

## A Case Study

# Rahughat Hydroelectricity Project

Boosting Cross Border Electricity Trade in BBIN/M Region: Dialogue Leading to Actions, 19 Jan 2018, New Delhi

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# BACKGROUND

- Nepal's energy imports from India (2016-17): 2,175.04GWh (22.35 pc growth)
- Power Trade Agreement 2014 between Nepal and India not limited to trading of electricity, it specifically encourages investment between the two countries in power sector
- Indian promoters hold 85 pc of total licenses issued
- Three export-oriented projects in pipeline: 900 MW Arun III (PDA completed); 900 MW Upper Karnali; 600 MW Upper Marshyangdi II

- **Objective:**  
To assess the overall socio-economic benefits or costs accrued to the local community brought about by energy cooperation
- **Rationale for selecting Rahughat HEP**  
Energy cooperation: debt financing  
Ex-ante study so project under construction necessary

# SALIENT FEATURES OF THE PROJECT\*

Installed capacity	<ul style="list-style-type: none"><li>• 2x20 MW</li></ul>	Location	<ul style="list-style-type: none"><li>• Myagdi district, 300km from Kathmandu; 100 km from Pokhara Airport</li></ul>
Transmission Line	<ul style="list-style-type: none"><li>• LILO of 220KV transmission line from Dana substation to Kusma at PH gantry 600m</li></ul>	Affected VDCs	<ul style="list-style-type: none"><li>• Myagdi district: <b>Dangnam, Jhi, Rakhupiple</b>, Patlekhet, Ghatan; Parbat district: <b>Mallaj Majhphant</b></li></ul>
Access road	<ul style="list-style-type: none"><li>• 12.5 km</li></ul>	Affected settlements	<ul style="list-style-type: none"><li>• Galeshwor, Mauwaphant, Dagnam, Bagaincha, Bukla, Goluk, Dharkharka, Jhi, Bhirkuna and Nepane villages</li></ul>
Project Cost	<ul style="list-style-type: none"><li>• US\$ 84 million</li></ul>	Land acquired	<ul style="list-style-type: none"><li>• 29.39 hectare</li></ul>
Total annual energy generation	<ul style="list-style-type: none"><li>• 247.89 GWh</li></ul>		

## A BRIEF TIMELINE OF

# Rahughat Hydroelectricity Project

The hydropower project was expected to be completed by 2016

The **Environmental Impact Assessment** of the project was completed

1998

● 1997

NEA first identified the Raghuganga river as a potential site for hydropower generation

● 2007

Finance was secured for the project through EXIM Bank

● □ 2010

>> NEA invited bids for civil work  
>> **Contract awarded to IVRCL Ltd**

2013

NEA Board negotiated a **compensation paid to the contractor but work stalled**

2014

IVRCL Ltd **filed a case** against the NEA at a court in Nepal to prevent termination of the contract

● □ 2012

>> Contract for consultancy services for the construction of main civil works awarded to **WAPCOS Ltd in association with Tata Consulting Engineers Ltd and Larson & Turbo Ltd**  
>> Consultants issued '**NOTICE TO PROCEED**' to IVRCL for civil works but the contractor refused to continue work until duly compensated for the delays

● □ 2015

>> Capacity of the project optimised to **40 MW**  
>> NEA issued "**Notice for Termination**" to the contractor  
>> **Notice for fresh tender** announced

2017

>> NEA registered **Raghugunga Hydropower Company Ltd** at the Office of Company Registrar

>> **Contractor is yet to be decided**

# METHODOLOGY

- Case Study Method (ex-ante)
- Key Informant Interviews
- Focused Group Discussions: 2 FGDs at Rakhu Piple and Mauwaphant
- Household survey (based on convenience sampling) : 25 females
- Location: Beni, Mallaj Majhphant, Bagaicha, Rakhu Piple and Mauwaphant

