8 A CASE STUDY ON THE UPPER TAMAKOSHI HYDROELECTRIC PROJECT IN NEPAL

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(CPDE Asia Constituency)

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Introduction

The Upper Tamakoshi Hydroelectric Project (UTKHEP) in Dolakha District, north-central Nepal, was recently operationalised in September 2021 and is considered as a milestone energy project in the country. Initiated in 2007, UTKHEP is designed and implemented under a public-private partnership (PPP) with the government of Nepal and Upper Tamakoshi Hydropower Limited (UTKHPL). The project is supported with technical assistance from Japan and Norway, as well as private contractors from Norway, India, China, Germany and Austria. As the largest run-of-the-river hydropower plant in the country, it is able to generate 2,281 gigawatt hours (GWh) annually, helping solve the energy shortage in the country.

Country Context

Energy projects in the country are prioritised due to regular power cuts, as it is heavily dependent on India's supply. The lack of stable sources of energy serves as hindrance to the growth of the Nepalese economy, which seeks to become a Middle-Income Country (MIC) by 2030. The country was faced with political instability, which also hindered its development. The government is also accused of corruption and ineffectiveness in addressing the people's needs.

The COVID-19 pandemic also hit the country hard. The economy contracted by 1.9% in 2020, the first downfall after 40 years.[1] The pandemic urged the return of migrant workers to Nepal, which resulted in a decrease in remittances, the main source of the country's foreign exchange reserves.[2] With more than two out of five economically active populations losing jobs or having extended absence in work, women, young workers, and the ones involved in non-agricultural activities have been most affected.

In this context, the private sector is engaged by the government to invest in key sectors, such as hydropower. Through private sector investments on hydropower, there is an assumption that it would entice additional investments, activate production and generate jobs.[3] Public-private partnerships are promoted to encourage infrastructure development in key sectors. The PPP policy of Nepal was formulated in 2015 to institutionalise the practice. The Upper Tamakoshi Hydroelectric Project, considered to be Nepal's national pride, is one of the prominent examples of PPPs in the country.

Analysis of the implementation of Kampala Principles in PSE

Project Mapping Framework

Category	Definition
About	Situated in Dolakha district of North-Central Nepal, the Upper Tamakoshi Hydroelectric Project (UTKHEP) is the largest run-of-the-river hydropower plant with the capacity of 456 megawatts. The project produces around 2,281 gigawatt hours of electricity annually. The project has been in operation in full swing since September 2021. The Rolwaling Khola Hydroelectric project with the capacity of producing 20 MW (annually 105 gigawatt hours) is set to begin as the second phase expansion of this hydropower. The Upper Tamakoshi Hydropower Limited (UTKHPL) was established in March 2007 by the Nepal Electricity Authority (NEA) as the implementing company of the UTKHEP. At present, the company's Board of Directors consists of 6 full-time members (4 from NEA, 1 each from Employees Provident Fund and Nepal Telecom) and 2 invitee members (from the Citizen Investment Trust and Rastriya Beema Sansthan).[4] With this, the NEA, Nepal Telecommunication (NTC), Citizen Investment Trust (CIT) and Rastriya Beema Sansthan (RBS) hold the majority share (51%) of the project. According to the UTKHPL, the objective of the project is to reduce the supply and demand gap for energy, by providing additional power to the national grid. The power plant would also help stabilise the grid by aiding in meeting the daily peak demand. The project claims to benefit most sectors of the economy and population in Nepal. The primary beneficiaries would be energy users from residential, agricultural, commercial and industrial sectors, who would experience more reliable supply of electricity and fewer outages.
Modality	**Research, knowledge, and information sharing** - In 1985, while preparing a master plan for the Koshi Basin Water Resources Development, the Japan International Cooperation Agency (JICA) identified a 'TA-6' project close to the existing project site of the Upper Tamakoshi Hydroelectric Project. - During a study of the Himalayan region in 1999, an Austrian, Christian Ulhar, carried out a pre-feasibility study and concluded that the project would have an installed capacity of 120 MW. - Technical Assistance -In 2001, the first phase of feasibility studies was conducted by NEA with its own physical, financial, and human resources. In May 2005, the second phase was conducted by Norconsult AS and funded by the Norwegian government.

