Government of Nepal
Ministry of Energy
Department of Electricity development
BUDHIGANGA HYDROPOWER PROJECT (20 MW)

Progress Report
[Progress Period – First Quarter, Jan-March 2016]

Development Partner
Saudi Fund for Development (SFD)
Kuwait Fund for Arab Economic Development (KFAED)

April 2016
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1 INTRODUCTION

The Budhi Ganga Hydropower Project is located at Achham district of far western Development region. The project location is about 5.5 km north from Sanfebagar to near Thanti bazaar of Ghughurkot VDC. The dam site is located about 13 km from Safebagar market, at Babala VDC-3 and Kuskot VDC-5 near Buddha Bagar and power house site is proposed in Thapa Gaun of Hattikot VDC-4. The project boundary lies between 29°15'30" and 29°18'35" latitude north and between 81°14'00" and 81°17'50" longitude east.

The Feasibility Study and Environmental Impact Assessment of the Budhi Ganga Hydropower Project (BHP) were carried out by Canadian International Water and Energy Consultants (CIWEC) on behalf of Nepal Electricity Authority (NEA) and METCON Consultants Pvt. Ltd. on July 18, 1997. This project is currently being developed by Budhi Ganga Hydropower Project under Government of Nepal, Ministry of Energy, Department of Electricity Development (DoED). The loan agreement has already been concluded between the Government of Nepal and Saudi Fund for Development and Kuwait Fund for Arab Economic Development (KFAED) to develop the project.

On the basis of feasibility study report, the Budhi Ganga Hydropower Project is a run-of-river project with daily pondage (PRoR) configuration having 20 MW installed capacity. The annual average energy generation of the project is 106.28 GWh. The flow of Budhi Ganga River is diverted by constructing 25 m high, 8m wide and 54 m long dam near Buddhabagar of Babla and Kuskot VDC. Water is then conveyed through 5.6 km long, 5.1 m dia shortcrete lined and 3.9 m concrete lined headrace tunnel up to surge tank. Surge tank of 57.1 m high and 7.5 m diameter has been proposed for resisting water hammer effect. Then flow will conveyed to power house through 3.5m diameter and 206 m long Penstock pipe. Water is discharged back into the Budhi Ganga river through 83 m tailrace tunnel after the power is generated through two units of Francis turbine of 10 MW each capacity. The generated power will be used by the districts of this region and remaining generated power will be evacuated through the 132 kV transmission line of length 96.41 km to the Lamki Sub-station in Kailali district.

This project is aimed to supply 20 MW capacity of reliable power to the Independent National Power System of Nepal (INPS). It is believed that, the project brings the economic development of the Achham district as well as far western region of Nepal.
2 BHP STRATEGIC PLANNING

2.1 Vision

- "Brighter and prosperous Nepal through the sustainable hydropower generation harnessing the country’s available water resources with the competent public sector”

2.2 Mission

- Capacity building of Public sector in hydropower development for sustainable economic growth of the country.
- Completion of the hydropower projects of desired quality within the stipulated time by the estimated cost.
- Supply of reliable energy in Integrated National Power System (INPS) by the early completion of the project.

2.3 Objectives

- Complete the 20 MW capacity Budhi Ganga hydropower project, located in Achham district of specified standards within 2020 by the estimated cost.
- Develop 132 kV transmission line from Budhi Ganga to Lamki (96.41 km) to evacuate the power developed; this line may also be used to evacuate the power developed by the private sector in this region.
- Capacity building of the public sector in hydropower generation as well as in regulation and monitoring activities learning from this project and implement larger projects successively.
- To open up the economic activities and other development program in integrated manner with this project, achieving the regional balance in development of far western region.

2.4 Targets

- Completion of the pre-construction activities including detailed design and environmental study by 2017.
- Completion of the main construction activities (civil, electro-mechanical and hydro-mechanical works) of the project by 2020.
- Completion of the 96.41 km long 132 kV transmission line from Budhi Ganga to Lamki by 2020.
### 3 PROJECT FEATURES

#### 3.1 Dam and Reservoir Area

The dam site is proposed in between Kuskot VDC-3 and Babla VDC-5, near Buddhabagar area of Achham district. The proposed dam is 54 m in length and 25 m in height and 8 m in width. Two numbers of radial gates of 12.5 m diameter is proposed for water regulation and storage at the dam. The water diverted from the intake is conveyed to the desander basin by 57 m length intake tunnel.

About 8.46 Ha of poundage area creates 0.236 mm³ volume of water up to 3 km upstream of the 25 m height dam.

#### 3.2 Desander

The optimum design discharge of 27.6m³/sec is used for the design of the water conveyance system. Two parallel intake tunnels are designed up to desander basin to carry the diverted water. Two desander basin of 57 m length has been proposed to settle sediment on bed of desander basin and flush the settled particle considering the design discharge.

#### 3.3 Headrace Tunnel, Surge Tank and Penstock

The diverted water is conveyed through 5.6 km long, 5.1 m dia shortcrete lined and 3.9 m dia concrete lined headrace tunnel up to the surge tank. To resist water hammer effect, 57.1 m high and 7.5 m dia surge tank is proposed and then
the flow will conveyed to power house through 3.5 m diameter and 206 m long penstock pipe.

### 3.4 Powerhouse and Tailrace

Surface Powerhouse having dimension of 30x24x14 m is designed with consisting 2 units of Francis turbine of each 10 MW of capacity connecting with generator on Hattikot VDC-4. After generation of electricity water will be conveyed through 83 m of tailrace tunnel to Budhi Ganga River again.

#### 3.5 Transmission Line and Substation

The generated power from Budhi Ganga hydropower project, 20 MW is expected to evacuate to the Lamki Substation, Kailali by constructing 96.41 km long 132 kV transmission line.

#### 3.6 Access Road

The project area is located about 5 km north from the Sanfebagar, Achham district. Around 1.98 km of access road is proposed for the access to powerhouse site from the Thanti point of the Achham-Bajura Road and about 650 m length of access road is proposed for dam site from the Achham-Bajura Road near Budhabagar.
4 FINANCIAL ASPECT

On the basis of feasibility study carried out, the total cost of the project is estimated as 50.64 million US$ including transmission line. The project parameters such as B/C ratio is 1.2, IRR 13.77% and Payback period 6.12 year based on the price level of 1997.