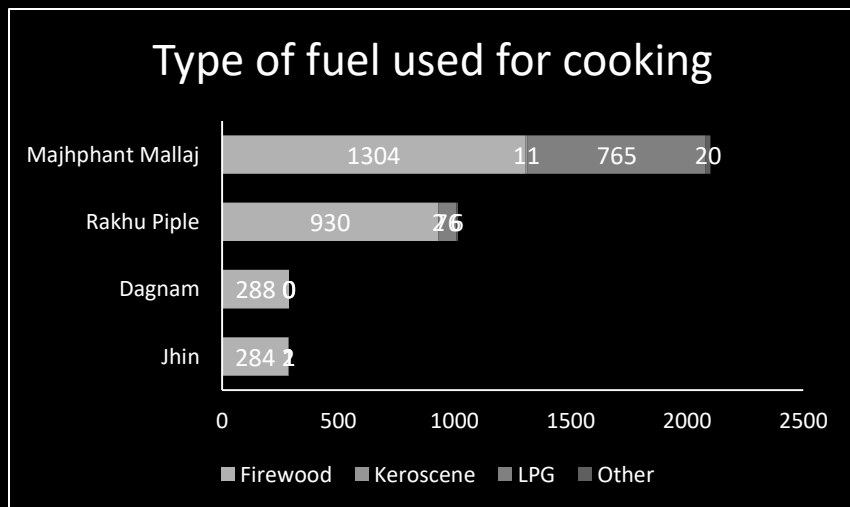
# LIMITATIONS

- No export-oriented hydropower project under construction during the study period
- Discontinued work of Rahughat HEP
- Affected areas already electrified, so no direct benefit with regard to electricity access
- Retrospective responses required so respondents had problem recalling information
- Limitations set by resources

# DEMOGRAPHIC AND SOCIO-ECONOMIC CHARACTERISTICS

VDC	Population	Sex Ratio	Literacy
Dagnam	1089	76.79	58.21
Jhin	1131	69.31	65.4
Piple	3936	77.54	60.29
Majhphant Mallaj	8087	82.84	65.08

Source: CBS 2014

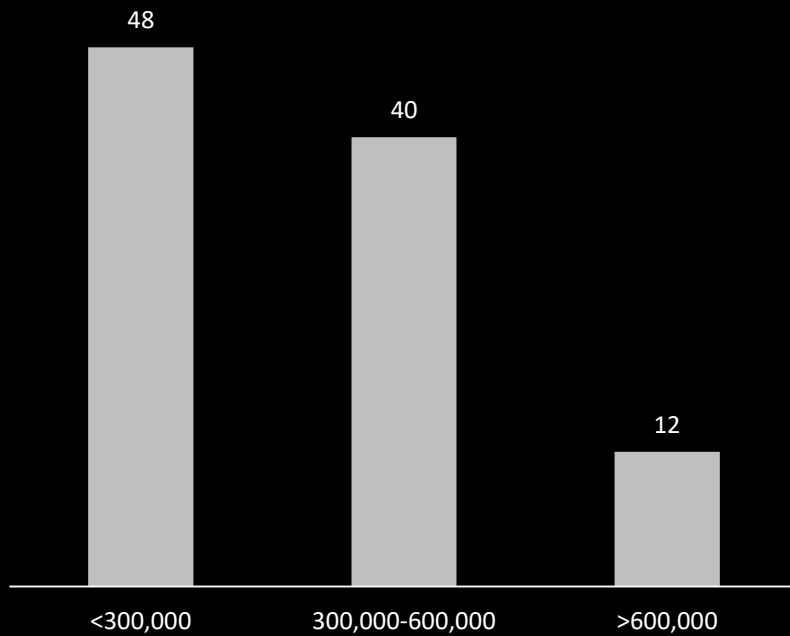


Source: CBS 2014

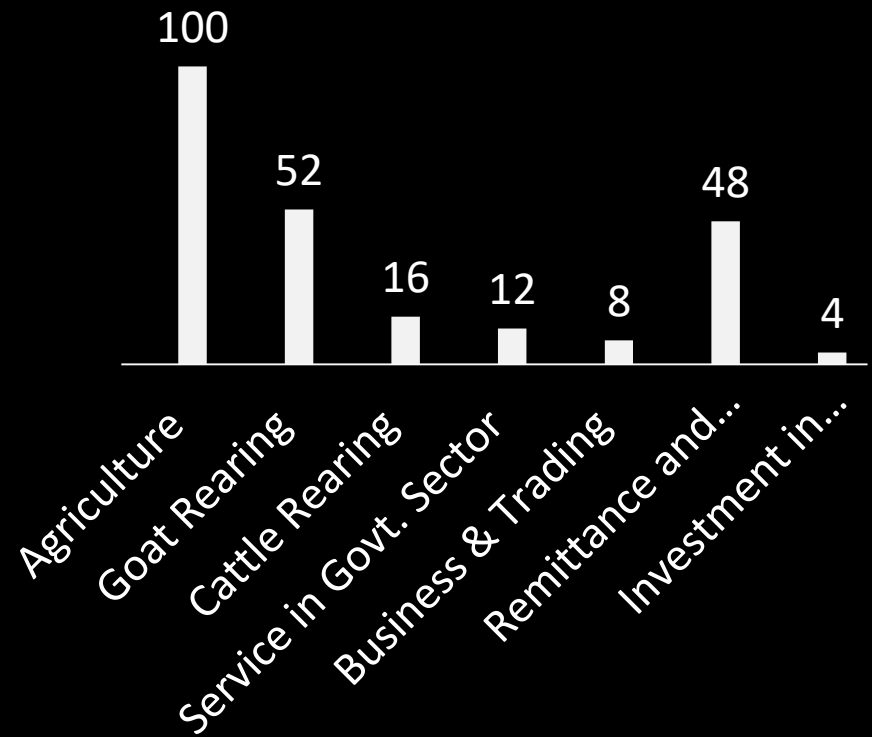
- Only about 10 households in Jhin and Dagnam do not have access to electricity (*anecdotal information*)
- All seasonal dirt-road connecting Dagnam to Beni-Jomsom Highway
- Nearest hospital in Beni (3 km from Galeshwor) but each VDC has sub-health post with an attendant
- There are 25 schools in total but only one high school



