

Public Sector and Hydro-power in Nepal: Organization and Management Issues

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Abstract. Hydro-power development in Nepal were from the beginning externally financed and implemented. Technical and engineering challenges were gradually addressed. For Nepal there were administrative and management challenges. Logistical and communication issues figured importantly, as did relationships with stakeholders in the project areas. Work on formalizing project application procedures began, together with collection of engineering, environmental, financial, and technical data (cultural and social data were not collected). The emergence of a formalized EIA protocol, and its inclusion in the project cycle, was crucial. There were – and are still – problems with implementation of projects at the local level. These include relationships with local people (ethnic minorities or indigenous peoples) that are negatively affected and/or stand to be resettled, and compensation (including incorrect assessment of compensation, no cut-off date, and cash compensation versus replacement land). The paper argues that these problems to a large extent result from issues in the public sector that remain to be addressed. They include the overall organization of the sector, division of labor and responsibilities between participating stakeholders, low levels of knowledge among – and not suitably qualified – staff, and a lacking focus on capacity building. Ways and means to rectify the situation are discussed. This includes training for public sector staff, building trust, region-wide networking, and a comparative assessment of the role of the public sector in the Himalayan countries.

1 BACKGROUND

The paper expands upon a paper prepared for the 2021 IAIA conference (Soeftestad and Gorzula 2021). It analysed the overall portfolio of hydropower projects. The emphasis was on the process of project implementation. The role of the public sector was not addressed. The authors of both papers worked on the EIA for the proposed Nalgad Hydropower Project, and the present paper focused primarily on this project.

2 NEPAL'S HYDROPOWER SECTOR

Key elements of the hydropower sector addressed include: (a) Legislation and (b) Public sector institutions.^{2/}

2.1 Legal Basis

A number of laws govern the sector and more specifically hydropower projects (Chiatrishuli 2020; lawimperial.com 2019; meroadalat.com nd; NVE 1998)^{3/}:

- Electricity Act, 1992 (2049) and Electricity Rules, 1993 (2050).
- Electricity Regulatory Commission Act, 2017 (2074).
- Nepal Electricity Authority Act, 1984 (2041).
- Public Private Partnership and Investment Act, 2019 (2075).

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^{2/} For details about the sector, including number of projects and present capacity, cf Soeftestad and Gorzula (2021).

^{3/} Cf. also Soeftestad and Gorzula (2021).

2.2 Public Sector Stakeholders

The key institutions are (corporatelawyernepal.com nd; lawimperial.com 2019; Chiatrishuli 2020)^{4/}:

- Department of Electricity Development (DEOD). Responsibility: (1) Implementation, (2) Licensing, including granting, renewing, amending, and revoking project licenses.
- Investment Board of Nepal (IBN). *Responsibility*: Approves investment for large projects.
- Electricity Regulatory Commission (ERC). *Responsibility*: Production, transmission, distribution, and trading.

DEOD is responsible for managing individual projects through seconding staff. Further decision makers and advisory bodies include: Ministry of Energy (MoE), Ministry of Forests and Environment (MoFE), Ministry of Land Revenue and Land Survey, National Planning Commission (NPC), Nepal Electricity Authority (NEA), and Water and Energy Commission Secretariat (WECS).

For other aspects of the overall management of the sector, including statistics, the licensing process, EIA, resettlement, and compensation, cf. Soeftestad and Gorzula (2021).

3 NALGAD HYDROPOWER PROJECT

3.1 General ^{5/}

The project is located in Karnali Province, on Nalgad River in Jajarkot District. It is a storage project with a 248 m high reinforced concrete dam to be built. The reservoir will have a total storage volume of 474 million cubic meters. The project will have a capacity of 417 megawatts (MW). It is expected to generate 1,406,00 gigawatt-hours (GWh) of electricity. Gross Head is 698 meters. Four turbines, each with a 102,5 MW capacity, will be installed. The project is being developed by Nalgad Hydropower Company Limited (NHCL).

NHCL's mission is to (a) Implement global best practises for high dam construction, (b) Develop, build, and operate this project, (c) Operate it in a cost-effective, socio-economically, and environmentally friendly manner, and (d) Improve the lives of local communities.

