

Social Monitoring Report

Semi-Annual Report August 2015 to January 2016
February 2016

BHU: Second Green Power Development Project (118 MW Nikachhu Hydropower Project)

Prepared by the Tangsibji Hydro Energy Limited for the Asian Development Bank.

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1. Introduction

Tangsibji Hydro Energy Ltd (THyE) fully owned by Druk Green Power Corporation Limited was incorporated, on April 25, 2014, as a Special Purpose Vehicle to develop 118 MW Nikachhu Hydropower Project. The 118 MW Nikachhu Hydro Power Project was identified in the updated Power System Master Plan (PSMP) of Bhutan (2004). The Pre-Feasibility Study (PFS) that was completed on 31 December, 2011 followed by Feasibility Study in September 2012. The Detailed Project Report was completed in September 2013.

Bhutan Consultants & Research (BHUCORE) carried out Environmental and Social Impact Assessment (ESIA) of the Nikachhu project on June 1, 2012, and revisions to the ESIA report have been made by PWC India consultants under the technical assistance of Asian Development Bank (ADB). The report constitutes three parts comprising ESIA, Environment Management Plan (EMP) and Resettlement Plan (RP).

Nikachhu Hydropower Project is located in Trongsa and stretches over 25 km from Dam, at Lorim, to Power House, at Norbuodi with 12.14 km Head race Tunnel (HRT) having five intermediated tunnels, ADITs. With the construction of 38 m high dam, 12.28 acres of land will be impounded by 810 m water back-flow. For construction of 16.02 km access roads to various project components, 3.577 acres of land belonging to 11 households and a community primary school was acquired.

2. The institutional mechanism that was in place to implement the RP

An Environment Unit was formed to implement and monitor implementation of the Environment Management Plan and the Resettlement Plan. The Environment Unit consists of an Officer and an Assistant. The Environment Unit is based at the project site. However, the Unit is backed up by THyE management and Druk Green Power Corporation.

3. Project Progress Status and Implementation Schedule

Table 3.1 Project Progress Status

Sl. No	Facility	Details	Status
1	Access road to Dam and Bailey bridge	<ul style="list-style-type: none"> ✓ Contractor: Construction Development Corporation Limited, Thimphu ✓ Contract Amount: <ul style="list-style-type: none"> ○ Construction of 30 m span 24R Bailey Bridge: BTN 14,812,670.43 ○ Construction of 2.10 km Access Road : BTN 34,791,955.00 	<ul style="list-style-type: none"> ✓ Road Handed over on 12th November, 2015 ✓ Camp demobilized on

		<ul style="list-style-type: none"> ✓ Contract Agreement signed on 15th October, 2014 ✓ Formation cutting started on 28th November, 2014 	1 st December, 2015
2	Access road to Adit-I	<ul style="list-style-type: none"> ✓ Contractor: M/s Gayjur Construction Private Limited, Mongar ✓ Contract Amount: BTN 18,760,650.00 ✓ Letter of award issued on 19th October, 2014 ✓ Contract Agreement signed on 1st November, 2014 ✓ Formation Cutting started on 23rd November, 2014 	Road handed over on 15 th December, 2015.
3	Access road to Adit-II and Adit-III	<ul style="list-style-type: none"> ✓ Contractor: M/s Lamnekha Construction Private Limited, Thimphu ✓ Contract Amount: BTN 50,626,000.00 ✓ Letter of award issued on 19th October, 2014 ✓ Contract Agreement signed on 3rd November, 2014 	Road taken over on 2 nd November, 2015
4	Access road to Adit-IV, V, and Surge Shaft	<ul style="list-style-type: none"> ✓ Contractor: M/s Gyalcon Infrastructure Private Limited, Thimphu ✓ Contract Amount: BTN 22,678,100.00 ✓ Contract Agreement signed on 1st November, 2014 	Road taken over on 2 nd November, 2015
5	Access road to Power House	<ul style="list-style-type: none"> ✓ Contractor: M/s Tshering Construction Private Limited, Bumthang ✓ Contract Amount: BTN 60,158,750.00 ✓ Contract Agreement signed on 1st November, 2014 	Schedule to complete by 30 th March, 2016.
6	Water supply arrangement to Dam and Adit I	<ul style="list-style-type: none"> ✓ Contractor: M/s TGD Construction, Trongsa ✓ BTN 2,838,862.50 ✓ Letter of Award issued on 27th December, 2014. ✓ Contract Signed on 12th January, 2015 	Completed
7	Water supply arrangement to Adit II, III & IV	<ul style="list-style-type: none"> ✓ Contractor: M/s L.S. Construction, Trongsa ✓ Contract Amount: BTN 1,820,936.10 ✓ Letter of Award issued on 27th December, 2014. ✓ Contract Signed on 12th January, 2015 	Completed
8	Water supply arrangement to AditV,	<ul style="list-style-type: none"> ✓ Contractor: M/s Karma Tshering Construction, Bumthang ✓ Contract Amount: BTN 3,356,028.78 ✓ Letter of Award issued on 27th December, 	Completed

