

CURRICULUM VITAE

Nirmal Raj Joshi



PROFESSION: Civil Engineer
CURRENT STATUS: PhD Student
DATE OF BIRTH: December 21, 1985
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EDUCATION:

- Phd in Civil and Environmental Engineering (2018-ongoing), Research topic: Numerical simulation of deteriorated structures
- Masters in Civil and Environmental Engineering (2013-2015), specialization: structural material, Saitama University, Japan
- Bachelor in Civil Engineering, (2003-2007), Pulchowk Campus, Institute of Engineering (IOE), Tribhuvan University, Nepal
- High School (10+2) (2001-2003), Science (Mathematics), New Horizon Higher Secondary School, Higher Secondary Education Board (HSEB), Nepal
- School Leaving Certificate (SLC) (2001), New Horizon English Boarding School, Nepal

KEY QUALIFICATIONS:

- Structural analysis, design and detailing
- Hydropower system design of civil components
- Analysis and design of water supply system
- 2D and 3D Drafting
- Concrete technology
- Engineering management and scheduling

MEMBERSHIP OF PROFESSIONAL SOCIETIES:

- Registered Engineer - Nepal Engineering Council (Reg. No. 5342 "Civil")
- Registered Member - Nepal Engineering Association (Reg. No. 10022)
- Registered Member- Japan Society of Civil Engineers (Reg. No. 201400085)

EXPERIENCE :

Oct 2018- till date **PhD Student at Saitama University, Japan.**
 Research topic: Numerical analysis of deteriorated concrete structures.

July 2016 to Sept 2018 **Manager of Engineering at Sanima Hydro and Engineering Pvt. Ltd.**
 Responsible for managing technical human resource, assign task and keep track of all ongoing projects. Also involved as design leader for various engineering projects. Fully responsible for setting up and running the first branch office from April 2018.

Team leader for prefeasibility study to upgrade Khimti-1 Hydropower Project (60 MW) (Client: Himtal Power Limited, Nepal) [January 2018]

Responsible for site verification, design, cost estimate and preparation of pre- feasibility study report to upgrade 60 MW project to 70 MW by adding a peaking pond. The project has been suspended.

Team member for development of Hydropower Study Guidelines (Client: DoED, Government of Nepal) [2017]

Responsible for literature review and drafting of revised National Hydropower Design Guidelines along with team of experts.

Team member for feasibility study of Kankai Multipurpose Project for Government of Nepal (Client: DoED, Government of Nepal) [2017 - ongoing]

Responsible for site verification, design, cost estimate to prepare feasibility study report of multipurpose project (irrigation, hydro, water navigation). The project consists of 80 m high dam and reservoir of 55 sq. km.

Project Engineer for Feasibility study of Jum Khola Hydropower Project (60 MW) (Client: Sanima Hydropower Ltd., Nepal) [November 2017 -ongoing]

Responsible for review, site verification, investigation and feasibility study report preparation. The project is under final stage for carrying out Power purchase agreement with Nepal Electricity Authority.

Energy Auditor for Lower Marshyangdi Hydropower Project (90 MW) (Client: DoED, GIZ Nepal) [2016]

Responsible for leading a team of engineers to measure energy efficiency of the project. This included measurement of hydraulic efficiency of project and electrical measurement. The report was presented to NEEP-II program hosted by GIZ Nepal.

Design team leader for Likhu Khola A hydroelectric Project (24.2 MW) (Client: Swetganga Hydropower Ltd., Nepal) [2016-2017]

Responsible for site verification, review of feasibility study, detail design and tender document preparation. The project was handed to new project engineer in 2017. The project is under construction and scheduled to be completed in 2019.

Setting up of new branch office for Sanima Hydro and Engineering Pvt. Ltd. [2018]

Responsible to set up and operate a new branch office with ~20 staffs. I was assigned as a branch head. The branch office was created to expand the head office. This was the first time any engineering consulting company had set up a branch in Nepal.

July 2015-July 2016

Assistant Manager at Sanima Hydro and Engineering Pvt. Ltd.

Responsible for managing technical human resource, assign task and keep track of all ongoing projects. Also involved as design leader for various engineering projects.

Senior designer for office building of Sanima Hydro and Engineering Pvt. Ltd. [2015-2016]

Responsible for detailed structural and architectural design and procurement coordination, material selection and construction of office building. The building is double story with floor area of 7200 square feet. The building uses structural steel and prefabricated boards.

