. Total revenue from hotel operations, restaurant in 2009 is estimated at nearly 60 billion VND, of which three hotels of international standard ranked 3-star or higher.

e) Industry and small industry and handicraft

Food process, garment production and brocatelle production are other industries present in the district. The total production from these industries reached 5.4 billion VND.

2. Rural Infrastructure

Due to the progress and development in the tourism industry in 2009, the GDP per capita has risen to 4.45 million VND / person / year. The district has roads to the commune center since 2001. All villages were covered with radio and television, 6 out of 18 communes have radio stations. The district has health stations in Nam Sai and Thanh Phu communes giving health care services to the people. There district has 44 schools with 10,725 students (2009-2010). There are two primary schools and one Secondary school at the Nam Sai and Thanh Phu commune.

3. Site of Archaeological and Historic Importance

Various archaeological locations and remains are to be found in Vietnam and the SE Asian mainland, in general, including prehistoric (Neolithic, Bronze-Iron age), pre-Ankorian and Ankorian sites.

No archaeological or cultural sites have been determined in the project area but there are procedures set down relating to chance discoveries of an archaeological nature.

IV SCREENING OF ENVIRONMENTAL IMPACTS AND MITIGATION

The ADB checklist for hydropower projects has been used to screen for potential impact. The checklist is attached in the Annex 1. Impacts, which were determined as having environmental implications, have been considered further and mitigation has been provided for.

A. Project Impacts

1. Positive Impacts

As a result of the overall Loan 2517, an additional 25-50 villages and about 3,000-5,000 households are expected to be provided with electricity in Vietnam. With the further development of the national grid distribution system and construction of Nam Sai hydropower station, the people in Sa Pa district and Lao Cai province will have the advantage of reliable power twenty four hours a day for domestic and business activities. Power supply will also include those for cooking and domestic heating for those who can afford it. The project is expected to reduce the pressure on the use of timber for heating and cooking purposes and to mechanize the agricultural production by using electrical machineries.

The project will also create job opportunities during the construction and operation phases for the people in Thanh Phu, Nam Sai and Nam Cang. However, skills and capacity development of the locality are needed to meet the employment demands of the project during the construction and operation phases.

Hydropower is clean and renewable energy and avoids contributions to pollution loads, which would result from the use of alternative thermal electricity and power generation. Hence, it is environment friendly. Currently, gas is the main source of energy in the country (43.7%) with coal also responsible for 14.6%. Hydropower only constitutes 35.3% and Vietnam imports significant amounts of its energy from China. Increased hydropower generation will reduce dependence on fuel and power importation.

Thermal power generation plants are also known for a large variety of gas emissions i.e. carbon dioxide (CO₂), particulate matter (PM), sulphur dioxide (SO₂), carbon monoxide (CO) and Oxides of Nitrogen (NO_x) etc. The following table provides a comparative analysis of estimated emissions of CO₂ from a power station generating the same amount of energy over a 30-year period using oil, gas and coal as a fuel source. Discharges of between 0.37 and 0.73 million tonnes of carbon dioxide are saved over a 30-year project life by using hydropower rather than fossil fuels. The Nam Sai project will, therefore, contribute to reduction in carbon emissions by avoiding the alternative burning of fossil fuels.

Table 5: Comparative Analysis of CO₂ Emission using Gas and Coal Generation over 30 Years

Gas discharge	Gas	Coal
Metric tons CO ₂ /Gwh discharge	385	755
Total Discharge (million metric tons CO ₂) generating 964.86 Gwh	0.37	0.73

Note:

1) Assumes generation of 32.162 GWh per year over a 30 year project life = 964.86 Gwh.

2) CO₂ discharge factors from Oxford Resource Group figures

2. Anticipated Impacts

Loss of Land. No residential area will be affected by the project. The affected area is mainly forest (48%) and agricultural farms (44.4%). There are 11.41 hectares of forest and 10.39 hectares of farms (rice, secondary and industry crops).

In the total area that will be permanently affected, farmland comprises only 41.1 percent. The bigger area that will be affected is forest (58.9%). In the affected farmland, 5.43 hectares is planted to rice and the rest are planted to secondary and industrial crops. The area of the forest to be affected is 9.12 hectares. In the area that will be temporarily affected, 4.01 hectares (63.6%) is farmland which is planted to rice. The forest is 2.29 hectares.

Around 11.92 hectares (50.9%) of the total affected area have Land Use Right Certificate (LURC) and the rest is public land (Table 6). Only 5.62 hectares of the permanently affected land have LURC. The larger area of 9.12 hectares is public land. In the temporarily affected land, 6.3 hectares have LURC and only 2.29 hectares are public land.

Public land is defined as land owned by Government that was assigned to farmers to grow secondary crops or perennial plants. When those land were retrieved, the Project owner will have responsibility of compensating for plants on with the price based on the province regulations.

Table 6: Land use of affected land

Land type	Nam Sai commune			Thanh Phu commune			Total		
	Perm	Temp	Sub-total	Perm	Temp	Sub-total	Perm	Temp	Total
1. Rice	3.26	0.75	4.01	2.17	3.26	5.43	5.43	4.01	9.44
2.Secondary crop	0.19	0	0.19	0	0	0	0.19	0	0.19
3.Industry crop	0.45	0	0.45	0.31	0	0.31	0.76	0	0.76
4. Forest	6.97	1.98	8.95	2.15	0.31	2.46	9.12	2.29	11.41
Sub total	10.87	2.73	13.6	4.63	3.57	8.2	15.5	6.3	21.8
5.River,spring	1.6		1.6						1.6
Total	12.47	2.73	15.2	4.63	3.57	8.2	17.1	6.3	23.4

Unit: hectares

Note: The data were collected in June 2009.

Perm-permanent; Temp-temporary

No person will be physically displaced but there are 61 households that will be economically affected: 30 in Nam Sai, 26 in Thanh Phu and 5 in Nam Cang. This is equivalent to a total of 269 persons.

The land of 41 households will be permanently affected while the land of 11 households will only be temporarily affected. There are 9 households whose land will be affected both permanently and temporarily. A total of 184 persons will be permanently affected while 48 persons will be temporarily affected by the project.

There are 37 persons that will be both permanently and temporarily affected by the project.

Table 7: Number of affected persons by type of impact

Project Component	Number of Persons Affected			
	Permanent	Temporary	Both Permanent and Temporary	Total
Reservoir	22			22
Headworks	137	26	24	187
Conveying canal				
Pressure basin	25	22	13	60
Pressure pipe				
House system for plant and management				
Prepared road combined with implementation				
Disposal sites (9 sites)				
Total	184	48	37	269

Note: The data were collected in June 2009.

There are no private structures such as houses, animal shed and outhouses or public structures such as irrigation system that will be affected.

Based on the assessment of the land use and people affected from the project, the construction and development of Nam Sai hydropower project cause little impact to forestry land area and other vegetation in the region. Furthermore, there is no rare and valuable tree in the project area. The project does not have considerable impact to the vegetation and ecological system in the region.

The construction and operation of hydropower project will result to increase in economic activities, causing the influx of migrants near the project area. The increase in the number of migrants will indirectly have an effect on the increase in demand of cultivated area and timber to built house and shelter. These demands might result to slash and burn cultivation and illegal cutting of trees.

B. Construction Impacts and Mitigation

1. Impacts of Construction Activities

Landmine clearing work. The location of the project area is within the border of a previous war zone. There are areas near the project site which were identified by the military as UXO contaminated. The project should secure clearance from the military before the start of the construction phase. In order to reduce the risks to local residents on the mine area, notices and proper signage about the potential presence of landmine should also be done. The residents should also be informed on the schedule of clearing landmines.

Contamination of Water. There is potential for water contamination from construction activities and runoff of materials into the river at the dam and hydropower sites. The main construction activities for work in or close to the river will be scheduled in the dry season and bunds will be created to channel the river away from dam abutment construction and powerhouse construction activity.

Loss of Topsoil and Erosion. Soil will be impacted because of (a) loss of topsoil, (b) failure to refill and revegetate borrow areas and temporarily used land, (c) erosion, (d) soil contamination by materials used for the project, and (e) failure to reutilize displaced earth during the construction period. The penstock will be constructed on steep slopes. There is potential for the penstock construction to cause the scarring of the landscape and for the road material to cause runoff of sediments on the slopes. The construction activities could also result to accumulation of wastes that need to be properly handled in a waste disposal area.

To avoid slippage of stone and earth material, stone gabions as retaining structures will be used to prevent slippage of soil adjacent to the penstock and on certain road sections. Maximum use will be made of material in fill areas and there will be proper spoil planning particularly on steep slopes with bench terracing for high cut areas to avoid any runoff of material down slope. Trees should be planted to consolidate and re-vegetate the area in the penstock, tunnel, roads and construction areas on completion of construction works.

In all cases, erosion can be minimized by regular rehabilitation of areas not in use for project activities during construction. Rehabilitation may include (a) immediate revegetation of slopes to minimize erosion using fast-growing species and different functional groups of plants for keeping soil in place, (b) use of topsoil removed and stockpiled from project areas, (c) installation of sediment runoff control devices, and (d) erosion and revegetation success monitoring

Generation of dust. The main impact on air quality during construction will be increased dust levels from the construction machinery, tunnel construction, rock blasting, foundation excavation, cement mixing, handling of materials, movement of vehicles, and road construction. The construction activities and movement of construction vehicles in earth-paved roads will likely result to the generation of dust. In addition, batching plant operation will likely generate dust emission. These construction activities could cause hazards to the communities and also affect vegetation in the construction area. Appropriate mitigating measures to reduce dust emission should be employed. However, these impacts will cease following the completion of the construction activities and the vegetative stabilization of slopes and bare ground.

Noise. During construction, noise and vibration will be generated from vehicular movements, sand and aggregate processing, concrete mixing, excavation machinery, construction noise, and blasting. Noise levels in the construction area may have minimal impact on the residential communities as these are located quite far from the construction sites. However, movement of heavy-duty trucks on existing roads could cause nuisance to residents living near the roads.

Effects on Wildlife and Fauna. There are no endangered species in the project area. However, the construction of the dam in the area might displace small wildlife living on caves and holes like rats, porcupines, reptiles, and frog. In order to minimize these impacts, the contractors will consult local authorities on how to properly clear the area to reduce the destruction of wildlife habitat.

Aquatic System and Fish. Excavation and construction of dam on river and other leveling activities will increase the turbidity of the river. This will have an impact to aquatic species by reducing the photosynthesis of phytoplankton and a reduction in spawning.