The loan agreement has been concluded between Government of Nepal and Saudi Fund for development for Saudi Riyals 112.5 million (30 million US$) on 18 June 2014. And the loan agreement has been concluded between Government of Nepal and Kuwait fund for Arab economic development for Kuwaiti Donor 5 million (18 million US$) on 4 July 2012. The remaining fund will be managed by Government of Nepal to develop the project.
5 PRESENT STATUS OF THE PROJECT

5.1 Land acquisition

- Initial report for Land Acquisition was submitted to District Administration Office on 18th May, 2014.
- Details of Land, Houses, and Trees etc. required for the project has been identified and initial report was revised and submitted on 29th Jan, 2015 to District Administration Office.
- Public notice was published on National Daily Paper, Village Development committee offices, District Administration Office, District Land Revenue Department, Special Survey Department and Village Development office.
- Land Rate Fixation Committee has been formed under the chairmanship of District Administrator Officer, Achham as per the provision of the Land Acquisition Act 2034 BS. The other members of the Committee are Representative from District Land Revenue Office, District Development Committee and Project Manager of BHP.
- Rates of land were fixed on 18th June 2015 by Land fixation committee and Public notice was published on National Paper on 19th June, 2015.
- Applications for compensation has been collected & about 96% land has been acquired (Compensation distribution done for (209 Ropanies out of 217 Ropanies).
- For acquisition of remaining land, the budget has been allocated in this fiscal year 2015/16 (FY 2072/073). The acquisition of remaining land is in process and expected to be completed soon.
5.2 Office Building and Camp Facilities

This consists of Office Building and other infrastructures at Ghughurkot V.D.C., Achham.

- The final report of survey, design and cost estimate incorporated with comments were provided by the consultant on 22nd April, 2015.
- The final report along with PQ document was sent to SFD and DoED for concurrence on 24th May, 2015. No Objection letter was obtained from DoED on 30th May, 2015 and from SFD on 11th June, 2015.
- Invitation for Prequalification was published on 12th June, 2015 with deadline on 12th July, 2015.
- A prequalification document submitted by the contractor was evaluated and the prequalification evaluation report and draft bid report was sent to SFD for No Objection on 11 August 2015.
- Invitation for Bidding was published on 20th August, 2015(with deadline on 18th September, 2015) after getting approval from SFD on 19th August, 2015.
- Contract Agreement was done with the contractor on 17th March 2016 after contract negotiations.
5.3 Access Road to Powerhouse Chainage (0+765)

This consists of Access road from Thanti Bazaar to Budhi Ganga Bridge location.

- The track opening works of the Access road to Powerhouse work was conducted in this fiscal year 2015/16 (FY 2072/73) through the user’s association. Upgrading, survey, design and tender document of this access road to Powerhouse was completed.

- Bid for upgrading was invited on 15\textsuperscript{th} March, 2015 and agreement with the contractor was done on 17\textsuperscript{th} May, 2015.

- The construction has been started and the contractors have completed the alignment, earthwork related work, gabion, structure improvement and retaining structure work has completed.

5.4 Bridge and Access Road Construction
This consists of Bridge at Budi Ganga, Access Road to Dam site, Access road to Powerhouse and Access Road to Surge Tank. During the discussion with the Saudi Fund for Development Mission, on 19th Feb 2015, it was agreed to conduct the construction work of all access road and bridge work in a single package.

- National Consultant has been selected for survey design and cost estimation of the Bridge in the access road to powerhouse. Feasibility study report was received on 26th Feb, 2015 and revised feasibility study report incorporating the comments was received on 9th March.

- The PQ documents in addition to survey, design and cost estimation has been sent to SFD and DoED for concurrence on 5th July, 2015.

- No Objection letter was obtained from DoED and SFD on 19th November, 2015.

- Invitation of Prequalification was published 20th November, 2015. The prequalification was completed on 10th March 2016
  - Approval of PQ evaluation was obtained from SFD 8th April 2016 and Notice for bid 11th April 2016.

5.5 Detailed Engineering Design and EIA including SIA

- The proposal submitted by the consultant for detailed design & environmental study including the social impact study has been evaluated and sent for concurrence from Kuwait fund for Arab Economic Development.

- No objection letter for EOI document was obtained on 9th Sep, 2014 from KFAED.
- Technical proposals were evaluated and sent for concurrence to KFAED on 12th Jan, 2015 and no objection letter was obtained on 4<sup>th</sup> March, 2015.

- Negotiation was done with the consultant on 19<sup>th</sup> April, 7<sup>th</sup> May and 22<sup>nd</sup> May, 2015 and contract agreement was done on 30<sup>th</sup> June with SMEC JV with Udaya.

- The work order has been given to the consultant. The Consultant has submitted the registration of the joint venture firm as per GoN rules and has requested for mobilization advance on 3<sup>rd</sup> September, 2015.

- The consultant mobilized the national as well as international expert for site visit.

- The consultant inception report draft was submitted on within few days.

- Budhi Ganga Hydropower team has developed a Review panel to review the work done by consultant.

- Comments and feedback to the inception report draft has been send to the consultant.

- The consultant shall submit the final inception report incorporating the comments very soon.

### 5.6 Transmission Line

- Desk Study report for the transmission line survey was prepared and field Reconnaissance was conducted on July 2015.
Detailed Survey of the transmission line route from Budhi Ganga substation to Lamki has been completed.

Land Acquisition work for remaining land will be conducted in current fiscal year 2015/16 (FY 2072/73).

5.7 Community Support Program

As a community support program basic plumbing training program was successfully conducted in co-ordination with the hired local consultant. The seven days training program was conducted in affected areas from 26th June to 2nd July, 2015. Fifteen numbers of local participants were selected for the program.

Survey for basic infrastructure development like school building construction and water supply has been completed.

Consultant has been selected for the survey of alternative access road to the power house 31st March 2016.

Letter for proposal for communication survey from Attariya to Project Site was issued on 29th March 2016.

Notice for the mechanical and plumbing training was published 27 March 2016 (The opening of the proposals was done in 11th April 2016).

Invitation for Catchment Area Protection Plan was done on 18th February. Letter of intent was issued on 27th March 2016. (Contract Agreement for Catchment Area Protection Plan was done with the consultant on 4th April 2016).

Letter of intent was issued to the consultant for survey and design of School Buildings and Access Roads 3rd April 2016 and contract agreement was done on 11th April 2016.
6 DISBURSEMENT PLAN

Budhi Ganga Hydropower Project has done the planning works and based on the feasibility study report and loan agreement packages of the works has been prepared for execution. The estimated duration and disbursement plan of the key activities are illustrated in the Annex 4.
7 FUTURE PLAN

The budget preparation works and approval for this fiscal year 2072/073 (Mid July 2015 to Mid July 2016) of Government of Nepal has been carried out. Budhi Ganga Hydropower Project team has been involved in the budget preparation and discussion activities. Following provision is considered for the budget preparation for next fiscal year.

- In this fiscal year GoN has allocated Budget and has prepared program for remaining land required for project to be acquired. So, the land acquisition program for the project will be completed in the targeted date. The identification of Land for Transmission Line and Sub Station will be done and process will be initialized to acquire those lands.

- The upgrading of the access road to power house has initiated and will be completed by May 2016.