	Surge Shaft & Power House	2014. ✓ Contract Signed on 12 th January, 2015	
9	Contractor facility at Dam, Adit-I & Adit-II	✓ Contractor: M/s Gayjur Construction Private Limited, Lingmithang ✓ Contract Amount: BTN 28,477,299.24 ✓ Contract Agreement signed on 5 th May, 2015	CCF at Dam was completed however, facility at Adit-I and II are on-going.
10	Contractor facility at Adit-III, Adit-V, Surge Shaft & Power House	✓ Work Awarded to M/s Z&K Construction Private Limited, Thimphu on 7 th April, 2015 ✓ Contract Agreement signed on 22 nd April, 2015 ✓ Contract Amount: BTN 31,843,544.50 ✓ Letter of commencement of work issued on 1 st July, 2015	CCF at Adit-III, Surge Shaft are completed. CCF at Power House is on-going.
11	Client facility at Dam	✓ Contractor: M/s Lamnekha Construction Private Limited, Thimphu ✓ Letter of Award: 5 th June, 2015 ✓ Contract Agreement signed on 20 th June, 2015 ✓ Contract Amount: BTN 18,558,838.10 ✓ Contract Duration: 4.50 months	Schedule to complete by 29 February, 2016
12	Client facility at Power House	✓ Letter of Award: 18 th June, 2015 ✓ Contract Agreement signed on 3 rd July, 2015 ✓ Awarded to M/s Gyalcon Infrastructure Private Limited, Thimphu ✓ Contract Amount: BTN 18,247,704.75 ✓ Contract Duration: 4.50 months	Schedule to complete by 29 February, 2016

4. Status of Entitlements disbursed as per the Entitlement Matrix reflected in the Resettlement Plan

4.1. Replacement Land

3.577 acres of private land belonging to 11 households and a Community Primary School, as detailed below, was identified as Project Affected People (PAP) by the main project component during the project planning stage.

Table 4.1 lists of affected households

Project Component	Name	Thram No	Land Type	Thram Area	Acquired
Dam	UgyenZangmo	58	Kamzhing	0.880	0.107
	Dorji	56	Kamzhing	2.150	0.480
Adit 3	NamgayChholing CPS	527	Institutional Land	2.819	0.423
Surge Shaft	SonamWangchen	255	Kamzhing	0.699	0.210
Power House	DorjiZangmo	270	Kamzhing	1.200	0.183
	PhubZangmo	257	Kamzhing	0.563	0.241
	UgyenTshomo	262	Kamzhing	1.120	0.280
	SonamPelmo	240	Kamzhing	0.765	0.142
	TshewangLhamo	272	Kamzhing	0.700	0.348
			Kamzhing	0.888	0.121
	SonamWangchen	255	Kamzhing	1.047	0.132
	DorjiDema	258	Kamzhing	0.460	0.126
			Kamzhing	0.872	0.267
	TshangTshangDorji	269	Kamzhing	0.526	0.197
			Kamzhing	0.527	0.155
	KunzangWangmo	181	Kamzhing	0.370	0.165
	Total Area (Acres)				

As per the Land Act, 2007, the land owner has the right to opt for land-for-land substitution or land-for-cash compensation. All the PAPs opted for land replacement and accordingly substitute lands of equal size were provided to them. The land ownership certificates are attached as **Annexure-I**. However, during the project execution additional lands of 3.229 acres were affected as detailed below:

Table 4.2 Details of additional affected land

Sl. No.	Thram No.	Name	Plot No.	Actual Affected Area	Already compensated	Additional Land to be compensated
1	255	SonamWangchen	TAN-1889	0.699	0.210	0.489