2. Road Access and Traffic

Road access to the construction site is the inter-commune with 5m wide (rip-rap with the width of 3.5 m).During preconstruction time, it will be built with concrete-asphalt 5m of width. The inter-commune road to dam and plant is on steep slope. Hauling and construction vehicles should be required to observe caution and to slow down and to observe caution particularly when passing through narrow road sections and near village areas.

There will be some problems of construction traffic affecting local activities such as road accidents and spill of construction materials.

3. Construction Site and Camp Impacts

The construction of the project will be manpower intensive and where possible local labour force will be used. The contractor will require temporary labour camps at the dam and powerhouse sites. The contractors will employ manual labour needs from the District. The camps for workers from outside will be away from the Nam Sai community.

The construction camp has the potential to cause environmental impacts in terms of solid and wastewater generation. Clauses will be placed in construction sub-contracts requiring dedicated water supply, solid waste and sewage disposal arrangements at workers' camps to maintain sanitary conditions in the area.

At the construction sites, there is a potential for dust emission at the batching plant and material storage areas. Conditions requiring the contractor to suppress any dust hazards by the use of water spraying of roads and areas prone to dust emission. Hauling vehicles should be required to provide cover for materials. These requirements will be included in the contracts with contractors.

The construction sites and any temporary camp areas will be cleaned of all debris and properly restored on completion of construction when building contractors abandon the site.

C. Impacts of Loss of Water to the River System

1. Human Impacts

At the upstream of Nam Cang river, the locals living near the river do not take water from the river for domestic use or cultivation but source their water needs from high sources to take advantage of gravity. There is no water from the river system for irrigation or domestic use. Most of the springs have either no water or characterized with only a small flow in the dry months.

The main stream in the dry season is used as a source of water by villagers. A few people make use of the stream to pump water for irrigation during the dry season. The stream is also the main source of buffalo wallow in the dry season when other water sources are limited.

Particularly during the dry season, the proposed project should maintain an environmental flow in Nam Cang river to allow the villagers to use the river water for irrigation considering that there are limited sources in the upstream areas and other springs during this time.

2. Fish Impacts

The construction of dam will affect the movement or migration of fish and other aquatic species from downstream or upstream. However, there is only a limited number of aquatic species in Nam Cang spring, thus, the project will not have a significant impact on aquatic species.

D. Specific Mitigation Measures

1. Compensation and Resettlement

The total income that will be lost is about 350,000 VND per household/month which are mainly from rice cultivation at the reservoir area of Ban Cu. Four activities will be conducted to restore the lost income: livelihood stabilization support, rice productivity support, job training and employment in the project.

Table 8: Livelihood activities at risk as a result of the project

Livelihood Activities	Risks
Rice farming	Land used for rice cultivation will be greatly affected
Other farming activities	Reduction of corn and sweet potato cultivation
Animal raising	None
Fishing	Decrease in the number fish due to the construction of dam
Forest product collection	Reduction of public forest will mean reduction of source of timber for house-building, fuel and other non-timber products

Table 9: Livelihood restoration plans

Restoration Activity				
	Quantity	Unit	Total	Note
Support to stabilize the affected households' livelihood	160 (persons)	400,000 VND	64,000,000	
Support rice productivity for three years	115,826 (m ²)	7500 VND/m ²	868,695,000	
Support for job training	85 persons	450,000	299,500,00	For 6 months

2. River Water Flow

In the absence of any specific Vietnamese guideline for the amount of water to be retained in the river when water is extracted for hydropower purposes, 120 l/s environmental flow will be retained in the Nam Can river to minimize the impacts on the aquatic life in the river as well as to maintain river flow for domestic and irrigation use of the villagers. This is based on the calculated 10% of the dry season monthly average flow.

3. Compensation for Nam Sai project

Total compensation cost for Nam Sai subproject is about 2.934 billion VND. The price unit is based on Lao Cai regulations for compensation. If the project can be approved and implemented, the time will be fixed and the price will be adjusted according to the discussion and final agreement between NPC and affected people.

Table 10: Compensation cost for occupied area by Nam Sai project

1 – Compensation cost for occupied land and properties on land						
Land use type		Area (ha)	Compensation level		Permanent cost (10 ⁶)	Temporary cost (10 ⁶)
			Following regulation (10 ⁶ /ha)	Following product (10 ⁶ /ha)		
A – Thanh Phu commune						
1	Double-season rice	4.46				
	Permanent	1.57	200		314	
	Temporary	2.89		20		520.2
2	Single-season rice	0.97				
	Permanent	0.6	140		84	
	Temporary	0.37		12		39.96
3	Upland rice					
	Permanent		140			
	Temporary			7		
4	Secondary crops (corn, cassava)					
	Permanent		80			
	Temporary			10.5		
5	Wood land	2.46				
	Permanent	2.15	25		53.75	
	Temporary	0.31		0.075x10 ⁶ /0.003 ha		69.75
6	Industrial crops (cinnamon-tree, bamboo shoot)	0.31				
	Permanent	0.31	60		18.60	
	Temporary					
B – Nam Sai commune						
1	Double-season rice					
	Permanent		200			
	Temporary			20		
2	Single-season rice	3.69				

	Permanent	2.94	140		411.6	
	Temporary	0.75		12		81
3	Upland rice	0.32				
	Permanent	0.32	140		44.8	
	Temporary			7		
4	Secondary crops (corn, cassava)	0.19				
	Permanent	0.19	80		15.2	
	Temporary			10.5		
5	Wood land	8.95				
	Permanent	6.97	25		174.25	
	Temporary	1.98		0.075x10 ⁶ /0.03 ha		7.13
6	Industrial crops (cinnamon-tree, bamboo shoot)	0.45				
	Permanent	0.45	0.76		0.34	
	Temporary					
Sum		21.8			1116.542	718.038
Total:					1834.58	
2. Support cost					1041.679	
-	Support for stabilizing production				80.55	
-	Planting communal forest and landscape				200.25	
-	Cost for mitigating environmental impacts.				250.45	
-	Unexpected other cost				510.429	
I. Total cost for land compensation and properties on land.					2876.259	
II – Land clearance management					57.52518	
-	Determining inundation outline				10.35	
-	Cleaning reservoir bed				15.58	
-	Cost for compensation and clearance activities				18.35	
-	Cost for environmental monitor and protection				8.45	
-	Unexpected other works				4.79518	
Total:					2933.784180	
Round figures: Two billion, nine hundred , thirty three million, seven hundred, eighty four billion, one hundred and eighty VND (2.933.784.180 Dong)						

V ENVIRONMENTAL MANAGEMENT AND MONITORING PLAN AND INSTITUTIONAL REQUIREMENTS

NPC will be responsible for ensuring that conditions are included in project construction bidding and contract documents. It will also ensure that during the construction phase, environmental mitigation measures, as per the Environmental Management Plan (EMP) are implemented effectively. The EMP is set out in Table form below and implementation will be coordinated with relevant Government Agencies such as Water Resources and Environment Departments at District level, for such activities as implementation of environmental monitoring programmes.

NPC will be responsible in handling its general environmental responsibilities and in developing and ensuring the capacity of the Power Company to implement the Nam Sai environmental management plan and monitoring programme.

NPC will create an Environmental and Social Development Unit (ESDU). The Unit will consist of two members to cover environment, social and resettlement issues. The ESDU will work in close cooperation with the respective field-based office on the day-to-day activities of EMP implementation and the Resettlement Plan implementation.

As NPC does not yet have the expertise and full capacity required for implementing the IEE and Resettlement Plan, it will have to depend on additional external technical assistance and will, therefore, hire a part-time Environmental Implementation Consultant who will be directly hired by NPC, to provide technical assistance in implementation of the environment program and the EMP.

The Environmental Implementation Consultant will carry out internal on-the-job training and institutional capacity building for the Environmental and Resettlement Development Unit, thus supporting NPC expertise to implement the EMPs and resettlement plans by itself in future. The cost for the Implementation Consultant is indicated below along with monitoring costs.

Table 11: Estimated Budget for Environment Management and Monitoring

Description	Unit	Estimated Amount	
		VND	US \$
Environment Specialist	Year	195,000,000	10,000
Environmental Monitoring and Evaluation	Year	250,000,000	12,820
Environment Implementation Consultant part time	Year	195,000,000	10,000
Training, Information Capacity building for NPC/ESDU	Once	58,500,000	3,000
Total		698,500,000	35,820

VI PUBLIC CONSULTATION MEETING AND INFORMATION DISCLOSURE

NPC organized two public consultation meeting. The first one was held in April 12, 2011 held at the Nam Sai commune and the second one was held in April 13, 2011 at the Thanh Phu commune. The purpose of the consultation meetings is to inform stakeholder about the general clearance plan of the Nam Sai hydropower project and to disclose information about the social, environmental and resettlement issues of the proposed project.

A. Public Consultation Meeting at the Nam Sai and Thanh Phu communes

1. Objectives of the Workshop

- To inform the general clearance plan
- To inform the stakeholders the Project information
- To receive comments from beneficiaries and affected peoples, local officials, community leaders, Societies, and others
- Ensure community consensus for project implementation and information disclosure to local people with precisely

2. Disclosed information

- Location, design and cost estimate of the project
- GOV and ADB policies and procedures about: Resettlement and Compensation, Environment and Social issues
- Potential impacts caused by subproject
- Potential impacts caused by Project
- Proposing some mitigation measures
- Environmental management plan and environment monitoring program

3. Meeting Participants

- NPC/CREBs representatives, NPC's Consultants
- Provincial Agencies: representatives DARD, DONRE
- Local authorities: representatives of district and commune PCs, representatives of District/Commune Woman Union, Public Health, Environment Division at District and Commune level, representatives of local communities.
- Representatives of project affected people (PAP) to ensure they are meaningfully involved in the public consultation. PAPs representatives included affected by environmental impacts both direct and indirect negative impacts

Total participants for the subproject is 20-30 people (including PAPs and Representatives of NPC/CREB, Provincial Agencies, Local Authorities people PAPs, making up about 20-35% of total PAPs.)

4. General Comments from Participants in the Public Consultation Meeting

The comments from the participants can be summarized as follows:

- There is agreement on the construction of hydropower projects Sai Nam because this project will connect the national power grid and improve the quality of electricity supply to local people's communes in Nam Cang, NamSai, and Thanh Phu.
- Price of land compensation rates approved by the Lao Cai district.
- Construction time should be publicly announced.
- The people welcomed the proposed Nam Sai hydropower project as it will bring high economic benefit and it will not affect significantly the environment or cause environmental pollution during the operation period.
- The people agreed on the results of the assessment of positive and negative impacts caused by this subproject as well as the proposed mitigation measures.