- Budget has allocated and program has prepared for bridge and remaining all access roads (access road to dam site, access road to surge tank, access road to powerhouse site after bridge). For this portion, Saudi Fund for Development's fund shall be used. The GoN’s fund is for VAT portion and for matching fund. The construction of the bridge and other access road will be started after completing the Evaluation process and entering into the contract agreement in this FY.

- Budget has allocated and program has prepared for Office Building and Camp: For this portion, Saudi Fund for Development's fund shall be used. The GoN’s fund is for VAT portion and for matching fund. Similarly, the construction of the office building and the camp site will be started after the completion of the evaluation process and entering into the contract agreement and Concurrence from Donor (SFD) in this FY.

- Budget has allocated and program has prepared for Detailed Engineering Design and environmental study including social impact assessment: For this portion, Kuwait Fund for Arab Economic Development’s fund shall be used. The GoN's fund is for VAT portion and for matching fund. The work order has already given to the consultant and it will be completed by March 2016.

- Budget has allocated to carry out Survey and Engineering Design works of transmission line component shall be initiated in the coming fiscal year. The identification of Land for Transmission Line and Sub Station will be done and land acquisition of those lands will be initiated. The installation of transmission line is expected to be started at March 2017 after the completion of the design.
• Similarly the Construction of Main Civil Works is expected to be started from March 2017 till March 2020. And the main hydro mechanical components and electro-mechanical components will be installed by September 2020.
8 HUMAN RESOURCES

The organization structure of Budhi Ganga Hydropower Project has been prepared for study phase (attached in Annex 2). Total 45 positions have been approved for current fiscal year 2015/16 (FY 2072/073), out of which 22 are executive staffs and 23 are support staffs. The fulfilled key personnel working in Budhi Ganga Hydropower Project are as shown in table below.

<table>
<thead>
<tr>
<th>Position</th>
<th>Level, Service</th>
<th>Approved</th>
<th>Fulfilled</th>
<th>Site/Central</th>
<th>Remarks</th>
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<tr>
<td>Senior Divisional Engineer</td>
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<tr>
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<td>-</td>
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<tr>
<td>Senior Divisional Hydrologist</td>
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<td>1</td>
<td>0/1</td>
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</tr>
<tr>
<td>Civil Engineer</td>
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<td>4</td>
<td>4/2</td>
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</tr>
<tr>
<td>Electrical Engineer</td>
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<td>2</td>
<td>0/2</td>
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<tr>
<td>Mechanical Engineer</td>
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<td>-</td>
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<tr>
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<td>-</td>
<td>-</td>
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<tr>
<td>Hydrologist</td>
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<tr>
<td>Socio- Economist</td>
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<td>-</td>
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<td>1</td>
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<tr>
<td>Account Officer</td>
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<tr>
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<tr>
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<tr>
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Total: 45 29 10/19
9 DEVELOPMENT PARTNERS VISIT TO THE PROJECT

The loan agreement has been concluded between the Government of Nepal and Saudi Fund for Development (SFD) and Kuwait Fund for Arab Economic Development (KFAED) to develop the project. The development partners have visited the project on regular basis to supervise and know about the progress of the project. The list of the visits of development partners have been listed below and the minutes of these visits are attached in annex 9.

9.1 Visit on September 2014:

SFD Mission visit team

1. Chief Eng. Abdullah M. Al-Shoaibi, Group Coordinator, Technical Department
2. Eng. Saud A. Alshammari, Technical Department

Key Agenda

- Courtesy visit to Hon. Minister of Energy and Secretary of Ministry of Energy.
- Need of submission of quarterly progress report.
- Suggestion of formation of a tripartite committee consisting of BHP, SFD and KFAED to expedite approvals

9.2 Visit on February 2015:
SFD Mission visit team

1. Chief Eng. Abdullah M. Al-Shoaibi, Group Coordinator, Technical Department
2. Eng. Saud A. Alshammari, Technical Department
3. Mr. Saeed A. Almshaikhi, Loan Officer, Operations Department

Key Agenda

- Courtesy visit to Hon. Minister of Energy and Acting Secretary of Ministry of Energy.
- Agreement to expedite the project and complete the project on time.
- Stress ob importance of land acquisition and other preconstruction activities.

9.3 Visit on November 2015:

SFD Mission visit team

1. Chief Eng. Abdullah M. Al-Shoaibi, Group Coordinator, Technical Department
2. Eng. Naseer M. Al-Kasabi, Project Manager, Operations Department
3. Majed M, Al-Salamah, Accountant, treasury Department

Key Agenda
• Courtesy visit to Secretary of Ministry of Energy.
• Agreement to expedite the project and complete the project on time.
• Congratulation to project team for significant achievement on land acquisition
• SFD delegated intended to conduct site visit to BHP early second quarter of 2016.
• SFD delegated shall present the issue to develop Upper BHP to its management.

9.4 Visit on April 2016:

SFD Mission visit team

1. Chief Eng. Abdullah M. Al-Shoaibi, regional Manager, Operations Department
2. Eng. Naseer M. Al-Kasabi, Project Manager, Operations Department
3. Mr. Saeed Al- Mashaiky, Loan Officer, Operations Department.

Key Agenda

• Site visit to Project Site
• Courtesy visit to Honorable Deputy Prime Minister and Minister of Energy and Secretary of Ministry of Energy.
• Agreement to expedite the project and complete the project on time.

• Congratulation to project team for significant achievement on land acquisition

• SFD Mission requested to workout allocation of fund between SFD and KFAED in different contracts.

• SFD delegated shall present the issue to develop Upper BHP to its management.
10 KEY ISSUES

Nepal is facing huge electricity crisis at present. Government has concluded the loan agreement with Kuwait Fund for Arab Economic Development and Saudi Fund for Development. All the stakeholders have put pressure to project team to carry out all the activities as early as possible. In this context, accelerating the project activities and execution on time is very important for project.

The project is located in far western region at Achham district which is far from Kathmandu. The development activities in this region are slow compared to others. Expectation of the local people from the project is high. Peoples are demanding some other supplementary infrastructures from the project. In this context, executing the project on time addressing some of the demands of the community is very challenging and important too.

The land acquisition works has been delayed since long time due to establishment of new survey system in the project area as whole cadastral maps were lost during the insurgency period of Nepal. However, BHP project team has imparted its full effort to manage these activities and conclude the land acquisition and compensation distribution activity for 209 Ha of land out of 217 Ha of land.
11 BUDGET FOR FISCAL YEAR 2015/16 (FY 2072/073)

The Government of Nepal has approved the budget and program for this Fiscal Year 2015/16 (FY 2072/73). The Donor wise distribution of budget for particular expenditure is as below.