[1]Asian Development Bank. (2021, April). Nepal: Macroeconomic Update. https://www.adb.org/sites/default/files/institutional-document/699116/nepal-macroeconomic-update-202104.pdf.
[2]Pandey, L. (2022, May 13). Nepal's economy hammered by power outages. DW. https://www.dw.com/en/nepals-economy-hammered-by-power-outages/a-61789615.
[3]World Bank Group. (2018, November). Creating Markets in Nepal: Country Private Sector Diagnostic. https://www.ifc.org/wps/wcm/connect/cf66e8dc-f7c0-42b9-80ef-fc13920f89dd/CPSD-Nepal.pdf?MOD=AJPERES&CVID=nnmA7tu.
[4]Upper Tamakoshi Hydropower Limited. (n.d.). Introduction. https://utkhpl.org.np/.

Instrument	Funds generated through shares of the UTKHPL acquired by government institutions and public offerings[5] • Majority of shares (51%) held by: - NEA (41%) - Nepal Telecom (6%), - Rastriya Beema Sansthan (2%) - Citizen Investment Trust (2%) • 49% of shares up for public offerings: - Employees Provident Fund - Contributors and employees of Upper Tamakoshi Hydropower Limited - Local communities and the general public **Loans from:** • Employees Provident Fund • Nepal Telecomm • Citizens Investment Fund • Rashtriya Beema Sansthan • Government of Nepal
Programme Type	Public-private partnership
Project title	Upper Tamakoshi Hydroelectric Project (UTKHEP)
Duration	Start Date: March 2007 End Date: September 2021
Budget	NPR 35.29 billion (equivalent to USD 441 million) (excluding interest during construction) - Initial cost was NPR 49 billion, but swelled to NPR 86 billion[6] - Bank interest at NPR 32 billion, but was raised to 12%
Sector	Energy
Development Partners	• Nepal Electricity Authority (41%) • Nepal Telecom (6%) • Rastriya Beema Sansthan (2%) • Citizen Investment Trust (2%) • Public Share (49%) a. Employees of equity provider: 24% b. General Public: 25%
Type of private sector partners engaged	Large domestic, SME domestic, large transnational

[5]World Bank Group. (2019, April). Nepal: Energy Infrastructure Sector Assessment. https://documents1.worldbank.org/curated/en/592481554093658883/pdf/Nepal-Energy-Infrastructure-Sector-Assessment.pdf

[6]Poudel, K. (2021, December 11). Upper Tamakoshi Hydropower Project: A Jewel in the Crown. Spotlight Nepal. https://www.spotlightnepal.com/2021/12/11/upper-tamakosi-hydropower-project-jewel-crown/