5. Conclusion

Consensus was achieved on the socio-environmental impacts and mitigation measures recommended by the Project

Memoranda of the public consultation meeting at People's Committee of Nam Sai and Than Phu communes and public consultation meetings in the villages can be found at the Annex .

B. Grievance Redress Mechanism

A grievance redress mechanism (GRM) will be established soon after project commencement. The first level and fastest resolution of grievances is through the Project Manager of the Power Corporation. Grievances will be resolved through continuous interactions with affected persons and the PMU will answer queries and resolve grievances regarding various issues which are received. Corrective measures will be undertaken at the field-level within seven days. All grievances will be documented with full information of the aggrieved person, the issue and the resolution of the complaint.

Complainants not satisfied with the response of the Company have the option of using the procedure available under the Civil Law and the Land Law 2003 (Article 138) and Decree 197/2004/ND-CP (Art. 63, 64) which specifies:

1. Complaints will be sent to the commune People's Committee (PC), which must respond to a complainant within 15 days,
2. If the complainant is not satisfied with the resolution of the commune PC, the next level of appeal is to the District PC which has the responsibility to respond and resolve complaints within 15 days,
3. If not satisfied with the resolution of the district PC, the complainant can bring the complaint to the provincial PPC,
4. As a final resort, if not satisfied with resolution of PPC, the complainant can take the case to the District Court.

VII CONCLUSION, FINDINGS AND RECOMMENDATIONS

The construction of the Nam Sai hydropower will improve the quality of life and reduce the poverty for the people in the communes of Nam Cang, Nam Sai and Thanh Phu. The operation of the hydropower will improve the power generation in the communes and will provide significant power to the national grid.

The IEE was conducted using the ADB screening matrix. There are no anticipated impacts on historic sites or archaeological importance. The project is located in the Nam Sam and Thanh Phu communes. With the proposed project, there is anticipated loss of rice land and forest plantation trees. There is no use of water for human activity on the downstream section of the river potentially deprived of water.

Environmental assessment results in this project showed that the negative aspects of the environment arise mainly in the construction process and can be minimized if mitigation measure in the environmental management plan will be strictly implemented.

Based on the assessment of the environmental impacts and the results of public consultation, it is concluded that there will be no significant impacts on the environment of the proposed project if the EMP in this IEE is implemented.

It is important that NPC as the EA, develops its internal capacity to implement and monitor the measures in the EMP. This has been designed into the project by requiring the setting up of an Environmental Monitoring Unit in NPC and the appointment of environmental and resettlement specialists.

Table 12 ENVIRONMENTAL MANAGEMENT PLAN

Table 12: ENVIRONMENTAL MANAGEMENT PLAN

Environmental Aspect and Potential Impact	Remedial Measure	Means of Implementation	Institutional Responsibility	
			Implementation	Supervision
Design /Pre-construction Components				
UXO contamination	- Coordinate with the military; conduct survey	Secure clearance from the military.	NPC, design consultants	NPC
Project construction and potential loss of agricultural, forestry and grazing land	- Design for maximise ratio of waste cut and fill materials. - Reservoir design and alignment, penstock, power house and tail race to avoid existing land uses wherever possible - Compensation at market rates, prior to work commencement.	Proper planning Measures to be added in relevant parts of contract s. Proper resettlement planning.	Design consultants and NPC	NPC
Excavation of construction materials and development of quarries and borrow areas causing loss of alternative land use	- Maximum use of existing quarry and borrow areas already in operation. - Degraded, barren, riverbeds and waste lands to be used for borrow materials.	Proper planning and measures to be added in the relevant parts of contract documents.	Design consultants and NPC.	NPC
Reduced water flows and reduction in water quality in the existing river course.	- Ensure that dam construction is phased to ensure diversion of the river with coffer dams during separate construction of left and right abutments and ensure construction activities to avoid soil and construction materials entering river flow. - Ensure a minimum flow is retained in the river	Planning and add measure to relevant parts of contract documents.	Design consultants and design engineers.	NPC
Water diverted from the river leaving reduced water flow impacting aquatic life.	- Design to keep residual water flow in river to meet aquatic needs.	Design weir and intake facilities to allow residual flow to the river	Design consultants	
Affect of landmines	Announcements to local residents will be made on the landmine clearing work Installing signs as well as arranging monitoring cadre in the clearing area Implement a schedule to clear landmine in order to reduce the risk to local residents.	Already included in landmine clearing contract	Contractors	NPC
Construction stage				
Earth Works for new access roads and construction of penstock on steep slopes leading to erosion and encroachment	Slopes along access roads and penstock will be provided with: - Catchments/ cut-off drains and chutes to minimize soil erosion. - Masonry retaining structures. - Formation of sediment basins and slope drains. - Maximum usage of material in fill areas. - Spoil planning particularly on steep slope with bench terracing for high cut areas &- avoidance of any pushing over of material on down slopes - Tree planting programme on penstock areas, roads and to rehabilitate the	Careful monitoring.	Contractor's Environment Engineer	SC, NPC reports to DONRE,

Environmental Aspect and Potential Impact	Remedial Measure	Means of Implementation	Institutional Responsibility	
			Implementation	Supervision
	temporary construction areas at the dam and powerhouse sites.			
Taking of Borrow Materials with potential for loss and degradation of land	<ul style="list-style-type: none"> - No earth will be borrowed from cultivable lands. - Borrowing to take place from barren, wastelands, and riverbeds. - For new borrow areas, all measures will be taken avoid loss of any productive soil. - Any borrow areas will be refilled, re-vegetated and landscaped with tree planting. 	Conditions included in contracts. Careful monitoring	Contractor's Environment Engineer	SC, NPC reports to DONRE,
Taking of Quarry Materials with loss and degradation of land	<ul style="list-style-type: none"> - Quarry materials will be obtained from existing operating sites with proper licenses and environmental clearances. - New quarries to be opened only with permission of respective authorities. 	Careful monitoring	Contractor's Environment Engineer	SC, NPC reports to DONRE,
Other impacts in mining material (sand, stones) such as dust, noise, working safety, water pollution and soil	<p>In the pits, the contractor should comply with the regulations on environmental protection, including:</p> <ul style="list-style-type: none"> - Prohibiting the exploitation of land in the rainy season due to traffic safety; - The construction machinery should be checked on the quality periodically and stored separately; - Installation of a fence around the mining area to prevent the access of farmers, local people and livestock; - Regularly watering mining areas. - 	Careful monitoring	Contractor's Environment Engineer	SC, NPC reports to DONRE,
Pollution of stream, contamination of aquatic environment due to waste, wastewater or oil from construction machine	<ul style="list-style-type: none"> - Storage of chemicals (oil, etc.) for construction services in a safe area, with concrete foundation and roof to prevent rain water and flooding; - Ensure vehicles and construction equipment are maintained in good condition; - Restroom building should comply with the standard restroom prescribed by the Ministry of Health - Regular cleaning at construction camp; - Regular collection of waste land, to avoid sediment, clogging of water, canals; - Approved sites to be defined for storage and disposal of wastes materials - Any waste petroleum products will be collected, stored, and disposed of at approved sites. 	Careful monitoring of conditions included in contracts	Contractor's Environment Engineer and NPC	SC, NPC reports to DONRE,
Construction activities causing disruption of existing surface drains.	<ul style="list-style-type: none"> - Appropriate rain-storm-water channels will be constructed. - Provision for cross drainage structures will be made. - Provision of sedimentation pits to collect runoff water 	Proper planning and measures to be added in the relevant parts of contract documents. Careful monitoring of site conditions	Design consultants and NPC. Contractor's Environment Engineer	NPC

Environmental Aspect and Potential Impact	Remedial Measure	Means of Implementation	Institutional Responsibility	
			Implementation	Supervision
Construction Camp and Residential colony. Social impacts and pollution from wastewater and solid waste	<ul style="list-style-type: none"> - Construction camps will be located close to the dam and powerhouse sites and away from the respective villages. Manual labour will be employed locally. - Camps and residential colony will have properly designed with sewage system for wastewater effluent and solid waste collection. 	Careful monitoring of site conditions and implementation of contract conditions.	Contractor's Environment Engineer	SC, NPC reports to DONRE
Emission from Construction Vehicles and Equipment causing air pollution	<ul style="list-style-type: none"> - Emission levels of all construction vehicles and equipment will conform to Vietnamese emission standards. - Pollutant parameters will be monitored during construction. - Crushing and concrete plants will be away from population centres at dam and powerhouse sites. 	Careful monitoring	Contractor's Environment Engineer	SC, NPC reports to DONRE
Dust particulate causing health impacts for workers and villagers	<ul style="list-style-type: none"> - All precautions to be taken to reduce dust level emissions from batching plants and portable crushers at dam and powerhouse sites. - Regular water spraying at all mixing sites and temporary service roads will be undertaken. - All delivery vehicles will be covered with tarpaulin. 	Careful monitoring	Contractor's Environment Engineer	SC, NPC reports to DONRE
Construction activity: Noise from Vehicles, Plant and Equipment	<ul style="list-style-type: none"> - All construction equipment and plants will conform to Vietnamese noise standards. - All vehicles and equipment to be fitted with noise abatement devices. - Construction workers will be provided with personal protection. 	Careful monitoring	Contractor's Environment Engineer	SC, NPC reports to DONRE
Noise pollution from any blasting activities at dam and power canal tunnel and penstock.	<ul style="list-style-type: none"> - Any blasting works will be in accordance with Vietnamese Explosives Act. - No blasting between dusk and dawn. - Residents close by will be informed well in advance of blasting times. - Workers associated with blasting sites will be provided with earplugs, helmets and other personal safety devices. 	Careful planning and monitoring	Contractor's Environment Engineer	SC, NPC reports to DONRE
Construction of dam, reservoir, canal, penstock with loss of vegetation and tree cover.	<ul style="list-style-type: none"> - No trees to be removed without prior approval, - Compensation for lost trees. - Plantation programme implemented at dam area, canal, penstock, temporary construction areas, roads and other elements of the project. Indigenous tree species being accorded priority over exotic species. 	Careful monitoring of measures to be implemented using Forestry Department of private contractor.	Contractor's Environment Engineer using District Peoples Committee or sub-contractor	SC, NPC reports to DONRE
The social impact caused by the presence of construction workers in the region	<ul style="list-style-type: none"> - Consider possibility to hire workers in the local community rather than building the construction camp; - In the case of the construction camp, to ensure that construction camps are maintained in clean and sanitary condition; - Training for workers to communicate with local communities, respect and abide by the rules, local culture (festivals of rice warehouses and rice) and the implementation of education and hygiene awareness to prevent communicable and transmitted diseases; - To prohibit the exploitation of natural resources by the workers; - Consult with local officials in arranging housing for construction workers; - Make communication on HIV / AIDS and other sexually transmitted diseases and propagate awareness about HIV / AIDS and prevention of social evils like 		Contractor	