<table>
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<tr>
<th>SN.</th>
<th>EXPENDITURE</th>
<th>G0N (NRs.)</th>
<th>SFD (NRs.)</th>
<th>KFAED (NRs.)</th>
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<td>173,095,000.00</td>
<td>134,759,000.00</td>
<td>124,670,000.00</td>
<td>432,524,000.00</td>
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</table>

The budget allocated for the program is attached in Annex -2.
12 CONTACT ADDRESS

For the initial phases Budhi Ganga Hydropower Project is being executed based at Kathmandu. In the meanwhile, BHP has identified the land for the office building and camp facilities at the project site. Until the completion of the construction activities, temporary office on rent has been established at the project area. The address of the head office and site office is as shown below.

<table>
<thead>
<tr>
<th>12.1 Head Office:</th>
<th>12.2 Site Office:</th>
</tr>
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<tbody>
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<td>Budhi Ganga Hydropower Project</td>
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<tr>
<td>Kalikasthan, Kathmandu</td>
<td>Thantibazaar, Ghughurkot VDC-2, Achham</td>
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<td>Phone No.: +977-1-4423206</td>
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Annex -1
Salient Features of Budhi Ganga Hydropower Project
# Salient Features of Budhi Ganga Hydropower Project

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
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<tbody>
<tr>
<td>Name of Project</td>
<td>Budhi Ganga Hydropower Project</td>
</tr>
<tr>
<td>District</td>
<td>Achham</td>
</tr>
<tr>
<td>Power House Site</td>
<td>Thapa gaon Village (Hattikot VDC) (on Left Bank of River)</td>
</tr>
<tr>
<td>Dam Site</td>
<td>Buddha Bagar (In between Babla VDC and Kuskot VDC)</td>
</tr>
<tr>
<td>Latitude</td>
<td>81°14′00″E-81°17′50″E</td>
</tr>
<tr>
<td>Longitude</td>
<td>29°15′30″N-29°18′35″N</td>
</tr>
<tr>
<td>Name of the River</td>
<td>Budhi Ganga River</td>
</tr>
<tr>
<td>Type of Scheme</td>
<td>Run-of-the River with Daily Pondage (6 hrs Peaking)</td>
</tr>
<tr>
<td>Installed Capacity</td>
<td>20 MW</td>
</tr>
</tbody>
</table>

**Accessibility**
- Nearest Market: SanfeBagar, Achham
- Power House Site: Near Thanti Bazar of Ghughurkot VDC, approx. 5 Km from Sanfebagar
- Dam Site: Near Buddhabagar of Babla VDC, approximately 13 Km from Sanfebagar

**Powerhouse**
- Type: Surface (L = 30 m, W = 26 m, H = 14 m)
- Installed Capacity: 20 MW (2 X 10 MW)
- Gross Head: 90 m
- Net Head: 83.2 m
- Type of Turbine: Francis (Vertical Axis)

**Hydrology**
- Design Discharge: 27.63 m³/sec
- 95 % Dependable Flow: 7.34 m³/sec
- Compensation Flow: 0.96 m³/sec

**Pondage Reservoir**
- Storage required: 0.236 Million m³
- Minimum Operating Level: 712 m
- Full Supply Level: 717 m
- Pondage Fetch from Weir Site: 3.0 Km
- Pondage Surface Area: 8.4 ha (0.084 Sq. km) (168 Ropani)

**Intake Structure**
- Number of Intake Opening: 2
- Number of Intake Tunnel: 2
- Intake Tunnel Length: 57 m
- Diameter of Intake Tunnel: 2.5 m
### Head Race Tunnel

<table>
<thead>
<tr>
<th>Type</th>
<th>Circular ad Horseshoe</th>
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</thead>
<tbody>
<tr>
<td>Length</td>
<td>5.6 Km</td>
</tr>
<tr>
<td>Diameter</td>
<td></td>
</tr>
<tr>
<td>Concrete Lined</td>
<td>3.9 m</td>
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<tr>
<td>Shortcrete Lined</td>
<td>5.1 m</td>
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### Transmission

<table>
<thead>
<tr>
<th>Voltage</th>
<th>132 kV</th>
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</thead>
<tbody>
<tr>
<td>Length of TL</td>
<td>96.41 Km</td>
</tr>
<tr>
<td>Interconnecting Sub-Station</td>
<td>Lamki, Kailali District</td>
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<tr>
<td>TL Route</td>
<td>Sanfe – Mangalsen – Punyapato – Guttu – Kuene – Malchana - Lamki</td>
</tr>
<tr>
<td>Alternate Connection</td>
<td>At Dipayal Substation (Attariya – Dipayal 66 kV TL)</td>
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### Energy Generation

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<tr>
<th>Type</th>
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<tr>
<td>On Peak Firm Energy</td>
<td>36.139 GWh</td>
</tr>
<tr>
<td>Off Peak Firm Energy</td>
<td>44.58 GWh</td>
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<tr>
<td>Secondary Energy</td>
<td>25.57 GWh</td>
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<tr>
<td>Average Energy</td>
<td>106.28 GWh</td>
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### Energy Benefit

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<th>Type</th>
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<tbody>
<tr>
<td>Firm Peak Energy Benefit</td>
<td>US$ 2.72 million</td>
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<tr>
<td>Firm Off Peak Energy Benefit</td>
<td>US$ 1.97 million</td>
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<tr>
<td>Secondary Peak Energy Benefit</td>
<td>US$ 1.11 million</td>
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### Cost and Economic Parameter (Price level 1997)

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<tr>
<th>Description</th>
<th>Excluding TL</th>
<th>Including TL</th>
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<tbody>
<tr>
<td>Total Project Cost</td>
<td>42.07 million US$</td>
<td>50.64 million US$</td>
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<tr>
<td>Per KW Cost</td>
<td>2103 US$</td>
<td>2532 US$</td>
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<tr>
<td>Pay Back Period</td>
<td>5.12 Years</td>
<td>6.12 Years</td>
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<tr>
<td>B/C Ratio</td>
<td>1.43</td>
<td>1.20</td>
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<tr>
<td>IRR</td>
<td>16.09 %</td>
<td>13.77 %</td>
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### Access Road

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<thead>
<tr>
<th>Type</th>
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<tbody>
<tr>
<td>Head Works Site</td>
<td>0.650 Km</td>
</tr>
<tr>
<td>Power House Site</td>
<td>1.980 Km</td>
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Annex -2
Approved Budget for Fiscal year 2015/16 (FY 2072/073)
### Capital Expenditures