2	181	KunzangWangmo	TAN-1909	0.372	0.165	0.207
3	258	DorjiDema	TAN-1863	0.460	0.126	0.334
4	257	PhubZangmo	TAN-1855	0.563	0.241	0.322
5	272	TshewangLhamo	TAN-1865	0.336	0.121	0.215
6	272	TshewangLhamo	TAN-1867	0.689	0.348	0.341
7	254	RinzinWangmo	TAN-1876	0.152	0.000	0.152
8	269	TshangTshangDorji	TAN-1878	0.215	0.197	0.018
9	269	TshangTshangDorji	TAN-1879	0.203	0.155	0.048
10	258	DorjiDema	TAN-1880	0.604	0.267	0.337
11	510	Sumchokmo	TAN-3253	0.406	0.000	0.406
12	56	Dorji	TAN-1843	0.840	0.480	0.360
				5.539	2.310	3.229

Moreover, the lands affected by 132 kV transmission line for power evacuation of 118 MW Nikachhu Hydropower Project were surveyed as detailed below:

Table 4.3 Details of land affected by Transmission Line

SL.No	Name	Thram No	Tharm Area (Ac)	Area Affected (Ac)	Plot No	Tower No.
1	TsheringDema	360	0.624	0.100	DRT 2692	TL40
2	Tsheringmo	361	1.391	0.100	DRT 2826	TL41
3	SangayWangdi	689	1.198	0.100	DRT 3110	TL43
4	DorjiLhamo	280	1.515	0.100	DRT 3304	TL45
6	Yeshi	1007	0.990	0.100	DRT 733	TL35
7	Jamtsho	108	1.410	0.100	LNG 296	TL50
TOTAL				0.600		

The total affected private land has increased to 6.139 acres from 4.177 acres. THyE and Geog Administration shall process for land replacement soon as the office receives request for the same from PAPs.

4.2. Cash Compensation for Land Development

As required by the Resettlement Plan approved by ADB and Royal Government of Bhutan, THyE requires paying land development cost of Nu. 75,000/acre of dryland for every substitute land. The cost for initially identified 3.577 acres was disbursed to the PAPs totaling Nu. 268,275 as detailed below:

Table 4.4 Land development cost disbursement detail

Project Component	Name	Thram No	Land Type	Acquired (Ac)	Land Development Cost (Nu.)
Dam	UgyenZangmo	58	Kamzhing	0.107	8,025.00
	Dorji	56	Kamzhing	0.480	36,000.00
Adit 3	NamgayChholing CPS	527	Institutional Land	0.423	31,725.00
Surge Shaft	SonamWangchen	255	Kamzhing	0.210	15,750.00
Power House	TsheringLhamo	272	Kamzhing	0.469	35,175.00
	DorjiZangmo	270	Kamzhing	0.183	13,725.00
	PhubZangmo	257	Kamzhing	0.241	18,075.00
	UgyenTshomo	262	Kamzhing	0.280	21,000.00
	SonamPelmo	240	Kamzhing	0.142	10,650.00
	SonamWangchen	255	Kamzhing	0.132	9,900.00
	DorjiDema	258	Kamzhing	0.126	9,450.00
			Kamzhing	0.267	20,025.00
	TshangTshangDorji	269	Kamzhing	0.197	14,775.00
			Kamzhing	0.155	11,625.00
KunzangWangmo	181	Kamzhing	0.165	12,375.00	
Sub-total				3.577	268,275.00

The letter of disbursement is attached as **Annexure-II**.

4.3. Vulnerability Assistance

3 households, two from the Project Affected Area of main project component and one from the Project Affected Area of Transmission Line, were identified as “vulnerable” in the Resettlement Plan and are to receive vulnerability assistance in the form of cash. However, on verification it was found the one from Transmission Line area was not affected. Hence, only two household were categorized vulnerable. Accordingly, the vulnerability entitlement of one time three months wage rate was provided to the identified households as detailed below:

Table 4.5 Detail of Vulnerability Entitlement

Project Component	Name	Thram No	Land Type	Land Acquired (Ac)	Vulnerability Compensation
Power House	UgyenTshomo	262	Kamzhing	0.280	11,250.00
	SonamPelmo	240	Kamzhing	0.142	11,250.00
Sub- total				0.422	22,500.00

Therefore, a total amount of Nu.22,500 with Nu. 11,250 to each household was disbursed.

4.4. Implementation of Grievance Redress Mechanism and Complaints Received from Stakeholders

The Grievance Redress Committee with members from Dzongkhag Administration, THyE and Geog Administration was formed to address Grievance Redress Mechanism. Till date the committee did not receive any complaints from the stakeholders. The only grievance was that of a house being damaged due to a rolling boulder. This grievance was addressed by THyE immediately and a new house has been built and delivered without having to go through the grievance redress mechanism. No further grievance was raised from the affected household.