Private sector partners-	Key Contractors • Norconsult • Lahmeyer • Sinohydro Corporation • Andritz Hydro • KEC International • Texmaco
Other development partners	N/A
Role of Partners	Nepal Electricity Authority (NEA): NEA is responsible for overseeing all project activities. NEA mobilised the physical, financial, and human resources during the first stage of the project. Nepal Telecom (NTC): Nepal Telecom provided funding and support in the preparation phase of Upper Tamakoshi Hydropower Project. NTC conducts regular project reviews and facilitates the implementation of the project. Rastriya Beema Sansthan (RBS): Oversees risk pooling and risk transfer, real financial services relating to insured losses, and intermediation in line with subsequent policy premiums. The RBS is responsible to mitigate some of the risks inherent to the project and oversee benefits to the national economy. Citizen Investment Trust (CIT): As the Upper Tamakoshi Hydropower Project prepared to hit the capital market with an initial public offering (IPO) worth Rs 518 crore, the CIT oversees the management of tasks relating to the shares.
Monitoring	Several governmental bodies monitor the project from their respective areas. This includes the Ministry of Forests and Environment that assesses the environmental impact of the powerplant. Public oversight also serves as one of the methods. The major financial stakeholders also share monitoring responsibilities for the project.
Results Framework	All six turbines and generators have been in full operation since September 2021. During the rainy season, the total electricity generation of Nepal exceeds the needs of the population and the economy. The whole country benefits in several ways from the surplus of electricity. The executing agency of the plant, UKTHPL, is considering a second expansion stage in the likes of the Rolwaling Khola Hydroelectric Project (RKHEP), which has an installed capacity of 20 MW. In addition to the 2,281 GWh annual energy from the UTKHEP, another 105 GWh would come from this new power plant. Ever since the project's commencement, experts have been involved in monitoring and planning as well as in construction contract management. They have reviewed the design of the transmission line and inspected the construction activities for all structures. Despite the difficult terrain and major damage to the construction sites caused by the severe earthquake of 2015, the project team has rigorously pursued its objective of meeting completion deadlines. The Upper Tamakoshi Hydropower Project has connected 456 MW of electricity generated from all its six units to the national transmission line from August 17, 2021. Under Upper Tamakoshi Hydropower Project, the 76 km Khimti-Dhalkebar transmission line is being tested. The new Khimti substation of 220 KV that is under-construction in Khimti is being tested.
Results	The results of the project can be traced from the official annual reports. https://utkhpl.org.np/annual-reports/
Evaluation	Suman Budhathoki (Author), 2019, The untold benefits from under construction "Upper Tamakoshi Hydroelectric Project 456 MW" in Nepalese Hydropower Sector, Munich, GRIN Verlag, https://www.grin.com/document/456441

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Kampala Principle 1: Inclusive country ownership

The project is entirely financed by domestic financial institutions and companies, but implemented with the private sector as contractors. The project also received technical assistance from the government of Japan and Norway in its planning and design stages. The majority share (51%) of the company is held by four public entities, namely, Nepal Electricity Authority (NEA), Nepal Telecom (NTC), Citizen Investment Trust (CIT) and Rastriya BeemaSansthan (RBS). The power plant is also considered as one of the priority projects of the government in order to address the energy crisis that hinders economic development.

Kampala Principle 2: Results and targeted impact

The Upper Tamakoshi project is directly aligned with Sustainable Development Goal 7 or Affordable and Clean Energy of the Agenda 2030. The project is aligned with the SDG targets that include doubling the global rate of energy efficiency and ensuring universal access to affordable, reliable and modern energy services.

Aside from its contribution to clean energy, the project has contributed to other areas of development. The project has had significant investment on infrastructure, transport, health and education. It has provided employment to hundreds of people, many of which are Nepalese youth who have mostly semi-skilled and unskilled backgrounds.

Kampala Principle 3: Inclusive partnerships

During the initial stages of the project, the government set-up the Upper Tamakoshi Peoples Concern Committee (UTPCC), composed of members of parliament, political party representatives, and civil society representatives. The UTPCC aimed to involve the general public in the Dolakha district with the project, to arrive at a consensus among the various stakeholders. The committee was responsible for mediating between the affected communities, the government and the contractors of the project.[7]

The UTKHEP also garnered funds by selling shares to the local communities and the general public. The UTKHL floated 15.89 million units of primary shares as part of its initial public offering (IPO), costing NPR 100 per share. Ten percent of its shares are offered to the affected communities of the project and 25 percent is open for the general public.

In March 2015, more than 800 employees of the Upper Tamakoshi Hydropower Limited held protests to demand that the company give them 500 shares in the plant. The same employees are members of the Painter, Plumber and Construction Workers Union, which revealed that UTKHL did not provide the workers with the same allotment of shares that it has extended to the employees of the project's lending institutions. Aside from this, workers have also raised issues of lack of compensation as well as the access to the road alignment in Singati Bazaar.[8]

In addition to the workers, affected locals from Singati, Dolakha district demanded more shares in addition to 70 shares per person allotted to them. The UTKHL initially allocated 10 percent, or 10.05 million shares, for the people of Dolakha district. Of the shares allocated, people from the most affected areas were to get 300 shares per person, while those from other regions were to get a maximum of 70 shares each.