<table>
<thead>
<tr>
<th>Budget H No</th>
<th>Description</th>
<th>Government of Nepal matching Fund for VAT in NRS</th>
<th>Kuwait Fund in NRS</th>
<th>Saudi Fund in NRS</th>
<th>Total in NRS</th>
<th>Remarks</th>
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<tr>
<td>29111</td>
<td>Land Acquisition</td>
<td>58,128,000.00</td>
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<td>58,128,000.00</td>
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<td>29221</td>
<td>Office Building Construction and Camp</td>
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<td>62,640,000.00</td>
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<tr>
<td>29611</td>
<td>Public Construction</td>
<td>30,605,000.00</td>
<td>72,119,000.00</td>
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<td>A</td>
<td>Transmission line and Substation Construction</td>
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<td>-</td>
<td>100,000.00</td>
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<tr>
<td>B</td>
<td>Water Supply and Sanitation structure construction</td>
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<td>1,000,000.00</td>
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<tr>
<td>C</td>
<td>Upgradation of Access Road (Upto D+765)</td>
<td>15,840,000.00</td>
<td>-</td>
<td>15,840,000.00</td>
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<tr>
<td>D</td>
<td>Small Community Infrastructure construction (As a community support)</td>
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<td>-</td>
<td>1,000,000.00</td>
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<td>E</td>
<td>Bridge and Access Road</td>
<td>12,665,000.00</td>
<td>72,119,000.00</td>
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<td>29711</td>
<td>Consulting Services</td>
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<td>122,670,000.00</td>
<td>-</td>
<td>165,901,000.00</td>
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<tr>
<td>A</td>
<td>Detailed Engineering Desing and Environmental Study</td>
<td>18,330,000.00</td>
<td>122,670,000.00</td>
<td>141,000,000.00</td>
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<td>Mastamandu to PH Alternative access road survey, design (as a community support program)</td>
<td>300,000.00</td>
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<td>C</td>
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<td>D</td>
<td>Detailed Survey, Design and Environmental study of Transmission line</td>
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<td>Detailed engineering Design of Upper Budhi Ganga Hydropower Project (6.2MW)</td>
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<td>Supplementary Infrastructures for Upper Budhi Ganga Hydropower Projects (6.2MW)</td>
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<td>Catchment Area Development and Protection Plan</td>
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<td>I</td>
<td>Communication Survey (Attaraiya to Project Site)</td>
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<td>1,000,000.00</td>
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<td>J</td>
<td>Middle Budhi Ganga Initial Study</td>
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<td>29511</td>
<td>Machinery equipments</td>
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<td>29512</td>
<td>Vehicles</td>
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<tr>
<td>A</td>
<td>Scooter</td>
<td>200,000.00</td>
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<tr>
<td>29911</td>
<td>Furniture and Fixtures</td>
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<td>29712</td>
<td>Installation and procurement of Softwares</td>
<td>450,000.00</td>
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<td>Total</td>
<td></td>
<td>146,092,000.00</td>
<td>122,670,000.00</td>
<td>134,759,000.00</td>
<td>403,521,000.00</td>
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## Current Expenditures

<table>
<thead>
<tr>
<th>Budget H No</th>
<th>Description</th>
<th>Government of Nepal matching Fund for VAT in NRS</th>
<th>Kuwait Fund in NRS</th>
<th>Saudi Fund in NRS</th>
<th>Total in NRS</th>
<th>Remarks</th>
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<td>21111</td>
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<td>22111</td>
<td>Water and Electricity</td>
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<td>22211</td>
<td>Fuel</td>
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<td>22213</td>
<td>Insurance</td>
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<td>Office Related Expenses</td>
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<td>Fuel-Other Purpose</td>
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<td>Service and Consulting Expenses</td>
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<td>Other Service Fee</td>
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<td>22512</td>
<td>Skill Development Training &amp; Awareness Seminar Related Expenses</td>
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<td>22522</td>
<td>Program Expenses</td>
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<td>Monitoring or Evaluation Expenses</td>
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<td>770,000.00</td>
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<td>Miscellaneous Expenses</td>
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<td>2,051,000.00</td>
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<td><strong>Total</strong></td>
<td></td>
<td><strong>27,003,000.00</strong></td>
<td><strong>2,000,000.00</strong></td>
<td></td>
<td><strong>29,003,000.00</strong></td>
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</table>
## Budhi Ganga Hydropower Project

**Budget for FY 2072/073 (2015/16)**

<table>
<thead>
<tr>
<th>S.No</th>
<th>Description</th>
<th>Government of Nepal (NRs.)</th>
<th>Kuwait Fund (NRs.)</th>
<th>Saudi Fund (NRs.)</th>
<th>Total (NRs.)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Current Expenditure</td>
<td>27,003,000.00</td>
<td>2,000,000.00</td>
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<td>29,003,000.00</td>
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</tr>
<tr>
<td>2</td>
<td>Current Expenditure</td>
<td>146,092,000.00</td>
<td>122,670,000.00</td>
<td>134,759,000.00</td>
<td>403,521,000.00</td>
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<tr>
<td></td>
<td><strong>Total</strong></td>
<td>173,095,000.00</td>
<td>124,670,000.00</td>
<td>134,759,000.00</td>
<td>432,524,000.00</td>
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Annex -3
Minutes of Minutes between BHP and Development Partners
MINUTES OF MEETING

A review of progress on the Budhi Ganga Hydropower Project (BHP), was conducted by the delegation mission of Saudi Fund for Development (SFD) on 11th September 2014 in the meeting hall of Water and Energy Commission Secretariat in Singh Durbar, Kathmandu, Nepal.

The Members of the Nepalese team were as follows:

1. Dr. Sanjay Sharma, Director General, Department of Electricity Development
2. Mr. Nabin Raj Singh, Project Manager, Budhi Ganga Hydro Power Project
3. Mr. Sandip Kumar Dev, Senior Division Engineer (Electrical)
4. Mr. Sunil Piya, Senior Division Engineer (Mechanical)
5. Mr. Gopi Prasad Sah, Senior Division Engineer (Hydropower)
6. Mr. Purusottam Sharma, Account Officer

The SFD representatives were:
1. Chief Eng. Abdullah M. Al-Shoaibi, Group Coordinator, Technical Department
2. Eng. Saud A. Alshammari, Technical Department

The SFD delegation paid courtesy call to Hon. Mrs. Radha Kumari Gyawali, Minister for Energy and Mr. Rajendra Kishore Kshatri, Secretary, Ministry of Energy, where they discussed the bilateral cooperation between SFD and Nepal.

Dr. Sharma, Head of the Nepalese team welcomed the SFD delegation. Chief Eng. Abdullah M. Al-Shoaibi, Head of SFD delegation thanked the Nepalese team for the reception and arrangement made for the visit and commented on the good atmosphere of cooperation between Nepal and the Saudi Fund. He also indicated the importance of hydropower and its benefits for the people of Nepal. Mr. Nabin Raj Singh, Project Manager of Budhi Ganga Hydropower Project, briefly presented the overview and progress of the project.