4.5. Other Impacts not identified

4.5.1. Private house

A house was damaged by a falling boulder during the construction of the access road to Adit-III. However, all damaged belongings were replaced and a new and better house has been constructed and delivered to the affected household.



Figure 1.1 Belongings provided to private house owner

4.5.2. Other impacts

During the access road construction to Adit-III, since various water pipelines pass through the area, damage has been done at few locations. However, all have been replaced and at few sections shall be replaced by GI pipes instead of PVC.

Further, private lands of three households measuring 1.038 acres at access road to Adit-V, which were not identified initially, were affected. Since, the road is temporary land owners have chosen to lease the land until project completion rather than acquisition. The details of lands are as given in the table below:

Table 4.6 Details of land affected at Adit-V

Name	Thram No	Plot No	Land Type	Thram Area (Ac)	Area affected (Ac)

Palden	246	TAN-1907	Kamzhing	0.480	0.480
Kinley Zangmo	243	TAN-1906	Kamzhing	0.648	0.362
TsheringNorbu	274	TAN-2872	Kamzhing	0.777	0.196
TOTAL					1.038

The lease rate for leasing Government Reserve Forest Land (GRFL) is Nu. 0.1/Sqft/annum and THyE decided to apply the same for the private lands. However, on the request of APs THyE management was approached for revision of lease rate. Accordingly based on rate comparison with Mangdechhu HEP and Punatsangchhu HEP Nu.1.0/Sqft/annum was approved by the management and lease agreement signed with PAPs on February 18, 2016.

Due to space constraint for construction of contractor construction facility at Power House site private land belonging to two households were agreed to be leased by THyE till project completion. The lease rate shall be as decided for access road. The detail is as given below:

Table 4.7 Details of land affected by Contractor Construction Facility

Sl. No.	Name	Plot No.	Land Name	Type of Land	Existing area	Area to be leased
1	DorjiDema	TAN-1880	Laychu	Kamzhing	0.872	0.268
2	TshewangNorbu	TAN-1881	Laychu	Kamzhing	0.300	0.300

5. Status of Entitlements as per the Community Development Program reflected in the Resettlement Plan

Community Development Programmes (CDP) were enlisted in the Resettlement Plan (RP) in consultation with PAP and Geog and approved by ADB, DGPC and the Royal Government of Bhutan amounting Nu. 16.40 million, excluding 10% contingencies. The programme includes blacktopping of Tangsibji Farm road from national highway till NamgayChholing CPS, which has been completed as part of infrastructure work. The estimated cost for the work is Nu. 10.00 million. Therefore, the balance amount for CDP is Nu. 6.40 million only. However, Geog Administration has proposed for additional development programme, amounting Nu. 27.00 million which was revised by THyE and was approved in the 15th Board Meeting amounting Nu. 15.15 million. The additional development programmes includes Blacktopping of additional 2.55 km Tangsibji farm road, construction of Temple, study tour for geog officials involved in project service, an ambulance and establishment of Tsogpas' offices.

5.1. Skills Development Training Program

Two Skills Development Training Programs are reflected in the RP. (1) Commercial Weaving Training for Women, and; (ii) A second skills development training program for both males and female that is yet to be identified. For skill development and employment of local people, the contract of main project component requires the contractor to provide on-the-job training to 30 people for 36 months in various disciplines such as plumbing, masonry and carpentry. The weaving training for women is scheduled in 2016 in collaboration with Geog Administration and Weaving Center.

5.2. Developing and Preparing of Waste Disposal Site

A waste disposal site was identified by the Geog Administration at Banglapokto, however, Forest Clearance has not been accorded since it the area was located in the Biological Corridor connecting JigmeSingyeWangchuk National Park. Therefore, a new site has to be identified by the Geog Administration.

5.3. Provision of Garbage Compacter Truck

For waste management in Project Affected Area, supply order for Garbage Compacter Truck was placed to STCBL and shall be delivered within three months. The refusal truck shall cater its service to PAPs as well as to THyE.

5.4. Provision of Agriculture and Dairy Products Sales Outlet

The Resettlement Plan (RP) has provisioned Nu. 1.0 million for construction of three agriculture sales outlet. Therefore, with the proposal from Geog Administration routed through Gross National Happiness Commission, the amount shall be disbursed. To enable THyE to monitor, a Letter of Understanding (LoU) was signed with Geog Administration. A copy of LoU is attached as Annexure-IV.