Environmental Aspect and Potential Impact	Remedial Measure	Means of Implementation	Institutional Responsibility	
			Implementation	Supervision
	drugs, gambling, prostitution, violence, and theft.			
Construction Activities and Accident Risks	<ul style="list-style-type: none"> - All blasting sites will have warning and clearance signals. Site will be inspected prior/after blasting. - Workers will be provided with helmets, masks and safety goggles. - A readily available first aid unit will be available with dressing materials. - Road safety education will be given to construction vehicle drivers. - Traffic management will be ensured during road construction periods. - Information dissemination will take place through the Commune's People Committee regarding activities causing disruption. 	Inclusion of measures in contracts and follow up monitoring	Contractor's Environment Engineer	SC, NPC, EPA
Construction activities causing disruption to Public Utilities	<ul style="list-style-type: none"> - Any public utilities likely to be impacted, such as water supply pipe system, power/phone lines etc. must be relocated to suitable places, in consultation with local beneficiaries. 	To be added in the relevant parts of contract documents.	Design consultants and NPC.	NPC
Any discovery of artifacts or articles of historic interest and importance	<ul style="list-style-type: none"> - For all finds of an historic or cultural value, work will be stopped and the find reported to the nearest office of the Department Culture, Sport and Tourism or the Department of Culture and Information 	To be added in the relevant parts of contract documents.	Contractor's Environment Engineer	NPC
Operational Stage				
Reduced water flow in river effecting aquatic life and local activity	<ul style="list-style-type: none"> - Provide guaranteed dry season flow of water in the river of 120 l/s. - Regular monitoring of the quantity of daily water flows below the weir intake and any impacts of peak plant operation. - Monitor the impacts of low flows in the dry season to the Nam Sai villagers' need for water different purposes – irrigation pumps, buffalo wallow and any domestic uses. 	Measurements Undertaken by NPC hydrology engineers	NPC Environment Engineer	NPC
Erosion in river bed of the river from tail race when project in operation	<ul style="list-style-type: none"> - Provide concrete canal for water from powerhouse and stilling basin at immediate area where tail race discharges back into the river system. 	During construction phase implementation of contract conditions.	Contractor's Environment Engineer	SC, NPC reports to DONRE
Soil erosion, land degradation and vegetation loss particularly on steep slopes	<ul style="list-style-type: none"> - Maintenance of trees and vegetative cover over initial five year of project around the dam, canal, penstock, access roads and at other project infrastructure. 	Using sub-contractor or Government agency.	NPCs Environment Engineer	NPC

Table 13 Environmental Monitoring Measures

Aspects/Parameters to be Monitored and Applicable Standard	Location	Means of Monitoring	Schedule/Frequency	Responsible to Undertake Monitoring	Estimated Cost (VND)
<i>Pre-construction</i>					
1. Completion of detailed design in accordance with EMP requirements	NPC in Lao Cai	Review of detailed design	Prior to approval of detailed design	NPC/CREB	
2. Implementation of all mitigation measures specified in EMP:	NPC in Lao Cai	Review of detailed design			
a. Sitting of quarry and borrow areas consistent with EMP	Location of borrow area	Check contractor's construction Materials, plans, and conduct site visit	Prior to establishment of quarry and borrow areas	NPC/CREB	
b. Environmental flow/residual flow	Downstream of dam	Include in subproject design	Prior to start of site works	NPC/CREB	
<i>Construction stage</i>					
<ul style="list-style-type: none"> Implementation of construction phase: environmental mitigation measures specified in EMP Table 	Locations indicated in the EMP Table for specific mitigation measures	Site visit, interviews with local residents, coordination with concerned agencies	Quarterly (on a regular basis) Random checks and to validate complaints	NPC/External monitoring Consultant (EMC)	
<ul style="list-style-type: none"> Noise in dB(A) compared to standards specified in TCVN5949-1998 Dust in mg/l compared to standard specified in QCVN 05 : 2009/BTNMT 	Residential area in commune	Noise measurement	Quarterly (on a regular basis) Random checks and to validate complaints	Contractor/EMC	

<ul style="list-style-type: none"> ▪ Surface water quality (fecal coliform, dissolved oxygen,pH, TSP.oil and grease, BOD₅) in QCVN08: 2008:BTNMT ▪ Other parameters to be sampled, as appropriate, to validate complaints and pollution event(s) due to project activities 	Upstream, downstream of dam, Downstream of Hydro-power plant	Field sampling	<p>Quarterly (on a regular basis)</p> <p>Random checks and to validate complaints</p>	Contractor/EMC	
<i>Operation Stage</i>					
Reduced water flow/Minimum flow (m ³ /s) and impacts of changed flow in the river	Downstream of dam	<p>Measurement of discharge flow and downstream conditions.</p> <p>Environmental officer to make regular checks in dry season</p>	<p>Daily record of flows</p> <p>Random checks and to validate complaints</p>	NPC	

Preconstruction costs from NPC budget

ANNEX 1 Rapid Environmental Assessment (REA) Checklist

Rapid Environmental Assessment (REA) Checklist

Instructions:

- (i) The project team completes this checklist to support the environmental classification of a project. It is to be attached to the environmental categorization form and submitted to the Environment and Safeguards Division (RSES) for endorsement by Director, RSES and for approval by the Chief Compliance Officer.
- (ii) This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB's (a) checklists on involuntary resettlement and Indigenous Peoples; (b) poverty reduction handbook; (c) staff guide to consultation and participation; and (d) gender checklists.
- (iii) Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures.

Country/Project Title: Nam Sai Hvdropower Proiect

Sector Division: Energy

A. Basic Project Design Data

1. Dam height, m = 22 m
2. Surface area of reservoir, (hecta) = 2,91
3. Estimated number of people to be displaced = 0 person
4. Rated power output, (MW) = 7,5 MW

Other Considerations:

1. Water storage type: ☐ reservoir ☐ run of river ☐ pumped storage
2. River diversion scheme: ☐ trans-basin diversion ☒ in-stream flow regulation
☐ in-stream diversion
3. Type of power demand to address: ☐ peak load ☐ base load

SCREENING QUESTIONS	Yes	No	REMARKS
B. Project Location			
Is the dam and/or project facilities adjacent to or within any of the following areas?			
• Unregulated river	X		The river is not being regulated and used for irrigation or other purposes.
• Undammed river tributaries below the proposed dam	X		There are 5 dams in the Ngoi Bo river (downstream of the site)
• Unique or aesthetically valuable land or water form		X	River water is used for buffalo wallow and limited use for irrigation during the dry season. Villagers use the upstream springs and not the river during the wet season.
• Special area for protecting biodiversity		X	The site is not located within a special area for protecting biodiversity.
• Protected Area		X	The nearest protected area is Hoang Lien national park which is located 50 km away from the project site.
• Buffer zone of protected area		X	The site is not within a buffer zone of a protected area.
• Primary forest		X	The site is not considered as primary forest area.
• Range of endangered or threatened animals		X	There are no endangered or threatened animals reported in the area.
• Area used by indigenous peoples	X		Indicate the indigenous peoples in Nam Sai, Thanh Phu and Nam Cang communes
• Cultural heritage site		X	There are no cultural heritage sites to be affected by the project.
• Wetland		X	There are no wetlands in the project area
• Mangrove		X	There are no mangrove areas in the project area
• Estuary		X	There are no estuary areas in the project area
C. Potential Environmental Impacts			
Will the Project cause.			
• short-term construction impacts such as soil erosion, deterioration of water and air quality, noise and vibration from construction equipment?	X		The project will provide the result of soil erosion, water and air quality changes. Mitigating measures are provided in the environment management and monitoring program.
• disturbance of large areas due to material quarrying?		X	The quarry site for the project is located 3 km away. The quarry site covers an area of 2 km.
• disposal of large quantities of construction spoils?		X	There are no large quantities of construction spoils to be generated.
• clearing of large forested area for ancillary facilities and access road?		X	A forested area of 11,41 hectares will be cleared. The project will compensate through the planting total of 21,8 hectares of land.
• impounding of a long river stretch?		X	The project will affect 4.1km stretch of the river. There are 61 affected households along this stretch of the river.

SCREENING QUESTIONS	Yes	No	REMARKS
• dryness (less than 50% of dry season mean flow) over a long downstream river stretch?		X	There will be dryness for 6 months of the year at the downstream river stretch.
• construction of permanent access road near or through forests?		X	Access road mainly use the present road, not through forests.
• creation of barriers for migratory land animals		X	Project will not create barriers for migratory land animals
• loss of precious ecological values due to flooding of agricultural/forest areas, and wild lands and wildlife habitat; destruction of fish spawning/breeding and nursery grounds?		X	NA
• deterioration of downstream water quality due to anoxic water from the reservoir and sediments due to soil erosion?	X		The average suspended alluvium in spring about 310g/m ³ . The turbidity of water of downstream will decrease when overflow discharge and increase when bottom discharge.
• significant diversion of water from one basin to another?		X	NA
• alternating dry and wet downstream conditions due to peaking operation of powerhouse?	X		Alternating downstream flow conditions will occur during the dry and wet season but an environmental flow will be retained.
• significant modification of annual flood cycle affecting downstream ecosystem, people's sustenance and livelihoods?		X	Small water retention
• loss or destruction of unique or aesthetically valuable land or water forms?		X	Small dam in steep valley
• proliferation of aquatic weeds in reservoir and downstream impairing dam discharge, irrigation systems, navigation and fisheries, and increasing water loss through transpiration?		X	Small retention area only
• scouring of riverbed below dam?		X	The dam will have a subsidiary dam or stilling basin to prevent scouring of riverbed
• downstream erosion of recipient river in trans-basin diversion?		X	NA
• increased flooding risk of recipient river in trans-basin diversion?		X	The hydropower and dam will be operated by NPC and is suitable with the hydrology and weather in area.
• decreased groundwater recharge of downstream areas?		X	NA
• draining of downstream wetlands and riparian areas?		X	NA
• decline or change in fisheries below the dam due to reduced peak flows and floods, submersion of river stretches and resultant destruction of fish breeding and nursery grounds, and water quality changes?		X	Project is located in a steep slope. Fish species are not significant.
• loss of migratory fish species due to barrier imposed by the dam?	X		
• formation of sediment deposits at reservoir entrance, creating backwater effect and flooding and waterlogging upstream?		X	The sediment in water is low, so sediment deposits and creation of backwater effect is insignificant.
• significant disruption of river sediment transport downstream due to trapping in reservoir?		X	
• environmental risk due to potential toxicity of sediments trapped behind the dams?		X	NA
• increased saltwater intrusion in estuary and low lands due to reduced river flows?		X	NA
• significant induced seismicity due to large reservoir size and potential environmental hazard from catastrophic failure of the dam?		X	Small water reservoir and the project will be designed to prevent environmental risks. Watershed is capable of augmenting flows into the river.
• cumulative effects due to its role as part of a cascade of dams/ reservoirs?		X	