3.2 The Project's Phases

The project has been under implementation a number of years, and gone through a number of phases. A summary of the project's implementation is available (Table 1).

3.3 Public Sector Staff: Role and Operation

The DEOD seconded staff to the project on a permanent basis, though the staff oftentimes did not serve very long. In Kathmandu DOED staff worked out of a building located apart from the offices of the administrative and operational staff, local as well as expatriates. In general, their work were to some extent removed or separate from the work of the permanent and short-term staff.

^{4/} Cf. also Soeftestad and Gorzula (2021).

^{5/} When nothing else is mentioned, all information in this section is from the project's EIA reports (Nalgad Hydropower Company Limited, 2023).

The administrative and operational staff did not have a lot of contact with the DOED staff. DEOD staff would travel to the project area, but not very often, oftentimes to stay in a purpose-built office building-cum- guesthouse.^{6/}

No.	Date	Activity	Follow-up Action	Comment
1	Jul 2012	Feasibility Study for Nalsing Gad Storage Hydroelectric Project completed	Prepared by Project Development Department Engineering Services Nepal Electricity Authority	
2	May 2016	Contract signed for Updating of Feasibility Study, Detailed Engineering Survey & Design and Environmental Impact Assessment Study of Nalsing Gad Hydropower Project	Consultant mobilised	
3	Sep 2016	Commencement of EIA Study by Consultant		
4	Aug 2017	Submission of EIA Scoping and TOR Reports to NHCL	NHCL reviewed and provided comments for revision of the documents	
5	Dec 2017	Submission of revised EIA Scoping Report and EIA TOR Report to Ministry of Energy and Department of Electricity Development (DOED) for review/approval	DOED reviewed and provided comments for revision of the documents.	
6	May 2018	Presentation of revised EIA Scoping and TOR Reports to Ministry of Environment and Population for review/approval	Approved by new Ministry of Forest and Environment in June 2018.	Change in Government led to re-organisation of Ministries
7	Jun 2019	Submitted draft EIA documents to NHCL	NHCL organised Public meeting in Kathmandu	
8	Nov 2019	Public presentation in Kathmandu of Draft EIA and supporting documents	All parties provided comments to be included in the Final EIA documents. Consultant revised all documents.	COVID delays
9	Dec 2021	Final EIA documents submitted to NHCL addressing all comments from public consultation, NHCL and DOED	NHCL submitted EIA documents to DOED and MoFE and arranged presentation of documents to MoFE.	COVID delays
10	Aug 2023	Presentation of Final EIA documents to Ministry of Forest and Environment	EIA approved by MoFE	

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4 DISCUSSION

4.1 Challenges

The management of a hydropower project (during construction as well as operation) addresses a number of issues, among them: communication (internally and externally), economics, engineering, finance, HR, logistics, and general management (Basnet 2022). They will not be addressed here.^{8/}

(A) Issues referred to characteristics of the DOED staff that were seconded to the project:

1. *Organization of the Sector.* In the overall management of the sector, it seems that there is little horizontal focus sharing information and knowledge from the DEOD HQ in Kathmandu to staff at the many hydropower projects. As well, horizontal communication, aimed at sharing and knowledge management, seems to be lacking.
2. *Division of Labor.* Division of labour and responsibilities between participating stakeholders, in public sector, private sector, and civil society, is not clear, and leaves much to be desired
3. *Level of Knowledge.* The level of knowledge at the staff level of the very complex and interdisciplinary expertise necessary for successful management of projects is very low.
4. *Formal Qualification.* The level of personal formal qualification among staff appears to be low, or certainly not optimally suitable for the position they serve in.
5. *Capacity Building.* There is little or no focus on capacity building of staff.^{9/}

(B) Issues pertaining to work done by the DOED staff and/or organized by them:

6. *Cut-off Date.* No cut-off date for determining level of compensation was set and published. As a consequence, many people in Nalgad continued to build houses and other structures, in order to qualify for compensation.
7. *Land Acquisition.* The Government began the land acquisition process prior to the EIA and preparation of the Resettlement Action Plan (RAP). From this it can be inferred that the Government planned to go ahead with the Nalgad project irrespective of the outcome of the EIA process.
8. *Compensation: Levels.* The compensation for land acquisition offered by the Government does not meet international standards and recommendation as set by the World Bank, and ADB, etc.
9. *Compensation: Cash Versus Replacement Land.* The DOED appeared to be concerned with this crucial issue only because focusing on it is mandatory. The fact that a good number of the people in Nalgad that qualified for resettlement prefer to stay behind, make the Governments job less complicated, and likely cheaper.