Discussions also took place about the preparatory activities taken for implementing the BHP, use of contracts for works and services, reimbursement procedures where SFD advice the BHP management to seek help from BIP on this regard, covenants, remedies of the fund, and others. The major discussions held were as follows:

(i) The consulting service part for Detail Engineering Design and Environmental Impact Assessment is covered under Kuwait Fund for Arab Economic Development (KFAED). Hence, there is no need to take concurrence form
SFD for the above mentioned activities. The BHP requested SFD to assist and coordinate with KFAED for above concurrence. Regarding short listing of consulting firms for Detail Engineering Design, the concurrence on Expression of Interest Document was obtained from KFAED to shortlist only six top ranked consulting firms. The EOI was floated accordingly. However, SFD delegates expressed their suggestion to shortlist eight top ranked consulting firms for more competitive bids as far as the instruction to firms mentions that 6-8 firms will be shortlisted. This issue is proposed to discuss with KFAED.

(ii) The SFD delegates mentioned that BHP needs to submit quarterly progress report to SFD.

(iii) The Nepalese team suggested the formation of a tripartite committee consisting of BHP, SFD and KFAED to expedite approvals.

The Nepalese team expressed their appreciation for the fruitful discussion and thanked the SFD for the generous cooperation.

For and on behalf of Government of Nepal

(Dr. Sanjay Sharma)
Director General
Department of Electricity Department

For and on behalf of Saudi Fund for Development

(Chief Eng. Abdullah M. Al-Shoaibi)
Group Coordinator
Saudi Fund for Development
Minutes of Meeting

A review of progress on the Budhi Ganga Hydropower Project (BHP), was held between the Saudi Fund for Development (SFD) mission and Budhi Ganga Hydropower Project, Department of Electricity Development (DoED) on 19 February 2015 at Kathmandu, Nepal. The SFD mission was led by Chief Engineer Abdullah M. Al-Shoaibi, Regional Manager and the Nepalese team was led by Mr. Dinesh Kumar Ghimire, Director General, DoED.

SFD mission members were as follows:
1. Chief Eng. Abdullah M. Al-Shoaibi, Regional Manager, Operations Department
2. Mr. Saeed A. Almshalkhi, Loan Officer, Operations Department
3. Eng. Saud A. Alshammari, Project Manager, Operations Department

The members of the Nepalese team were as follows:
1. Mr. Dinesh Kumar Ghimire, Director General, DoED
2. Mr. Pravin Raj Aryal, Deputy Director General, DoED
3. Mr. Subarn Lal Shrestha, Deputy Director General, DoED
4. Mr. Nabin Raj Singh, Superintending Engineer, DoED
5. Mr. Sandip Kumar Dev, Superintending Engineer, DoED
6. Mr. Raju Maharjan, Senior Divisional Engineer, Ministry of Energy
7. Mr. Sanjeeb Baral, Project Manager, Budhi Ganga Hydropower Project
8. Mr. Kishan Kumar Basel, Account Officer, Budhi Ganga Hydropower Project

The SFD delegation paid courtesy call to Hon. Mrs. Radha Kumari Gyawali, Minister for Energy, Mr. Keshav Dhoj Adhikari, Acting Secretary, Ministry of Energy, and Mr. Dinesh Kumar Ghimire, Director General, Department of Electricity Development on 18 February 2015, discussed the bilateral cooperation between SFD and Government of Nepal and also about the status of Budhi Ganga Hydropower Project.

Mr. Dinesh Kumar Ghimire, Head of the Nepalese team welcomed the SFD delegation to the review meeting of BHP at Project office meeting hall on 19 February 2015. Chief Eng. Abdullah M. Al-Shoaibi, Head of SFD delegation thanked the Nepalese team for the reception and arrangement made for the visit and commented on the good atmosphere of cooperation between Government of Nepal and the Saudi Fund. Mr. Sanjeeb Baral, Project Manager of Budhi Ganga Hydropower Project, briefly presented the overview, progress and key issues of the project.

Both the SFD delegation and Nepalese team members agreed to expedite the project and complete the project on time. SFD mission urges its commitment for full cooperation and for the quick approval process required for the project.
Head of SFD delegation Eng. Alshaibai highlighted the importance of land acquisition in the project and stressed to complete the land acquisition before awarding the contract of main construction works. However, the preparatory works shall be proceed for early execution of the activities.

The preconstruction activities, such as access road to powerhouse and dam site, office building and bridge, are very important for main construction activities of the project and for further progress in the future. As the volume of these works are small, it was agreed to combine access road and bridge in one package and building and camp site in other package with total two packages only. The Nepalese team proposed that these two packages will be implemented through the National Competitive Bidding (NCB) processes.

With regards to the consultancy services for detailed engineering design and environmental study, BHP informed the mission that the proposals have been submitted to the project on 12 December 2014 and the technical evaluation of the four bidders has been completed and sent to Kuwait Fund by 12 January 2015, BHP is awaiting the concurrence from Kuwait Fund. It worth mention that the validity of bids is expired by 4 April 2015 and extended to 12 April 2015. It is expected to finalize the award the contract before April 2015.

In order to finalize the awarding of the contract of consulting services within the bid validity period, the approval of Kuwait Fund for the technical evaluation report shall be processed as soon as possible to enable the project to open the financial proposal and complete the overall evaluation.

The Nepalese delegation expressed their appreciation for the fruitful discussion and thanked the SFD for the generous cooperation.

The mission express their appreciation to the Energy Ministry, DoED and BHP for their cooperation and assistance and hospitality extended to the members of the mission.

For and on behalf of Government of Nepal

\[\text{Signature} \quad \text{20 February 2015}\]

(Dinesh Kumar Ghimire)
Director General
Department of Electricity Development

For and on behalf of Saudi Fund for Development

\[\text{Signature} \quad \text{20 February 2015}\]

(Chief Eng. Abdullah M. Al-Shoaibib)  
Regional Manager, Operations Department  
Saudi Fund for Development
Minutes of Meeting

A review of progress on the Budhi Ganga Hydropower Project (BHP), was held between the Saudi Fund for Development (SFD) mission, Budhi Ganga Hydropower Project, Department of Electricity Development (DoED) and the representatives from the consultant (SMEC-UDAY JV) on 18 November 2015 at Kathmandu, Nepal. The SFD mission was led by Chief Engineer Abdullah M. Al-Shoaibi, Regional Manager, Operations Department and the Nepalese team was led by Mr. Pravin Raj Aryal, Officiating Director General, DoED. The participation from the consultant was led by Mr. Mark Fox, Team Leader.