SCREENING QUESTIONS	Yes	No	REMARKS
<ul style="list-style-type: none"> depletion of dissolved oxygen by large quantities of decaying plant material, fish mortality due to reduced dissolved oxygen content in water, algal blooms causing successive and temporary eutrophication, growth and proliferation of aquatic weeds? 		X	Stilling basin will be provided to prevent effect on water quality at downstream area.
<ul style="list-style-type: none"> risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation? 	X		Mainly from the construction activity: gas and dust from the vehicles and equipment cause pollution air and water, UXO contamination, traffic accidents. Health and safety plan will be integrated in the EMP.
<ul style="list-style-type: none"> large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)? 	X		Using the vehicles to transfer materials may cause damage to road and infrastructure in the area. Domestic Waste, wastewater from camp. EMP should include measures to prevent negative effects.
<ul style="list-style-type: none"> creation of community slums following construction of the hydropower plant and its facilities? 		X	NA
<ul style="list-style-type: none"> social conflicts if workers from other regions or countries are hired? 	X		Culture and lifestyle differences of workers and local peoples can cause social conflicts.
<ul style="list-style-type: none"> uncontrolled human migration into the area, made possible by access roads and transmission lines? 	X		Human migration into the area can be created with the influx of construction workers. Qualified local people should be given priority.
<ul style="list-style-type: none"> disproportionate impacts on the poor, women, children or other vulnerable groups? 		X	NA
<ul style="list-style-type: none"> community health and safety risks due to the transport, storage, and use and/or disposal of materials likely to create physical, chemical and biological hazards? 	X		From the construction activity: vehicles and equipment transport and UXO contamination are causing accidents to the local peoples. UXO clearance should be done prior to start of construction works.
<ul style="list-style-type: none"> risks to community safety due to both accidental and natural hazards, especially where the structural elements or components of the project (e.g.,dams) are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning? 	X		The risks may be happen from the weather, earthquake, flooding and could affect some elements or components of project as well as community safety.

ANNEX 2 MINUTES OF PUBLIC CONSULTATION MEETINGS (WITH ENGLISH TRANSLATION)

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập - Tự do - Hạnh phúc

BIÊN BẢN CUỘC HỌP

V/v Thống nhất phương án đền bù giải phóng mặt bằng
thủy điện Nậm Sài – Sa Pa – Lào Cai

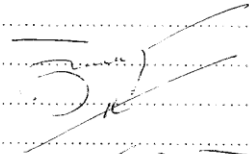
Hôm nay ngày 28 Tháng 7 năm 2009.
Địa điểm: tại UBND xã Thanh Phú huyện Sa Pa.
I) THÀNH PHẦN
1) Đại diện phòng Tài Nguyên Môi trường UBND huyện Sa Pa:
- Ông: Đinh Huy Cường Chức vụ: Phó phòng T.N.M.T.
2) Đại diện Chủ đầu tư Điện lực Lào Cai:
- Ông: Phạm Văn Mạnh Chức vụ: Phó giám đốc.
- Ông: Nguyễn Ngọc Tín Chức vụ: Phó phòng QLXD.
- Ông: Trường Văn Mười Chức vụ: CB phòng QLXD.
3) Đại diện UBND xã Thanh Phú:
- Ông: Hoàng Đức Sơn Chức vụ: Chủ tịch, bí thư xã.
- Ông: Tân Xuân Phìn Chức vụ: Chủ tịch HĐND xã.
- Ông: Hoàng Đức Sơn Chức vụ: Chủ tịch mặt trận tổ quốc.
- Ông: Tân Văn Quý Chức vụ: Chủ tịch hội nông dân.
- Bà: Lưu Thị Ca Chức vụ: Chủ tịch hội phụ nữ.
- Ông: Mã Hồng Sơn Chức vụ: Trưởng thôn Lũng Bơ II.
- Ông: Phan A Páo Chức vụ: Trưởng thôn Lũng Bơ I.
4) Đại diện UBND xã Nậm Lạn:
- Ông: Vũ A Dề Chức vụ: Phó chủ tịch HĐND.
- Ông: Triệu Văn Phình Chức vụ: CB địa chính xã.
5) Đại diện UBND xã Nậm Sài:
- Bà: Nguyễn Thị Thuý Chức vụ: Bí thư đảng ủy xã.
- Ông: Đào Văn Khôn Chức vụ: Chủ tịch xã.
- Ông: Lý Văn Dao Chức vụ: Phó chủ tịch xã.

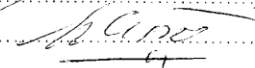
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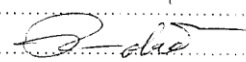
Nguyễn Thị Xuân

Đào Văn Kiên

Nguyễn Văn Đức, P.ETHA





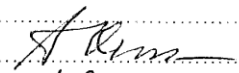


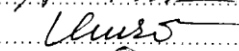
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Hoàng Đức Sơn, B. Thủ + CT

Tài Văn Kiên







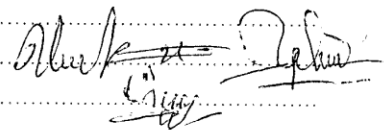
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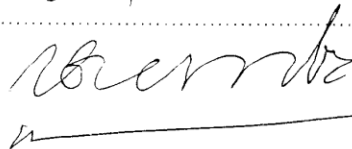
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- Phan Đức Quỳ

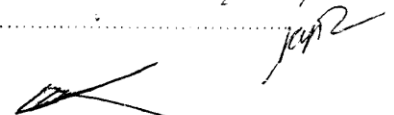
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ĐẠI DIỆN PHONG TÍN M.T



ĐẠI DIỆN ĐIỆN LƯU CA





ENGLISH TRANSLATION

SOCIALIST REPUBLIC OF VIETNAM
Independence – Freedom – Happiness

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A CONFERENCES MINUTES

To discuss the compensation and land clearance of the Nam Sai Hydropower Project Sa Pa District – Lao Cai province

Today, 28 July 2009

Place: At the People's Committee of Thanh Phu Commune – Sa Pa District

I. COMPONENTS

1. Section on Natural Resources and Environment (SONRE) Sa Pa district
Mr : Dinh Huy Cuong Position: Vice chief Section
2. Project Owner : Lao Cai Power Company
Mr: Pham Van Manh Position: Deputy Director
Mr: Nguyen Ngoc Tin Position: Vice chief of Construction
Management Section
Mr: Truong Van Muoi Position: Staff of Construction Management
Section
3. People's Committee of Thanh Phu Commune
Mr: Hoang Duc Song Position: President People's Committee and
Secretary
Mr: Tan Y Phin Position: President of People's Council
Mr: Hoang Duc Sen Position: President of Fatherland Front
Mr: Tan Dan Quay Position: President of Farmer Association
Mrs: Lu Thi On Position: President of Woman Association
Mr: Ma Hong Sin Position: Chief of Lung Bo II Village
Mr: Phung A Pan Position: Chief of Lung Bo I Village
4. People's Committee of Nam Cang Commune
Mr: Vu A De Position: Deputy President of Party executive
committee
Mr: Trieu Tan Phuong Position: Staff of Land office
5. People's Committee of Nam Sai Commune
Mrs: Nguyen Thi Thuy Position: Secretary of Party executive
committee
Mr: Hoang Duc Song Position: President People's Committee
Mr: Hoang Duc Song Position: Deputy President People's
Committee

II. CONTENTS

The leader of Lao Cai Power Company reported about the scale of Nam Sai Hydropower project, which include: The Dam, Reservoir, Channel I, Pressure Tank, Hydropower plant and the objectives of the investment to some villages of

3 communes without electricity. The options to compensate the affected persons of the Project were also presented. In addition, the comments of the Party executive committee, People's Council, People's Committee of three communes and the opinions of majority of the households in the communes are as follows:

1. Don't need to compensate and resettle because the project scale do not affect the habitable house and other building.
2. Don't need to resettle – agriculture because the communes don't have agriculture land and water resources for irrigation.
3. The household, who are effected in land, trees and vegetables agreed with compensation by cast (money) because they don't have agriculture land and water resources for irrigation.
4. The compensation price unit and the supported regulations under the recent requirement of People's Committee of Lao Cai province.

Suggestion to Lao Cai Power Company and another Authorities to examine the other supported regulations to household which are affected with land.

This minutes was read and unified in the conference and made in 6 copies with the same value to do the next step and sent to stakeholder to coordinate operation.

Signature

Nam Sai Commune
(Signed)

Thanh Phu Commune **(Signed)**

Nam Cang Commune **(Signed)**

Section on Natural Resources and Environment (SONRE):
(Signed)

Lao Cai Power Company
(Signed)

ANNEX 3 CEP APPROVAL (WITH ENGLISH TRANSLATION)

ỦY BAN NHÂN DÂN
HUYỆN SA PA

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập – Tự do – Hạnh phúc

Số: 467 / UBND-TNMT

Sa Pa, ngày 14... tháng 04... năm 2007

GIẤY XÁC NHẬN BẢN ĐĂNG KÝ CAM KẾT BẢO VỆ MÔI TRƯỜNG Công trình thủy điện Nậm Sài – Huyện Sa Pa – Tỉnh Lào Cai

ỦY BAN NHÂN DÂN HUYỆN SA PA
XÁC NHẬN

Điều 1. Dự án: “Công trình thủy điện Nậm Sài – Huyện Sa Pa – Tỉnh Lào Cai” do Công ty cổ phần Đầu tư và Phát triển Điện Miền Bắc 3 làm chủ dự án đã báo cáo đánh giá tác động môi trường ngày 09 tháng 01 năm 2007

Điều 2. Chủ dự án có trách nhiệm thực hiện đúng và đầy đủ những nội dung về bảo vệ môi trường nêu trong báo cáo đánh giá tác động môi trường đồng thời phải thực hiện tốt yêu cầu sau đây:

- Trong quá trình thi công xây dựng công trình, nguyên vật liệu phải được tập kết, bảo quản và sử dụng đúng mục đích; đồng thời phải thu gom các loại chất thải và xử lý để không ảnh hưởng đến cảnh quan môi trường.