(C) Issues of a social/cultural character, :

10. *Stakeholder Relations.* Relations with local people (the 'beneficiaries' in development cooperation parlance), of which many are indigenous, appears to be not given high priority.

^{7/} It is interesting that this office-cum-guesthouse was built before any work of the project had begun, and moreover that it appears to be mostly not used.

^{8/} The views presented here refers to the author's work on the EIA, and the following period (see Table 1 for period).

^{9/} Cf. section on Operation and Maintenance (O&M) below.

11. *Cultural/Social Data, including Socio-Economic Data.* This is another example of how DOED and the Government do not place much, and certainly not enough, emphasis on the softer human aspects of hydropower projects.
12. *Resettlement and Compensation.* These processes and activities address social/cultural issues, largely because it is mandated. It follows that they are treated as externalities.

All these challenges, or problems, are not wholly separate. Many of them are causally connected. This means that addressing one of them implicitly addresses others

4.2 Operation and Management

Several of the challenges listed above fall under Operation & Management (O&M). O&M is ubiquitous in hydropower project (as well as in other infrastructure projects). O&M is concerned with designing and controlling the production of goods and services, in order to ensure efficiency in resource use. In the context of hydropower, it focuses on efficiency in economics, financing, and engineering.

Several private sector companies in Nepal provide training on O&M, among others to DOED staff. One such trainer is Homs Operation and Maintenance Services (Homs, nd). There is an international understanding of what O&M entails, and these firms provide training following this understanding. O&M addresses a limited set of economic, engineering, financial, and technical issues. Everything else, in particular the social human concerns centred around people that live in the project area, are understood as externalities and accordingly of no concern. A revised, broader, and more inclusive understanding of what O&M entails would be a good idea.

5 CONCLUSIONS

The arguments presented in sections 3 and 4 are based on the experience with working on the Nalgad Hydropower Project. Chances are high that the very same issues apply to all hydropower projects in Nepal, those under construction and those operating. Also, the larger the project the higher the chances that these challenges will be present.

Further, chances are high that all or most of these challenges are available also in hydropower projects elsewhere in the Himalayas, that is, in Bhutan, India, China, and Pakistan.^{10/}

Of the challenges listed above, this paper is above concerned with what can be referred to as soft human issues. Including communication, governance, inclusion, knowledge management, networking, participation, and sharing.

Finally, we argue for increased communication between the public sector on the one hand, and civil society on the other hand.

6 RECOMMENDATIONS

Two recommendations only. However, they represent, summarize, and expand upon several of the challenges listed above, and they are themselves related.

6.1 Networking

Increased emphasis on networking, which would support and further inclusion between all relevant stakeholders, is necessary to address several of the challenges mentioned above, and to support

^{10/} Data from India are available, but data from the other countries are as of yet not available. This will be included in a revised version of the paper.

sharing of information and knowledge, and to support learning. This will further support the two following recommendations.

Networking should also take place internationally, with the neighbouring countries in the Himalayas. The Himalayan region contains hundreds of hydropower project, partly under construction and partly operating. The public sector institutions responsible for these projects will have deep experiences to share of what works and what does not work.

6.1 Training

Training, first and foremost for the DOED staff that are seconded to hydropower project, is necessary. This is crucial in order to increase their formal competence, knowledge, and to understand the lives and cultures of peoples who live in the project areas, including especially indigenous peoples.

Such training should also be offered to members of NGOs and private sector companies involved in building and managing project.

Training modules should build upon, and expand upon, existing training on O&M organized by private companies. It should be considered if it is better that DOED organizes such training.

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