



Project Funding Proposal

Hydroelectric Project in Panchthar District, Nepal

May 2026

1. Introduction and Objectives of the Proposal

SEED of LIGHT is a Swiss nonprofit organization founded in 2025. It funds and implements solidarity and sustainable development initiatives developed in collaboration with local communities. Today, it operates in rural areas of Nepal with a clear goal: to improve living conditions in a tangible and lasting way. This proposal outlines a micro-hydropower project aimed at providing clean electricity to four remote villages in the Panchthar District of eastern Nepal: Khetghari Village, Sapute Village, Yangsowa Village, and Fulpa Village. These communities, located in Lungarupa Village Ward No. 5, currently have no reliable access to electricity. The total estimated budget for the project is 4'293'740 NPR (21'898 CHF)¹, and we are seeking financial support to cover the full implementation cost.

2. Project Background

The four villages of Khetghari, Sapute, Yangsowa, and Fulpa are located in the Lungarupa Village Ward No. 5 of Panchthar District, eastern Nepal. Together, they are home to approximately 850 people across 105 households. Despite their proximity to each other, all four communities currently live without access to reliable electricity. The absence of electricity severely limits everyday life. Students are unable to study after dark, families cook and manage their homes without proper lighting, and access to basic services that depend on power remains out of reach. Like many remote mountain communities in Nepal, these villages face geographic isolation that makes connection to the national electricity grid economically unfeasible.

3. Context and Motivation

The relationship between SEED of LIGHT and these communities originates from the association's previous work in the Sankhuwasabha District. Between November and December 2025, SEED of LIGHT successfully completed a 2 kW micro-hydropower project in the village of Pawakhola, bringing reliable electricity to 21 families for the first time. That project was carried out in collaboration with Hydro Steels Company Pvt. Ltd., a Nepalese engineering firm with extensive experience in rural electrification.

¹Currency conversion from Nepalese Rupees (NPR) to Swiss Francs (CHF) was performed using the market exchange rate as of May 2026. The rate applied was: 1 NPR = 0.0051 CHF.

Following the successful completion of the Pawakhola project, Bahadur Singh Limbu of Hydro Steels Company – who served as the technical lead throughout that collaboration – approached SEED of LIGHT with a new request. Having observed firsthand the association’s commitment, technical rigor, and follow-through, he identified four villages in Panchthar District in urgent need of electrification and formally proposed a partnership to address it. The communities of Khetghari, Sapute, Yangsowa, and Fulpa have formally requested support through this channel, and SEED of LIGHT has agreed to take on the project. The proposed system will use local water resources to construct a 7 kW micro-hydropower plant, sufficient to serve all 105 households across the four villages. Implementation is planned for the second half of 2026, with the inauguration targeted for December 2026.

4. Technical Description

The hydroelectric plant is designed to supply electricity to four villages in the Panchthar District, serving 105 households with a combined population of approximately 850 people. The system will harness the water resources available in the area to power a Pelton turbine with a shaft output of 10 kW and an efficiency of 69%, connected to a synchronous generator rated at 7 kW continuous output (20 kVA, 230/400V, 50Hz, three-phase, efficiency 88%).

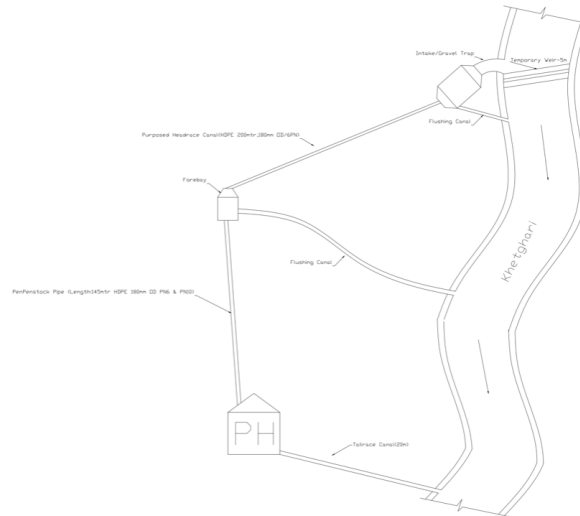


Figure 1: Hydraulic layout diagram.

Water is conveyed from the intake structures to a forebay tank through a canal pipe (HDPE, 180mm diameter, 200m length), and from the forebay tank to the turbine through a penstock pipe (HDPE, 180mm diameter, 145m total length). The design flow rate is 23 liters per second, with a gross head of 60 meters. The system includes intake accessories, gravel trap, coarse and fine trash racks, and an air vent pipe at the forebay.