- Trong giai đoạn vận hành, cần phải định kỳ tiến hành quan trắc, giám sát các yếu tố môi trường vật lý và sinh học theo chu kỳ 3 tháng / lần trong năm đầu tiên và 6 tháng / lần trong những năm tiếp theo với các chỉ tiêu như: Lưu lượng dòng chảy, chất lượng nước mặt trước và sau đập, tình hình úng ngập, xói lở và bồi lắng trong mùa mưa, sự suy giảm đa dạng sinh học.

- Xây dựng, lập kế hoạch bảo vệ hệ sinh thái rừng và đa dạng sinh học ở khu vực thực hiện dự án. Chống xói mòn đất, xói lở và bồi lắng lòng hồ.

- Cần phải có hạng mục kinh phí cụ thể cho các hoạt động giám sát và quan trắc môi trường trong quá trình thi công cũng như khi công trình đã đi vào vận hành.

Điều 3. Báo cáo đánh giá tác động môi trường của dự án và những yêu cầu tại văn bản này là cơ sở để các cơ quan quản lý Nhà nước về bảo vệ môi trường giám sát, kiểm tra, thanh tra việc thực hiện bảo vệ môi trường của dự án.

Điều 4. Trong các giai đoạn thi công và vận hành công trình Chủ dự án phải có báo cáo bằng văn bản về các kết quả quan trắc, giám sát môi trường gửi phòng Tài nguyên và Môi trường huyện Sa Pa, Sở Tài nguyên và Môi trường tỉnh Lào Cai để quản lý.

Giấy xác nhận này có giá trị kể từ ngày ký.

Nơi nhận:

- Sở TN&MT;
- Chủ dự án;
- Phòng TN&MT;
- Lưu VP.

TM. ỦY BAN NHÂN DÂN HUYỆN SA PA



CHỖ TỊCH

Nguyễn Văn Linh

ENGLISH TRANSLATION

PEOPLE'S COMMITTEE
SAPA DISTRICT

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No: 267/UBND – TNMT

SOCIALIST REPUBLIC OF VIETNAM
Independence – Freedom – Happiness

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Sa Pa, 12 April 2007

CERTIFICATE
REGISTRATION COMMITMENT OF ENVIRONMENTAL PROTECTION
The Nam Sai Hydropower – Sa Pa District – Lao Cai province

PEOPLE'S COMMITTEE SAPA DISTRICT
CERTIFICATE

Article 1: Project “ The Nam Sai Hydropower – Sa Pa District – Lao Cai province” which The project owner is Northern Power Corporation (NPC) was had the Environmental Impact Assessment Report on 09 *January 2007*.

Article 2: The project manager has to carry out true and sufficient the environment contents that mentioned in the Environmental Impact Assessment Report.

Furthermore, have to execution some requirements below:

- During construction period, the material must be gathered maintained and used for proper purposes; concurrently the waste must be collected and treated to no impact to the environment landscape.
- During operation period, need to periodic monitoring and supervision of physical and biology environmental factor on three months/a time in first year and six month/ a time in subsequent years with the targets as: flows, surface water quality before and after the dam, the flooding situation, erosions and sedimentation in the rainy season, biological degradation.
- Set up a plan to protect ecological forest and bio-diversity at the project area. Anti-erosion, sedimentation of reservoirs
- Have to the specific expenditure on environmental monitoring and supervision in the construction and the operation period of the project.

Article 3: The Project EIA and the owner is required to undertake supervision and inspection of the environmental protection activities.

Article 4: During construction and operation period, project manager have to document to report to Department on Natural Resources and Environment (DONRE) of Lao Cai and Section on Natural Resources and Environment (SONRE) of Sa Pa Town about the result of environmental monitoring and supervision to management.

The certificate takes effect since signed date.

Recipient:

- *Donre*
- *Project Manager*
- *Sonre*
- *Archives*

ON BEHALF OF PEOPLE'S COMMITTEE SAPA
DISTRICT

PRESIDENT

(Signed)

Hau A Lenh

**ANNEX 4 PUBLIC CONSULTATION AT THANH PHU COMMUNE (WITH
ENGLISH TRANSLATION)**

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập – Tự do – Hạnh phúc

Thanh Phú, ngày 13.. tháng 04.. năm 2011

BIÊN BẢN HỌP THAM VẤN CỘNG ĐỒNG VỀ ĐÁNH GIÁ MÔI TRƯỜNG, TÁI ĐỊNH CƯ VÀ PHÁT TRIỂN DÂN TỘC THIỂU SỐ

Dự án:Thủy Điện Nậm Sài.....

Xã Thanh Phú... Huyện Sa Pa..... tỉnh Lào Cai....

I. Thành phần tham dự, -

Ông/Bà Hoàng Đức Song.....

Chức vụ: Bí thư - Chủ tịch xã Thanh Phú

Ông/Bà Lưu Đức Chấn.....

Chức vụ: Phó chủ tịch UBND

Ông/Bà Lưu Văn Hoàng.....

Chức vụ: Xã đội trưởng

Ông/Bà Nguyễn Xuân Kiên.....

Chức vụ: Cán bộ tư vấn

Ông/Bà Đinh Xuân Hoàng.....

Chức vụ: Cán bộ tư vấn

Ông/Bà Nguyễn Xuân Lâm.....

Chức vụ: Cán bộ tư vấn

Đại diện những người bị ảnh hưởng 40.. người (chi tiết xem chi tiết đính kèm).

II. Nội dung tham vấn

Chuyên gia môi trường trình bày những tác động bao gồm tác động lên môi trường tự nhiên và xã hội của khu vực dự án và những biện pháp giảm thiểu các tác động tiêu cực.

Chuyên gia môi trường trình bày những tác động khi thu hồi đất và các tài sản trên đất, những chính sách của Chính phủ nước Cộng hòa xã hội chủ nghĩa Việt Nam và địa phương, chính sách của dự án trong vấn đề bồi thường thiệt hại khi Nhà nước thu hồi đất đai và các tài sản trên đất.

Chuyên gia về cộng đồng, dân tộc thiểu số trình bày về Khung chính sách dân tộc thiểu số của Dự án, các tác động xã hội trong quá trình thực hiện dự án. Giới thiệu cộng đồng về những chính sách của Chính phủ nước Cộng hòa xã hội chủ nghĩa Việt Nam và địa phương về dân tộc thiểu số.

III. Ý kiến thảo luận

III.1. Về các tác động môi trường tiêu cực và biện pháp giảm thiểu

Người dân đồng ý với các biện pháp giảm thiểu mà chủ đầu tư đã đưa ra. Ngoài ra người dân còn một số ý kiến sau:
- Trong quá trình triển khai và khai thác công trình chủ đầu tư cần thực hiện đúng các biện pháp giảm thiểu ô nhiễm không khí, bụi và tiếng ồn tránh ảnh hưởng đến người dân đặc biệt là người già,



phụ nữ và trẻ em.

- Trong quá trình thi công chủ đầu tư cần quản lý tốt công nhân, yêu cầu công nhân tôn trọng phong tục, văn hóa địa phương, thành lập định mẫu thuận với địa phương.
- Tuyến đường dự án đi qua các khu dân cư và là con đường duy nhất qua các xã. Trong quá trình thi công nhà thầu chủ ý áp dụng các biện pháp an toàn giao thông tránh ảnh hưởng đến người dân đặc biệt là người già và trẻ em.

III.2. Về các vấn đề thu hồi đất và các tài sản trên đất và các chính sách

- Người dân hoàn toàn thống nhất đền bù theo đơn giá hiện hành do UBND tỉnh ban hành.
- Người dân mong muốn dự án sớm được triển khai cải thiện đời sống cho người dân.

III.3. Các vấn đề về dân tộc thiểu số

Dự án triển khai sẽ mang lại những tác động tích cực về VH-KT-XH cho đồng bào. Nâng cao đời sống và thu nhập cho bà con.

Dự án được triển khai sẽ có tác động tích cực tới phụ nữ, trẻ em và các đối tượng khác dễ bị tổn thương thông qua việc tiếp cận với trường học, y tế, ...

IV. Kết luận

Ban quản lý dự án và UBND đã phê duyệt những thông tin có liên quan tới dự án, những chính sách về dân tộc thiểu số - giới - T-ĐC trong dự án. Những biện pháp giảm thiểu môi trường trong quá trình thi công.


Người dân mong muốn dự án sớm hoàn thành. Khi dự án hoàn thành sẽ mang lại những tác động tích cực đến VH - KT - XH của người dân.


Đại diện chủ đầu tư

Đại diện cộng đồng

Đại diện tư vấn

Đại diện UBND xã


Lũ Văn Hương


Nguyễn Hoa Kiên

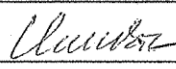
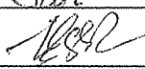


CHỦ TỊCH
Hoàng Đức Long

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập – Tự do – Hạnh phúc

**DANH SÁCH NHỮNG ĐẠI BIỂU THAM DỰ CUỘC HỌP
THAM VẤN CỘNG ĐỒNG VỀ ĐÁNH GIÁ MÔI TRƯỜNG, TÁI ĐỊNH CƯ VÀ
PHÁT TRIỂN DÂN TỘC THIỂU SỐ.**

STT	Họ và tên	Địa chỉ	Chữ ký	Ghi chú
1	Hoàng Đức Song	thôn Mương Bo 1		Chủ tọa xã
2	Nông Văn Sơn	thôn Mương Bo 1	Sơn	Trưởng thôn
3	Lai Văn Hương	Mương Bo 2		Trưởng thôn
4	Lã Văn Lập	Sin A chai A	Lập	trưởng thôn
5	Lô A Sủ	Sin A chai B	Sủ	Trưởng thôn
6	Lũ A Tích	Nam Cu	Tích	Hội cựu chiến binh
7	Lô A Tường	Mương Bo 1	Tường	Danh quân xã
8	Lô A Minh	Mương Bo 1	Minh	Hội phụ nữ
9	Lô A Sủ	Mương Bo 2	Sủ	Hội phụ nữ
10	Phùng A Pân	Mương Bo 2	Pân	Người dân bị ảnh hưởng
11	Đi A Đên	Sin A chai A	Đên	nt
12	Lũ A Lai	Sin A chai B	Lai	nt
13	Lũ Văn Hiến	Sin A chai A	Hiến	nt
14	Lũ A Dui	Nam Cu	Dui	nt
15	Phạm Văn Ngón	Nam Cu	Ngón	nt
16	Lũ Đức Chở	Nam Cu	Chở	nt
17	Hoa Thị Mười	Sin A chai A	Mười	nt
18	Trần Quang Hoa	Sin A chai B	Hoa	nt
19	Mã Thị Cầu	Mương Bo 1	Cầu	nt
20	Hoa Công Tạc	Mương Bo 2	Tạc	nt
21	Võ Thị Dân	Sin A chai A	Dân	nt
22	Trần Quang Hoa	Mương Bo 1	Hoa	nt