5.5. Blacktopping of Tangsibji Farm Road

The blacktopping of 2.8 km of Tangsibji farm road has been completed. The farm road is now an all-weather road and is in use.



Figure 2.1 Blacktopped farmroad till NamgayChholing

5.6. Construction of Semi-permanent house at Chendebji

The RP provisions Nu. 2.0 million for construction of semi-permanent house at Chendebji Primary School to ease students from Nyala-Drangla who were having difficulty travelling to school. However, with the probability of grouping the school with Tsangkha Central School, the Geog Administration with approval from PAPs has proposed to steel deck the wooden bridge instead of construction of hostel to the students.

5.7. Others (that were included later)

5.7.1. Construction of Chorten

As proposed by Geog Administration, THyE's Board during its 15th meeting approved Nu. 0.4 million for construction of Temple at Nyala. The amount shall be sanctioned to Geog Administration through GNHC.

5.7.2. Blacktopping of Tangsibji farm Road

After the completion of blacktopping 2.8 km farm road, the Geog Administration has proposed to continue blacktopping till the village adding 2.55 km. This was agreed by the Board for which Nu. 10.0 million was approved. The work was awarded to M/s Bikay Construction in January 2016 for duration of 6 months.

5.7.3. Benefit to income

TshangkhaChiwog has 25 households and almost every household has a nursery each. The main income is from the nursery and also from cash crop, potatoes. To enhance income generation, THyE have purchased over 10,000 seedlings from the APs which were planted in their community forest and also in the project area.

Further, while planting seedlings in the project area and also during the survey works, PAPs were hired to cater labour and earn income, thus, providing employment to them.

5.7.4. Establishment of Tsogpa's Office

The five Chiwogs under TangsibjiGeog has a Tsogpa's office each, however, due to lack of furniture THyE has contributed the following items to the Geog Administration to be distributed to each Chiwog:

Table 5.1 Items provided to Geog Administration

SI No	Description of the Items	Unit	Quantity	Rate (Nu.)	Amount (Nu.)
1	Plastic Chairs	Nos.	160	472.00	75,520.00
2	Revolving Chairs	Nos.	5	32,080.00	16,400.00
3	Chhoedrum (830x440x420) mm	Nos.	15	2,500.00	37,500.00
4	Dewan (1000x40x390) mm	Nos.	10	3,200.00	32,000.00
Total					161,420.00

5.7.5. Ambulance

Although the main package contractor shall have Ambulance service to cater to its workers, with proposal from Geog Administration, THyE's Board has approved purchase of an Ambulance. The Ambulance shall cater services to the emergency patients of THyE as well as Project Affected People.

6. Compliance Social Covenants (if any) from the ADB Loan Agreement

Schedule 4 Land Acquisition and Involuntary Resettlement (prepare a matrix to show how compliance was achieved).

Table 6.1 Compliance to Social Safeguard Covenants

Sl.No	Relevant Condition	Reference	Compliance status
1	The Borrower shall ensure that all land and all rights-of-way required for the Project, and all Project facilities are made available to the Works contractor in accordance with the schedule agreed under the related Works contract and all land acquisition and resettlement activities are implemented in compliance with (a) all applicable laws and regulations of the Guarantor relating to land acquisition and involuntary resettlement; (b) the Involuntary Resettlement Safeguards; and (c) all measures and requirements set forth in the RP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report.	Financing Agreement, Schedule 4, Paragraph 6	Complied.
2	Without limiting the application of the Involuntary Resettlement Safeguards, and the RP, the Borrower shall ensure that no physical or economic displacement takes place in connection with the Project until (a) compensation and other entitlements have been provided to affected people in accordance with the RP; and (b) a comprehensive income and livelihood restoration program has been established in accordance with the RP.	Financing Agreement, Schedule 4, Paragraph 7	Complied.

7. Conclusion

The project is in pre-construction stage and yet all the requirements of RP are completed. Land compensations and other entitlements were provided even before the pre-construction works began. For improvement of livelihood, besides those programs in the RP other development facilities such as blacktopping of additional 2.55 kms farm road, construction of chorten and establishment of Chiwog offices were initiated by THyE.

Periodic Public consultations have also been carried out by THyE to receive opinion of PAPs and to exchange information of project implementation.