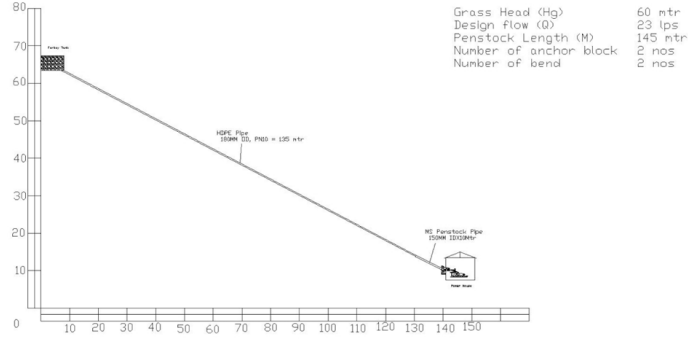


Figure 2: Hydraulic head layout diagram.

The electrical infrastructure includes a 7 kW three-phase electronic load controller (ELC) with jet deflector mechanism, a ballast tank, earthing sets, lightning arrestors, and a full distribution network with armoured cables connecting the powerhouse to each household. Each home will be connected to the local grid and equipped with lighting and basic power sockets.



Figure 3: Electrical distribution network layout.

The powerhouse civil works include the construction of the power house structure using cement, reinforcement bars, and CGI sheet roofing. All materials will be transported to the road head in Wahun, Panchthar, and carried to the installation sites by local porters.

5. Estimated Project Cost

For a detailed breakdown of the estimated costs, please refer to the attached budget document provided by Hydro Steels Company Pvt. Ltd. The total amount will be paid in accordance with

Budget Item	Amount NPR	Amount CHF²
A. Civil components	71'625	365
B. Mechanical components	1'122'185	5'723
C. Electrical components	2'268'350	11'568
VAT (13%)	450'080	2'295
D. Transportation to road head	194'000	989
E. Electromechanical installation	187'500	956
Grand Total	4'293'740	21'898

Table 1: Project budget summary

² Currency conversion from Nepalese Rupees (NPR) to Swiss Francs (CHF) was performed using the market exchange rate as of May 2026. The rate applied was: 1 NPR = 0.0051 CHF.

contractual terms to be agreed upon with Hydro Steels Company prior to project launch. The estimated costs presented above are based on current market prices and may be subject to variation due to fluctuations in material costs, exchange rates, or unforeseen logistical challenges during implementation.

6. Deliverables and Goals

The primary goal of the project is to provide stable, clean, and affordable electricity to four villages in the Panchthar District. This will improve the overall quality of life and enable access to basic services such as lighting and power for all 850 inhabitants across 105 households.

6.1 Specific goals include:

- Eliminate energy poverty in Khetghari, Sapute, Yangsowa, and Fulpa by providing reliable electricity to approximately 850 inhabitants.
- Enable evening study and household activities through electric lighting across all 105 homes.
- Create job opportunities and local income through the involvement of local porters and technicians during construction.
- Build long-term local capacity for the operation and maintenance of the hydropower system.

6.2 Project deliverables:

At the end of the implementation phase, the following deliverables will be completed:

- One fully operational micro-hydropower plant with 7 kW capacity, built in partnership with Hydro Steels Company Pvt. Ltd.
- Connection of 105 households across four villages to the local grid system, including house wiring with lighting and power sockets.
- Basic training provided to local operators for turbine maintenance and troubleshooting.

- Local employment generated through the use of local porters and labor during construction and logistics.
- Maintenance plan and documentation for the long-term operation of the plant.

7. Conclusion and Funding Request

This project offers a concrete and proven solution to bring electricity to four isolated communities in Panchthar District. Building on the successful experience of the Pawakhola project, SEED of LIGHT and Hydro Steels Company have the technical know-how, the local relationships, and the operational framework to deliver this result. The technology is appropriate, the need is urgent, and the implementation path is clear. What remains is the financial support required to launch and complete the work. Through this proposal, we formally request your support to cover the full implementation cost of 4'293'740 NPR (21'898 CHF). Your contribution will directly enable the delivery of clean, stable, and renewable energy to approximately 850 people across four remote communities, improving education, quality of life, and long-term self-reliance.

We welcome the opportunity to discuss this proposal further and explore how your support can bring light and opportunity to the villages of Panchthar.

Contacts

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