23	Dau Văn Lom	Muối Bo 2	Tô	nt
24	Noy Chi Tráp	Muối Bo 1	Trang	nt
25	Trần Chi Văn	Muối Bo 2	Võ	nt
26	Hoa Chi Dau	Sin Achai 1-	Chi Dâu	nt
27	Trần Quang Hòa	Năm Cu	Hòa	nt
28	Mã Văn Lõ	Năm Cu	Phy	nt
29	Trần Quý Phay	Năm Cu	Phay	nt
30	Khô Văn Sui	Sin Achai A	Sui	nt
31	Bùi Văn Hải	Sin Achai B	Hải	nt
32	Pha Thi Huệ	Muối Bo 1	Pha	nt
33	Pha Thi Văn	Sin Achai A	Văn	nt
34	Trần Văn Khon	Sin Achai B	Khon	nt
35	Mong Thi Uy	Năm Cu	Uy	nt
36	Ng Văn Hảo	Năm Cu	Hảo	nt
37	Võ Thi Cải	Năm Cu	Cải	nt
38	Võ Văn Hòa	Sin Achai A	Hòa	nt
39	Phạm Văn Phn	Sin Achai B	Phn	nt
40	Lưu Văn Chi	Muối Bo 1	Chi	nt

Thanh...Phu., ngày 13.. tháng 04.. năm 2011

Xác nhận của địa phương



CHỦ TỊCH
Hoàng Đức Tông

ENGLISH TRANSLATION

SOCIALIST REPUBLIC OF VIETNAM **Independence – Freedom – Happiness**

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Thanh Phu, 13 April 2011

A CONFERENCE MINUTES OF PUBLIC CONSULTATION ON ENVIRONMENTAL ASSESSMENT, REHABILITATION AND ETHNIC MINORITY DEVELOPMENT

Nam Sai Hydropower Project

Thanh Phu Commune - Sa Pa District – Lao Cai province

I. COMPONENTS

Mr: Hoang Duc Song	Position: President People's Committee and Secretary
Mr: Lu Duc Chin	Position: Deputy President People's Committee
Mr: Lu Van Huong	Position: Leader of commune security
Mr: Nguyen Xuan Kieu	Position: Staff of Consultation
Mr: Dinh Xuan Hoang	Position: Staff of Consultation
Mr: Nguyen Xuan Lam	Position: Staff of Consultation

And 40 local peoples who are affected (see the namelist enclose)

II. CONSULTATION CONTENTS

- Environmental experts presentation of the impacts of project, include: Impacts to natural environment and social environment of project area and the solution to negative impacts minimization.
- Environmental experts presentation of the impacts of land compensation and properties on land. The policies of Government of Socialist Republic of Viet Nam and local authority, Project Policy in payment for compensation of land and properties on land.
- Community experts presentation the frame policy of ethnic minority of project. The social impacts in the project implementation. Presentation to the community about the policy of Government of Socialist republic of Viet Nam and local authority in ethnic minority.

III. DISCUSSION

3.1. Environmental Negative impacts and the minimization solution

Local people agree with the minimization solution that the project owner presented. Moreover, local people have some opinion below:

- During the implementation and operation of project, the owner have to carry out solutions to minimize air pollution, dust and noise pollution to avoid effect to the people, particularly for the older people, women and kids.
- During the construction of project, the owner have to manage workers well, asking to worker need to respect to common practice and culture of the local people and avoid conflict with the local people.
- The road of the project goes past to the residential area and the single road to the communes. In the construction time, the contractor needs to use the traffic safety solution to avoid effects to the people, particularly for the older people and kids.

3.2. The land recover and properties on land issues and Policies.

- Local people agree with the payment for land will be based on the current cost value approved by Lao Cai PPC.
- Local people looking forward to the project's early implementation to improve the live conditions of people.

3.3. The ethnic minority issues

- Project implementation will bring the positive impacts to the social, economic and culture of community. Raising the income and living of people.
- Project implementation will bring the positive impacts to the women, kids and other stakeholders by access to the school and medical service.

IV. CONCLUSION

- Project management Unit (PMU) and Consultants have presented the information in relation to the project, the ethnic minority policy, gender and rehabilitation in the project and also the solutions to minimize environmental pollution in construction phase.
- Local people looking forward the project's early completion since the project will bring positive impacts to the social, economic and culture of community.

Owner's representative	Community's representative	Consultation's representative	CPC's representative
	<i>Signed</i>	<i>Signed</i>	<i>Signed</i>
	Lu Van Huong	Nguyen Xuan Kieu	Hoang Duc Song

SOCIALIST REPUBLIC OF VIETNAM
Independence – Freedom – Happiness

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Thanh Phu, 13 April 2011

**NAMelist OF REPRESENTATIVES JOINING WITH THE CONFERENCES OF
PUBLIC CONSULTATION IN ENVIRONMENTAL ASSESSMENT, REHABILITATION
AND ETHNIC MINORITY DEVELOPMENT**

No.	Name	Address	Signature	Note
1	Hoang Duc Song	Village Muong Bo 1		President People's Committee
2	Nong Van San	Village Muong Bo 1		Leader of Village
3	Lu Van Huong	Muong Bo 2		Leader of Village
4	Lu Van Lap	Sinh A Chai A		Leader of Village
5	Lo A Su	Sinh A Chai B		Leader of Village
6	Lu A Tich	Nam Cu		Veteran's union
7	Lo A Tuong	Muong Bo 1		Militiaman
8	Lo A Minh	Muong Bo 1		Women's Union
9	Lo A Siu	Muong Bo 2		Women's Union
10	Phung A Pan	Muong Bo 2		Local people
11	Di A Deo	Sinh A Chai A		Local people
12	Lu A Lai	Sinh A Chai B		Local people
13	Lu Van Hien	Sinh A Chai A		Local people
14	Lo A Dui	Nam Cu		Local people
15	Phan Van Ngon	Nam Cu		Local people
16	Lu Duc Choi	Nam Cu		Local people
17	Hoa Thi Muoi	Sinh A Chai A		Local people
18	Trieu Quang Hoa	Sinh A Chai B		Local people
19	Ma Thi Lau	Muong Bo 1		Local people
20	Hoa Cong Tac	Muong Bo 2		Local people
21	Vo Thi Dam	Sinh A Chai A		Local people
22	Trieu Quang Hoa	Muong Bo 1		Local people
23	Dau Van Tom	Muong Bo 2		Local people
24	Nong Thi Trap	Muong Bo 1		Local people
25	Trieu Thi Van	Muong Bo 2		Local people
26	Hoa Thi Dau	Sinh A Chai A		Local people
27	Trieu Quang Hoa	Nam Cu		Local people
28	Ma Van Lo	Nam Cu		Local people
29	Trieu Quang Phong	Nam Cu		Local people
30	Lo Van Su	Sinh A Chai A		Local people
31	Bui Van Hai	Sinh A Chai B		Local people
32	Ma Thi Hue	Muong Bo 1		Local people
33	Ma Thi Van	Sinh A Chai A		Local people
34	Trieu Van Khoa	Sinh A Chai B		Local people
35	Nong Thi Uy	Nam Cu		Local people
36	Nong Van Hao	Nam Cu		Local people
37	Vo Thi Cai	Nam Cu		Local people
38	Vo Van Hoa	Sinh A Chai A		Local people

39	Pham Van Phu	Sinh A Chai B		Local people
40	Lu Van Chi	Muong Bo 1		Local people

Thanh Phu, 13 April 2011

President People's Committee
Signed

Hoang Duc Song

ANNEX 5 PUBLIC CONSULTATION AT NAM SAI COMMUNE (WITH ENGLISH TRANSLATION)

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập – Tự do – Hạnh phúc

Nam Sai., ngày 12.. tháng 04.. năm 2011

BIÊN BẢN HỌP THAM VẤN CỘNG ĐỒNG VỀ ĐÁNH GIÁ MÔI TRƯỜNG, TÁI ĐỊNH CƯ VÀ PHÁT TRIỂN DÂN TỘC THIỂU SỐ

Dự án:*T. huyện. Nam Sai*.....

Xã *Nam Sai*..... Huyện *Sa Pa*..... tỉnh *Lào Cai*....

I. Thành phần tham dự

Ông/Bà ..*T. Văn. Văn. Thơm*.....

Chức vụ: *Chủ tịch UBND*

Ông/Bà ..*Chữ Văn Mẫn*.....

Chức vụ: *Tướng. thôn*....

Ông/Bà ..*Chữ Văn Di*.....

Chức vụ: *!!P. UBND xã*....

Ông/Bà ..*Nguyễn Xuân Kiên*.....

Chức vụ: *Cán bộ địa. văn.*

Ông/Bà ..*Đinh Xuân Hoàng*.....

Chức vụ: *Cán bộ. địa. văn*

Ông/Bà ..*Nguyễn Xuân Lâm*.....

Chức vụ: *Cán. bộ. địa. văn.*

Đại diện những người bị ảnh hưởng *34* người (chi tiết xem chi tiết đính kèm).

II. Nội dung tham vấn

Chuyên gia môi trường trình bày những tác động bao gồm tác động lên môi trường tự nhiên và xã hội của khu vực dự án và những biện pháp giảm thiểu các tác động tiêu cực.

Chuyên gia môi trường trình bày những tác động khi thu hồi đất và các tài sản trên đất, những chính sách của Chính phủ nước Cộng hòa xã hội chủ nghĩa Việt Nam và địa phương, chính sách của dự án trong vấn đề bồi thường thiệt hại khi Nhà nước thu hồi đất đai và các tài sản trên đất.

Chuyên gia về cộng đồng, dân tộc thiểu số trình bày về Khung chính sách dân tộc thiểu số của Dự án, các tác động xã hội trong quá trình thực hiện dự án. Giới thiệu cộng đồng về những chính sách của Chính phủ nước Cộng hòa xã hội chủ nghĩa Việt Nam và địa phương về dân tộc thiểu số.

III. Ý kiến thảo luận

III.1. Về các tác động môi trường tiêu cực và biện pháp giảm thiểu

Đồng ý với các biện pháp giảm thiểu mà chủ đầu tư đã đưa ra. Ngoài ra người dân địa phương còn một số ý kiến sau:
Tsong qua tình hình khai và khai thác công trình chủ đầu tư cần thực hiện đúng các biện pháp giảm thiểu ở nhiên không chỉ bị và tiếng ồn thành ảnh hưởng đến người dân



đặc biệt là ai già và trẻ em.