## Income distribution of respondents (%)



## Income source of respondents

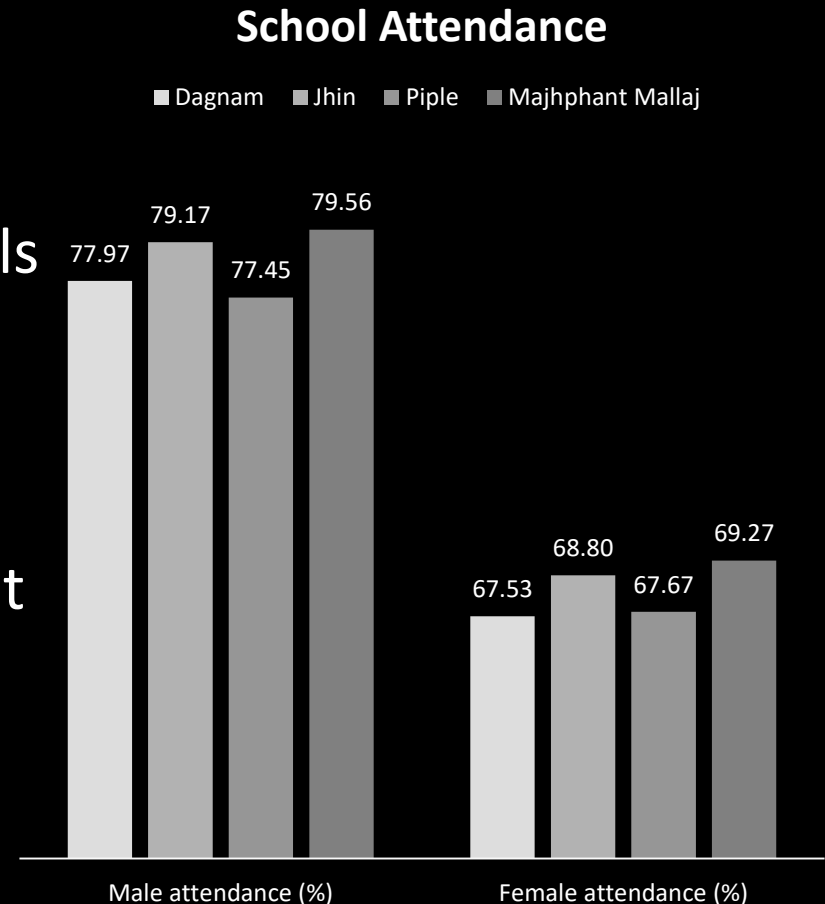


# ECONOMIC IMPACTS

- Improved access to roads: 12.5 km (10 km functional) of all weather road connecting villages to Beni-Jomsom Highway
- Employment opportunities: local jobs created but fewer than expected; wage rate offered NPR 300 (lower than prevalent rate)
- Increase in economic opportunities: moderate spike in businesses at small grocery shops but bigger impact in Beni (
- Land acquisition created riches for 198 households: at rate of NPR 4 m/acre (prevalent rate NPR 2.5m/acre); no impact on agriculture

# SOCIAL IMPACTS

- Access to energy has decreased drudgery especially for women
- Still lack of social amenities such as schools and health centers is a problem
- The project will install pipelines to drinking water resources, help set up a secondary school, donate an ambulance, among others, once the works resume



# WAY FORWARD

- Locals expect creation of more economic opportunities once the project works resume at Rahughat HEP
- Employing greater number of locals is necessary for creating direct benefits and sense of ownership towards the project
- Instead of projects promising social amenities such as schools and ambulances to the locals better engagement in skills training necessary, else projects only bring short-term boom
- Promotion of local equity sharing (issuing shares to the people from affected areas) model may help the locals reap bigger financial benefits
- Gender-targeted efforts towards benefit-sharing is necessary to ensure women are not left out
- **Rahughat HEP's contractor issue necessitates review of contract awarding rules and arbitration procedures in Nepal in case of cross-border energy cooperation**

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THANK YOU