[7]Ranjan, A. (2020). Water Issues in Himalayan South Asia: Internal challenges, disputes and transboundary tensions. Palgrave Macmillan.
[8]Manandhar, R. (2015, March 15). Locals launch protest; demand more shares. The Kathmandu Post. https://kathmandupost.com/money/2015/03/15/locals-launch-protest-demand-more-shares.

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The share allocation was finalised by the Tamakoshi Stakeholder committee represented by major political parties and stakeholders. The committee, however, later decided that the residents of the most affected areas, including the Bhimeshwor municipality, Suspachh-emawoti, Sundrawati, Sunkhani, Lamidanda, Bulung, Orang, Khare, Namdu, Bhirkot, Jafe, Malu, Shahare and Gairim-udi, would get more shares.

In order to voice their demands, the workers held a strike and affected communities protested by barricading the streets and preventing the vehicles from passing through. Political party representatives urged the workers and locals not to disrupt the construction work, pleading with the workers to end the strike. The UTKHL management, meanwhile, formed a committee to look into the demands of workers. [9]

Civil society organisations have participated in initiating discourse to represent different stakeholders. This has contributed in increasing public awareness of the project and ensures participation of various groups, including local communities in the consultation process.

Kampala Principle 4: Transparency and accountability

The official annual reports of the project have incorporated an audit report that provides details on its finances. The report is released to the public domain, providing citizens access to the project's financial records. The annual reports also provide an overall update regarding the outcomes of the project, which allows stakeholders to be informed about relevant matters. This practice has kept the public informed, allowing for open discourse regarding the project's outcomes and impacts.

Kampala Principle 5: Recognising, sharing and mitigating risks

The project covers 182 hectares of land, of which 66 hectares is agricultural, 78 hectares is forest land, and 38 hectares is barren. A total of 276 households were directly affected by land acquisition for construction of the project. This included the construction of an access road track and improvement of the existing road.

Among the affected households, 21 households were classified as seriously affected. Out of the 21, only 14 families were relocated, while others lost their land and property. One school located in the project site was also relocated to a safer area. While compensation was provided, other affected families raised that it was inadequate and lacking.

There were also disputes on the access to the road alignment in the Singati Bazaar. The locals wanted the road under construction to pass through the main market area, while the project feasibility study recommended that the road bypass the market. The Upper Tamakoshi Peoples Concern Committee (UTPCC) successfully mediated the dispute between the locals and project developers.[10]

[9]Centre for the Study of Labour and Mobility. (2015, March 27). Work partially resumes at Upper Tamakoshi hydro project site in Dolakha. https://www.ceslam.org/news/work-partially-resumes-at-upper-tamakoshi-hydro-project-site-in-dolakha.
[10]Ranjan, 2020.

CONCLUSION & RECOMMENDATIONS

The Upper Tamakoshi Hydroelectric Project (UTKHEP) is a crucial development project in Nepal, as it addresses the acute energy crisis impacting its economy and development. The project was pursued under a PPP by the government of Nepal and the Upper Tamakoshi Hydropower Limited, with technical assistance from donor countries and contracts with foreign private corporations. While the project encountered various problems in its implementation, the people were able to raise their claims, which the government and its partners were able to resolve.

With this, various lessons and recommendations can be heeded from the experience of the implementation of the UTKHEP:

1. The government of Nepal can declare clearer and more specific guidelines for public-private partnerships, especially in the policy released in 2015. The current legal and policy framework still currently has loopholes that could lead to the evasion of accountability of private sector partners. The policy must foster partnerships with micro, small and medium enterprises (MSMEs), who can have profound impact on development in developing countries. In terms of development projects, the government should ensure that development partners uphold the Kampala Principles.

2. The government of Nepal can have stronger regulatory measures to make the private sector responsible in incorporating sustainability and social responsibility in all of their activities. With these measures, they are able to exact accountability over corporations conducting business in Nepal. The government and private sector should be transparent and release timely and relevant information on the budget, timeline, progress and reports.

3. Genuine inclusive partnerships must be pursued with civil society actors. Civil society and community-based organisations, and affected communities must be involved in the planning, design, implementation, monitoring and evaluation process of the project.