Về công tác nổ mìn phải thông báo cho chính quyền địa phương và người dân được biết thời gian bắt đầu và kết thúc nổ mìn. Tại khu vực trước khi tiến hành nổ mìn cần có biển báo nguy hiểm và vật cản để hình người dân chưa biết thông tin về nổ mìn đi vào khu vực đó.

Trong quá trình thi công chủ đầu tư cần quan lý tốt công nhân, yêu cầu công nhân tôn trọng phong tục tập quán, văn hóa địa phương tránh xảy ra tình huống thuận với địa phương.

Tuyến đường đi qua các khu dân cư đã có đường duy nhất - cần đảm bảo ATGT

III.2. Về các vấn đề thu hồi đất và các tài sản trên đất và các chính sách

Người dân hoàn toàn thống nhất đến bị theo đơn giá hiện hành do UBND tỉnh ban hành.

Các hộ bị ảnh hưởng thống nhất xem khi làm lễ, do đơn tài sản bị ảnh hưởng, thì giải phóng mặt bằng thì áp dụng khung giá nhà nước quy định.

Người dân mong muốn dự án sớm được triển khai cải thiện điều kiện sống cho người dân.



III.3. Các vấn đề về dân tộc thiểu số

Dự án triển khai sẽ mang lại những tác động tích cực về VH-KT-XH cho đồng bào. Nâng cao đời sống và thu nhập cho bà con.

Đồng bào mong muốn có những cần thiết từ dự án để phát triển kinh tế hộ gia đình, xem khi dự án hoàn thành.

Dự án triển khai sẽ có tác động tích cực tới phụ nữ, trẻ em và các đối tượng khác dễ bị tổn thương thông qua việc tiếp cận với trường học, y tế, ...

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập – Tự do – Hạnh phúc

**DANH SÁCH NHỮNG ĐẠI BIỂU THAM DỰ CUỘC HỌP
THAM VẤN CỘNG ĐỒNG VỀ ĐÁNH GIÁ MÔI TRƯỜNG, TÁI ĐỊNH CƯ VÀ
PHÁT TRIỂN DÂN TỘC THIỂU SỐ.**

STT	Họ và tên	Địa chỉ	Chữ ký	Ghi chú
1	TRẦN VĂN THỜI	0985263479		Chủ tịch xã
2	Chín Văn Thi	Thôn Bản Sải	ot	trưởng thôn Bản Sải
3	Chín Văn Mìn	Thôn bản Sải	Meor	Chủ tịch thôn tổ
4	Má A Đoàn	Thôn Bản Sải	Đoàn	Hội cựu chiến binh
5	Lũ Văn Sỹ	Thôn Bản Sải		Người dân bị ảnh hưởng
6	Hoàng Văn Văn	Thôn Bản Sải		Hội phụ nữ
7	Đào A Vinh	Thôn Bản Sải	Vinh	Người dân
8	Má Thi Cháp	Thôn Bản Sải	Cháp	Hội phụ nữ
9	ĐÀO VĂN NỪNG	Thôn Nặm Sải	Thôn Nừng	Đoàn thanh niên
10	LŨ QUANG TÊN			Người dân bị ảnh hưởng
11	Chín A Săng	Bản Sải	Săng	nt
12	Hà Văn Sín	Thôn Bản Sải	Sín	nt
13	Đào Văn Con	Thôn Bản Sải	Con	nt
14	Đào Ruối Ca	Thôn Bản Sải	Đoàn	nt
15	Lũ Đức Quang	Thôn Bản Sải	Quang	nt
16	Hoàng Văn Lũ	Thôn bản sải	Quang	nt
17	Đào Văn Khăm	Thôn bản sải	Kham	nt
18	Chào Sung phin	Thôn năm ngàn	phin	Trưởng thôn
19	Hà Văn Dìn	Thôn bản sải	Dìn	nt
20	Vàng Xuân Kiêm	Thôn năm ngàn	Kiêm	Đoàn thanh niên
21	Tân Dìn Pú	" năm ngàn	Pú	người dân bị ảnh hưởng
22	Vàng Thông Lũy	Thôn Năm Ngàn	Lũy	nt

23	Văng Xhi Chiếu	Năm Keng	Chiếu	nt
24	Tiền Văn Toán	Năm Keng	Toán	nt
25	Văng Xuân Vă	Năm Nhữ	Vă	nt
26	Chao Thùng Hang	Năm Nhữ	Hang	Trưởng thôn nt
27	Nông Văn Hoàn	Năm Ngàn	Hoàn	nt
28	Triệu Văn Tô	Năm Ngàn	Tô	nt
29	Đỗ Văn Di	Năm Ngàn	Di	nt
30	Na Văn Hoa	Năm Nhữ	Hoa	nt
31	Hoa Thị Hậu	Năm Seng	Hậu	nt
32	Triệu Thị Hoàn	Năm Seng	Hoàn	nt
33	Đông Văn Qua	Năm Ngàn	Qua	nt
34	Triệu Hồng Phư	Năm Keng	Phư	Trưởng thôn nt
35				
36				
37				
38				
39				
40				



Năm Sửu..., ngày 12.. tháng 04.. năm 2011

Xác nhận của địa phương

CHỦ TỊCH



Trần Văn Châm

ENGLISH TRANSLATION

SOCIALIST REPUBLIC OF VIETNAM
Independence – Freedom – Happiness

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Nam Sai, 12 April 2011

A CONFERENCE MINUTES OF PUBLIC CONSULTATION IN ENVIRONMENTAL ASSESSMENT, REHABILITATION AND ETHNIC MINORITY DEVELOPMENT

Nam Sai Hydropower Project

Thanh Phu Commune - Sa Pa District – Lao Cai province

I. COMPONENTS

Mr: Tran Van Thom
and Secretary

Position: President People's Committee

Mr: Chin Van Min

Position: Leader of village

Mr: Chin Van Di

Position: Staff of office

Mr: Nguyen Xuan Kieu

Position: Staff of Consultation

Mr: Dinh Xuan Hoang

Position: Staff of Consultation

Mr: Nguyen Xuan Lam

Position: Staff of Consultation

And 34 local peoples who are affected (see the namelist enclose)

II. CONSULTATION CONTENTS

- Environmental experts presentation of the impacts of project, include: Impacts to natural environment and social environment of project area and the solution to minimize negative impacts.
- Environmental experts presentation of the impacts of land compensation and properties on land. The policies of Government of Socialist Republic of Viet Nam and local authority, Project Policy in payment for compensation of land and properties on land.
- Community experts presentation the frame policy of ethnic minority of project: The social impacts in the project implementation, Presentation to the community about the policy of Government of Socialist Republic of Viet Nam and local authority on ethnic minority.

III. DISCUSSION

3.1. Environmental Negative impacts and the minimization solution

Local people agree with the minimization solution that the project owner presented. Moreover, local people have some opinions and suggestions, as follows:

- During the implementation and operation of project, the owner have to carry out true the minimization solution of air pollution, dust and noise pollution to avoid effect to the people, particularly for the older people and kids.
- Setting of the mine has to be announced to the local authority and people to inform them on the time to start and finish. At the area, before setting off the mine, there should be danger indicator and safety railings to prevent people to trespass to the project area.
- During the construction of project, the owner has to manage workers well, by asking workers needs and to respect common practice and culture of the local people and avoid conflict with the local people.
- The road of the project that go past to the residential area is a single road. This needs a traffic safety solution.

3.2. The land acquisition issues and policies.

- Local people agree with the payment for land will be based on the current cost value that is approved by Lao Cai PPC.
- The affected households agree with the frame of cost value by national requirement after measurement and inventory the properties.
- Local people look forward to the project's early implementation to improve the live conditions of people.

3.3. The ethnic minority issues

- Project implementation will bring positive impacts to the social, economic and culture of community. Raising the income and living of people.
- The community wish there are some intervention from project to develop economic household when the project is completed.
- Project implementation will bring the positive impacts to the women, kids and other people because of better access to school and medical service.

SOCIALIST REPUBLIC OF VIETNAM
Independence – Freedom – Happiness

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Nam Sai, 12 April 2011

**NAMLIST OF REPRESENTATIVE JOINING WITH THE CONFERENCES OF
PUBLIC CONSULTATION IN ENVIRONMENTAL ASSESSMENT, REHABILITATION
AND ETHNIC MINORITY DEVELOPMENT**

No.	Nam	Address	Signature	Note
1	Tran Van Thom	0985263474		President People's Committee
2	Chin Van Di	Ban Sai Village		Leader of Ban Sai Village
3	Chin Van Min	Ban Sai Village		President of Fatherland Front
4	Ma A Doan	Ban Sai Village		Veteran's union
5	Lu Van Sy	Ban Sai Village		Local people
6	Hoang Van Van	Ban Sai Village		Women's Union
7	Dao A Vinh	Ban Sai Village		Local people
8	Ma Thi Chap	Ban Sai Village		Women's Union
9	Dao Van Hung	Ban Sai Village		Youth Union
10	Lu Quang Ten	Ban Sai Village		Local people
11	Chin A Sang	Ban Sai Village		Local people
12	Ha Van Sin	Ban Sai Village		Local people
13	Dao Van Con	Ban Sai Village		Local people
14	Dao Quoc Ca	Ban Sai Village		Local people
15	Lu Duc Quang	Ban Sai Village		Local people
16	Hoang Van Lac	Ban Sai Village		Local people
17	Dao Van Khon	Ban Sai Village		Local people
18	Chao Sung Phin	Nam Cang Village		Leader of Nam Cang Village
19	Ha Van Din	Ban Sai Village		Local people
20	Vang Xuan Kiem	Nam Ngan Village		Youth Union
21	Tau Dan Pu	Nam Ngan Village		Local people
22	Vang Thung Lay	Nam Ngan Village		Local people
23	Vang Thi Chien	Nam Keng Village		Local people
24	Tran Van Toan	Nam Keng Village		Local people
25	Vang Xuan Va	Nam Nheu Village		Local people
26	Chao Thung Hang	Nam Nheu Village		Leader of Nam Cang Village
27	Nong Van Hoan	Nam Ngan Village		Local people
28	Trieu Van To	Nam Ngan Village		Local people
29	Day Van Di	Nam Nhi Village		Local people
30	Hoa Thi Hau	Nam Sang Village		Local people
31	Trieu Thi Hoan	Nam Sang Village		Local people
32	Dang Van Qua	Nam Ngan Village		Local people
33	Trieu Hong Phuc	Nam Keng Village		Leader of Nam Cang Village

Nam Sai, 12 April 2011

President People's Committee
Signed

Tran Van Thom