Rehabilitation of Sunkoshi Small Hydropower Project (2.5 MW) (Client: Sanima Hydropower Ltd., Nepal) [2015-2016]

Responsible for rehabilitation of the powerhouse and penstock that was damaged due to the 7.8 M scale earthquake. The powerhouse has been

- retrofitted and penstock has been replaced. The project is under operation now.
- May 2015-June 2015 **Senior Civil Engineer at Sanima Hydro and Engineering Pvt. Ltd.**
Responsible for checking design and preparation of various technical documents.
- Preparation of operation and maintenance manual for Mai Hydropower Project and Mai cascade hydropower project [2015]**
Responsible for preparing operation and maintenance manual for operation of civil components followed by training to the staffs of powerplant.
- April 2013-March 2015 **Graduate Student at Saitama University, Japan**
- March 2008 – April 2013 **Sanima Hydro and Engineering Pvt. Ltd.**
- Design Team member of Mai Hydropower Project (22 MW) , Illam (Client: Sanima Mai Hydropower (P.) Limited).**
Responsible for structural design, detail drafting, bill verification and inspection of construction site of the project. The project has started generating electricity since 2014. The major responsibility assigned was to design hydraulic structures of headworks such as flood wall, intake, settling basin, gravel trap, undersluice, hydraulic gates etc and powerhouse. (web: www.maihydro.com).
- Design leader of North Mathiyoa (5MW), Kenya (Client: Graeme Watson Associates, Nairobi, Kenya [2012]**
Responsible for field visit and project layout at the site to prepare feasibility report. The feasibility study of the project has been completed. The project is under detail design.
- Design leader of Don-Xom Microhydro Project (40kW), Laos (Client: Grenzone Co. (Thailand)) [2013]**
Responsible for field visit and project layout at the site. After site visit, hydraulic calculations were done followed by structural design, detail drafting, estimation and preparation of specification of the project. Also assisted client to manufacture and transport cross flow turbine from Nepal to Laos. The project is under operation since 2013.
- Design Team member of Kipsonoi Hydropower Project (3 MW-5MW) , Kenya (Client: Graeme Watson Associates)**
Responsible for field visit, project layout and inception report preparation. The project is under optimization study. Once the optimization is completed, drafting, estimate and contract document will be prepared for the project.
- Design Team member of Middle Trishuli Hydropower Project (55 MW) , Nuwakot (Client: Perfect Energy Development (P.) Limited)**
Responsible for structural and hydraulic design of headworks and waterways, drafting and inspection of the project site for feasibility study. This project is under consideration for detail design.
- Design Team member of Khanabad Hydropower Station – Afghanistan (Client: Integration Environment and Energy)**
Responsible for structural analysis, reinforcement design and drafting of powerhouse.
- Design Team member of Topchi Small Hydropower Project (1 MW), Afghanistan**
Responsible for structural design of headworks and waterway structures. This project was revised to produce 500 KW and is under redesign phase.

Other similar projects worked on

- Design Team member of Junbesi Khola Hydropower Project – 5.2 MW (*Client: Dovan Hydropower (P.) Limited*).
- Thotane Khola Small Hydropower Project – 740 KW (*Client: Dovan Hydropower (P.) Limited*)
- Ghami Mini Hydropower Project – 320 KW (*Client: National Trust for Nature Conservation /ACAP*), Consultant: North Engineering Co. P. Ltd in association with Sanima Hydro and Engineering P. Ltd.
- Bhairabkunda Khola Hydropower Project – 3.0 MW (*Client: Nikhil Jalashakti (P.) Limited*)

Structural designer of headworks, waterways and powerhouse of following projects on part time basis

- Upper Maiwa Hydropower Project (17.85 MW) [2018]
- Nyadi Hydropower Project (7.1 MW) [2017]
- Miya Khola Hydropower Project (996 KW)[2015]
- Theule Khola Hydropower Project (1 .50 MW) [2014]
- Chake Khola Hydroelectric Project (2 .83 MW) [2013]
- Upper ChakuA' Hydroelectric Project (22.20 MW) [2012]
- Upper Mailung 'A' Hydropower Project (64.2 MW) [2013-2016]

Additional experience include

- Design of Conference hall for Summit Lodge at Kurintar Nepal [2016]
- Valuation of River Summit Lodge at Kurintar Nepal for Aabiral Engineering and Construction Pvt. Ltd.[2015]
- Insurance settlement for Everest Summit Lodge which was destroyed due to Gorkha Eathquake, Solukhumbu [2015]

Bill verification and inspection of construction / construction supervision

- Lower Modi-1 Hydropower Project (10MW) (client: Citizens Bank Pvt. Ltd.)
- Siprin Khola Hydropower Project (9.6 MW)(Client: Sanima Bikas Bank Pvt. Ltd.)
- Bhairabkunda Khola Hydropower Project (3MW) (Client: Sanima Bikas Bank Pvt. Ltd.)