SFD mission members were as follows:
1. Chief Engineer Abdullah M. Al-Shoaibi, Regional Manager, Operations Department
2. Engineer Nasser M. Al-Kasabi, Projects Manager, Operations Department
3. Majed M. Al-Salamah, Accountant, Treasury Department

The members of the Nepalese team were as follows:
1. Mr. Pravin Raj Aryal, Officiating Director General, DoED
2. Mr. Madhu Prasad Bhetuwal, Deputy Director General, DoED
3. Mr. Chiranjeeewee Chautari, Deputy Director General, DoED
4. Mr. Sandip Kumar Dev, Superintending Engineer, DoED
5. Mr. Sanjeeb Baral, Project Manager, Budhi Ganga Hydropower Project
6. Mr. Saroj Acharya, Senior Divisional Engineer, BHP

The members of the consultant team were as follows:
1. Mr. Mark Fox, Team Leader, SMEC-UDAY JV
2. Mr. Udeep Lal Shrestha, Country Manager, SMEC

The SFD delegation paid courtesy call to Mr. Rajendra Kishore Kshatri, Secretary, Ministry of Energy, on 16 November 2015 and Mr. Pravin Aryal, Officiating Director General, Department of Electricity Development on 18 November 2015, discussed the bilateral cooperation between SFD and Government of Nepal and also about the status of Budhi Ganga Hydropower Project.

Mr. Pravin Raj Aryal, Head of the Nepalese team welcomed the SFD delegation to the review meeting of BHP at Project office meeting hall on 18 November 2015. Chief Eng. Abdullah M. Al-Shoaibi, Head of SFD delegation thanked the Nepalese team for the reception and arrangement made for the visit and commented on the good atmosphere of cooperation between Government of Nepal and the Saudi Fund. Mr. Mark Fox, Team Leader of the consultant presented about the present status of the Detailed Design and Environmental Study Works. Mr. Sanjeeb Baral, Project Manager of Budhi Ganga Hydropower Project, briefly presented the overview, progress and key issues of the project.

Both the SFD delegation and Nepalese team members agreed to expedite the project and complete the project on time. SFD mission urges its commitment for full cooperation and for the quick approval process required for the project.
Head of SFD delegation Eng. Alshoaibi congratulate the project team for the significant achievement in the land acquisition works of the project as it is vital important for other project activities. The preconstruction activities such as access road and bridge and office building and detailed design of the project are very important for main construction activities of the project so stressed to expedite. The SFD delegation urges the consultant to immediately involve the international expatriates in field activity due to its importance in the outcome of the inception report which is due to be completed by 20th December 2015. Also stressed on the importance of the procurement of the vehicles since the approval has been granted from the project. The SFD delegation also raised the issue of preparation of a risk assessment for the selection of the contractors during the execution of the detailed design works by the consultant. SFD delegates also request the project to furnish within 7days full details of the current contracts for office buildings, bridge and access roads along with the timeframe for execution also for future works.

SFD delegation intends to conduct a field visit of Budhi Ganga Hydropower Project early of the second quarter 2016.

Detailed Design and Environmental Study of Upper Budhi Ganga Hydropower Project located in Bajura district is also ongoing under the budget allocated by Government of Nepal. Realizing the importance of optimization of the transmission line to be developed by the project, both parties realize the importance to develop the upper Budhi Ganga hydropower project with the present project. Head of the SFD delegates will present this issue to its management for further action for future cooperation in energy sector of Nepal.

The Nepalese delegation expressed their appreciation for the fruitful discussion and thanked the SFD for the generous cooperation.

The mission express their appreciation to the Energy Ministry, DoED and BHP for their cooperation and assistance and hospitality extended to the members of the mission.

For and on behalf of Government of Nepal  

(Pravin Raj Aryal)  
Officiating Director General  
Department of Electricity Development  

For and on behalf of Saudi Fund for Development  

(Chief Eng. Abdullah M. Al-Shoaibi)  
Regional Manager, Operations Department  
Saudi Fund for Development  

18 November 2015, Kathmandu, Nepal
Minutes of Meeting

SFD Mission Visit, Nepal
Period of Visit: 16 April 2016 to 21 April 2016

A Saudi Fund for Development (SFD) Mission was conducted from 16 April 2016 to 21 April 2016 regarding the progress of the Budhi Ganga Hydropower Project in Nepal by the mission members as mentioned below. During the mission visit, a site visit of Budhi Ganga Hydropower project was also carried out in addition to courtesy meeting with Deputy Prime Minister/Minister, Ministry of Energy and with Secretary, Ministry of Energy.

SFD mission members were as follows:

1. Chief Engineer Abdullah M. Al-Shoaibi, Regional Manager, Operations Department
2. Engineer Nasser M. Al-Kasabi, Projects Manager, Operations Department
3. Mr. Saeed Al-Mashaiky, Loan Officer, Operations Department

A site visit of Budhi Ganga Hydropower Project was carried out by the two members Engineer Nasser M. Al-Kasabi and Mr. Saeed Al-Mashaiky of SFD mission with Project Manager Mr. Sanjeeb Baral and BHP team from 17 April 2016 to 20 April 2016. The team leader of the consultant SMEC-UDAY JV Mr. Mark Fox was also participated in the field visit. The team visited the headworks area, powerhouse area and other key areas of the project. The land acquired by the project is observed by the team. In addition to this, the progress of the project was also monitored by the project. One stakeholders interaction program was also carried out at site, in which different stakeholders were allowed to put their views and issues with the delegation members and with the project Manager. Engineer Nasser M. Al-Kasabi briefly addressed the meeting focusing the objective of SFD loan and also about the satisfaction about the progress of the project. The team concluded that, the field visit was very successful for achieving the first hand information regarding the progress and other issues.

The SFD delegation paid courtesy call to Honorable Deputy Prime Minister and Minister, Ministry of Energy Mr. Top Bahadur Rayamajhi on 20 April 2016 and discussed the bilateral cooperation between SFD and Government of Nepal and also about the status of Budhi Ganga Hydropower Project. The delegation member expressed their commitment for continual support in the energy sector development of Nepal. During meeting Honorable Minister thanked SFD for their support in Budhi Ganga Hydropower Project and also requested SFD for cooperation in large project in future. He also highlighted about the present long term plan prepared by the Government of Nepal, Ministry of Energy for sustainable development of Hydropower in Nepal.

The SFD delegation paid courtesy call to Mr. Suman Prasad Sharma, Secretary, Ministry of Energy, on 20 April 2016 and discussed the bilateral cooperation between SFD and Government of Nepal and also about the status of Budhi Ganga Hydropower Project. The delegation member expressed their satisfaction regarding the progress of the Budhi Ganga Hydropower Project.

Both the SFD delegation and Nepalese team members agreed to expedite the project and complete the project on time. SFD mission urgeded its commitment for full cooperation required for the project.
Head of SFD delegation Eng. Alshoaiibi and other members congratulate the project team for the significant achievement in the land acquisition works and other preconstruction activities of the project as it is vital important for other project activities. SFD raised their concern about the stability of project management and urges the Ministry of Energy to select a qualified project manager to replace Mr. Sanjeeb Baral during his secondment in order not to loose the momentum of the progress until now. The progress of the project and coordination with the local stakeholders was found excellent during the field visit. The construction of the office building was found started and bid has been invited for the construction of bridge and access road. The coordination with the stakeholders has been found satisfactory at local level of the project. The preconstruction activities such as access road and bridge and office building and detailed design of the project are very important for main construction activities of the project so stressed to expedite. The SFD delegation assure project manager for the valuable feedbacks on the final inception report of detailed engineering design and environmental study submitted by the consultant. For this SFD requested the Project Manager to furnish SFD with the copy of the inception report along with expert comments on it.