Other related experience:**Field installation of hydrological and metrological stations for Upper Tamor Hydropower Project (415 MW) – Taplejung (2010)**

Responsible for site selection and installation of manual and automatic gage station and metrological station (automatic rain gauge and temperature recorder) along the catchment of Tamor River (Western Nepal with a Swiss consultant in 20 days field trip).

Trainer for STAAD.Pro

Responsible for preparation of course material and teaching for staffs of Sanima Hydro and Engineering Pvt. Ltd. to use structural analysis software Staad.Pro 2006. Similarly, training provided to students at private institute to use the software. Staad.Pro is essential for structural analysis.

Training provided to the staffs of Lower Likhu Hydropower Project and Mai Hydropower Project for sediment sampling (PSD and Swidish Hand Held Sampler).

ORGANISATIONAL SKILLS:

- Work planning and human resource scheduling
- Responsible to coordinate communication between field team and design team for national and international clients.
- Responsible for organizing recruitment and supervision of civil engineers.

SOCIAL SKILLS:

- Committee member for development of National Guidelines for design of Powerhouse by Government of Nepal (2016-2018)
- Regular blogger on technical knowledge and travelling. (<http://blog.nirmaljoshi.com.np>)
- Participant in bicycle rally from Kathmandu to Dolkha (150 Km) for Tourism year 2011 with cyclist Mr. Puskar Shah.
- Participant in tree plantation program organised by student of local environment preservation club (2012).
- Administrator of social online groups in facebook ("Civil Engineering Picture Gallery ~11000 members";etc)

PARTICIPATION:

- A short course on design of hydropower water conduit (2017 March, the Netherlands)
- Workshop in design of fish passage, organized by IFC USAID (2016, Nepal)
- National Conference by Nepal Tunnelling Association on Risk Management and Contractual practise (2016, Nepal)
- Paper presentation in JSCE International Symposium for researchers (2014, Japan).
- International Workshop for Young Civil Engineers, organized by Japan Society of Civil Engineers (JSCE, 2014 Japan).
- Joint seminar between Tohaku University and Saitama University (2014, Japan)
- One day course on SCOUR OF DAM DOWNSTREAM OF DAMS conducted Dr. George Annandale (Goldberg Associates Inc, USA). The event was organized by Hydro Lab, Nepal and Nepal Hydropower Association.
- Civil Engineering Student's Society (CESS) exhibition 2006, Automatic Sluice Gate, first prize.
- CESS Exhibition 2005, Modelling of Urban Drinking Water Treatment Plant.

OTHER ACADEMIC QUALIFICATIONS:

- Shrinkage behaviour of Cementitious materials (Dr. Asamoto Shingo, Saitama University, Japan)
- Highway bridge design (Prof. Yoshiaki OKUI; Saitama University, Japan)
- Trail Suspension Bridge Design. (Mr. Narendra Lal Joshi, Institute of Engineering, Nepal)
- Finite Element Analysis 1D and 2D. (Dr. Jagat K. Shrestha, Institute of Engineering, Nepal)

AWARDS:

- Monbukagakusho Scholarship by Japanese Government (MEXT) to study PhD (2018)
- Fellowship from the Orange Knowledge Programme, formerly known as NFP, by the Netherlands Government (2017)
- Excellent Master's Thesis Award (Saitama University-2015)
- Asian Development Bank Scholarship Award to study of Masters degree in Japan (2013)
- Nepal Government Scholarship Award to study Bachelor of Engineering(2003)

COMPUTER SKILLS:

- Windows/Linux
- Structural analysis and design software: Code-Aster, Salome Meca, STADD, Diana, SAP
- Drafting software: AutoCAD, Land Development, Civil Design, Google Sketchup.
- Arc GIS Basic, QGIS
- Hydraulic software: HEC-RAS, EPANET.
- Microsoft Office package: MS Project , Excel, Word, etc.
- Programming: Matlab, FORTRAN, JAVA, PHP, MYSQL Database, etc.

LANGUAGES:

	<u>Speaking</u>	<u>Reading</u>	<u>Writing</u>
English	Good	Good	Good
नेपाली (Nepali)	Native	Native	Native
हिन्दी (Hindi)	Intermediate	Intermediate	Intermediate
日本語(Japanese)	Elementary	Elementary	Elementary

HOBBIES:

- Computing
 - Hiking and Travelling
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Reference

- **Mr. Ajoy Karki** (Director, ajoy.karki@gmail.com; Sanima hydro and Engineering Pvt. Ltd; , Nepal)
- **Dr Asamoto Shingo** (asamoto@mail.saitma-u.ac.jp, Saitama University, Japan)

Updated: May 2019