BHP submitted the progress report of Budhi Ganga Hydropower for the period of January to March 2016. SFD urges project to submit the component wise progress and overall progress till now very soon. SFD suggested that, it will be easy for contract administer and for other approval process if single contract is financed by one donor agency. SFD also requested the project manager to work out the allocation (Contribution) of fund between SFD and KFAED in different contracts and send the proposal for review, comments and approval.

The Project Manager expressed his appreciation for the fruitful discussion, site visit and thanked the SFD for the generous cooperation.

The mission express their appreciation to the Energy Ministry, DoED and BHP for their cooperation and assistance and hospitality extended to the members of the mission.

For and on behalf of Government of Nepal

(Sanjeeb Baral)
Project Manager
Budhi Ganga Hydropower Project

21 April 2016, Kathmandu, Nepal

For and on behalf of Saudi Fund for Development

(Chief Eng. Abdullah M. Al-Shoaiibi)
Regional Manager, Operations Department
Saudi Fund for Development
The Saudi Fund for Development (SFD) has conducted the mission visit from 16th April to 21st April 2016. During mission visit, the field visit is also carried out. One brief Stakeholder's meeting is carried at site office in presence of following representatives:

1. Nassir Alkasabi Head POM office SFD
2. Saee Al-Mashakhbna Loan officer SFD
3. Sanjeeb Koral Project Manager
4. Led Bde Wrait Under Secretary MoF LG
5. Ranant Bogali Thantibazar GSA
6. Ekendra Kumar Budhakot
7. Nrip & Saud Kusker
8. Jayanti Bogali Thantibazar GSA
9. Param Babu Lal Bablu
10. HARK. B. Batala Bawloe 3
11. Sagar Singh Bablu Bablu 8. Achar
12. Kishan Pr. Bazel USDA
13. Harji Bazel
14. Thanadar Bogali
15. Kheorgo Kumar
16. Ram Shah
17. Ykering rombo
19. Karu Gming Saeed Tehyasan Eng
20. Kau Babu Shah
21. Harsh Babander Kumwark
22. Led Bde Baj. Achar
23. Laguna Moho
24. Min. Ghadar R. Bogali
26. Ganga Rawat Ghughurtal 4
27. Kanal Sund Katra
28. Bhate xilic Silwagam 6
29. Lalit Bogti Ghughurtal 2, Achham 25
30. Min Ghadothi Kunhal Budhathal 5, na
31. Gaura & Manata Ghughurtal 3
32. Vishal Kunwal Bhandari 1
33. Prakash Shank Ghughurtal 10
34. Bir Bdr Bohara Budiganga hydropower
35. Shankar Botala
Annex -4
Disbursement Plan for Execution of Budhi Ganga Hydropower Project
**Note:** Nepalese Fiscal Year starts on July 16 and ends on July 15 of next year.

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Key Activities</th>
<th>Start</th>
<th>End</th>
<th>Financial Arrangement</th>
<th>FY 2071/72 (14/15)</th>
<th>FY 2072/73 (15/16)</th>
<th>FY 2073/74 (16/17)</th>
<th>FY 2074/75 (17/18)</th>
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<tbody>
<tr>
<td>1</td>
<td>Land Acquisition works</td>
<td>May-14</td>
<td>Apr-17</td>
<td>100% GoN</td>
<td>73,872,000.00</td>
<td>58,128,000.00</td>
<td>85,000,000.00</td>
<td>234,000,000.00</td>
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<tr>
<td>2</td>
<td>Detailed Engineering Design and EIA including SIA</td>
<td>Oct-15</td>
<td>Mar-17</td>
<td>100% GoN</td>
<td>18,330,000.00</td>
<td>41,000,000.00</td>
<td>50% SFD + 50% KFAED</td>
<td>41,000,000.00</td>
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<tr>
<td>3</td>
<td>Pre-construction activity -2 (Construction of Access Road up to ch - 0+765)</td>
<td>Jun-14</td>
<td>May-16</td>
<td>100% GoN</td>
<td>4,500,000.00</td>
<td>15,840,000.00</td>
<td>100% GoN</td>
<td>15,840,000.00</td>
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<td>4</td>
<td>Pre-construction activity -1 (Construction of Office Building and Camp)</td>
<td>Nov-15</td>
<td>Dec-15</td>
<td>100% SFD</td>
<td>9,000,000.00</td>
<td>62,640,000.00</td>
<td>100% SFD</td>
<td>62,640,000.00</td>
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<tr>
<td>5</td>
<td>Construction of main HM components</td>
<td>Dec-17</td>
<td>May-20</td>
<td>20% SFD + 80% KFAED</td>
<td>20,250,000.00</td>
<td>42,500,000.00</td>
<td>42,500,000.00</td>
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<tr>
<td>6</td>
<td>Construction of TL and substations</td>
<td>Dec-19</td>
<td></td>
<td>100% KFAED</td>
<td>9,000,000.00</td>
<td>340,000,000.00</td>
<td>85,000,000.00</td>
<td>85,000,000.00</td>
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<td>7</td>
<td>Construction of main Civil Works</td>
<td>Dec-17</td>
<td>May-20</td>
<td>90% SFD + 10% KFAED</td>
<td>73,872,000.00</td>
<td>58,128,000.00</td>
<td>85,000,000.00</td>
<td>234,000,000.00</td>
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<tr>
<td>8</td>
<td>Construction and Installation of main HM components</td>
<td>Oct-15</td>
<td>Mar-15</td>
<td>100% SFD</td>
<td>73,872,000.00</td>
<td>58,128,000.00</td>
<td>85,000,000.00</td>
<td>234,000,000.00</td>
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<tr>
<td>9</td>
<td>Construction Supervision</td>
<td>Jul-16</td>
<td>May-16</td>
<td>100% SFD</td>
<td>20,250,000.00</td>
<td>42,500,000.00</td>
<td>42,500,000.00</td>
<td>42,500,000.00</td>
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</table>

**Total:** 96,970,000.00

**All amounts in Nepalese Rupee**

<table>
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<tr>
<th>Financial Arrangement</th>
<th>GoN Total</th>
<th>SFD Total</th>
<th>KFAED Total</th>
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<tr>
<td></td>
<td>1,089,845,000.00</td>
<td>3,797,409,000.00</td>
<td>1,130,770,000.00</td>
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*Taxes and matching fund for all activities by GoN*