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ENVIRONMENTAL IMPACT ASSESSMENT REPORT

for

ELECTRICITY TRANSMISSION PROJECT

**Lapsiphedhi-Ratmate-New Hetauda, Ratmate-New Damauli-New Butwal-Nepal India
Border 400 kV Transmission Line and Ratmate, New Damauli, and New Butwal 400
kV Substations**

(Bagmati, Gandaki and Province 5)

VOLUME—II: Annexes

Submitted to:

GOVERNMENT OF NEPAL

Ministry of Forests and Environment

through

Department of Electricity Development

and

Ministry of Energy, Water Resources and Irrigation

Submitted by:

GOVERNMENT OF NEPAL

Ministry of Finance

Millennium Challenge Account Nepal

Yak & Yeti Complex, Durbar Marg, Kathmandu, Nepal

Prepared by:

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Supported by

Environmental Resources Management (ERM)/Power Engineers, Inc.

(with contribution from TMS/NESS)

September 2020



Signature



1/10/20

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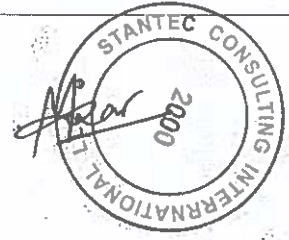
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ANNEX A: PROJECT TEAM CVs



Annex A Table of Contents

SN.	NAME	POSITION	Signature
1	David Blaha	Team Lead	<i>David W. Blaha</i>
2	Madhukar Khadka	EIA Specialist	<i>Madhukar</i>
3	Toran Sharma	Geologist	<i>Toran</i>
4	Arun Venkataraman	International Biodiversity Specialist	<i>Arun</i>
5	Mukesh Chalise	Wildlife Specialist	<i>Mukesh</i>
6	Jyoti Gajurel	Flora Specialist	<i>Jyoti</i>
7	Tej Basnet	Fauna Specialist	<i>Tej</i>
8	Neena Singh	International Resettlement Expert	<i>Neena Singh</i>
9	Rabin Dhakal	Resettlement Expert	<i>Rabin</i>
10	Rutuja Tendolkar	International Resettlement Specialist	<i>Rutuja</i>
11	Srijana Bhattarai	International Stakeholder Engagement Lead	<i>Srijana</i>
12	Chandra Tripathee	Cultural Heritage Specialist	<i>C. Tripathee</i>
13	Ramu Subedi	Forestry Specialist	<i>Ramu</i>
14	Salil Devkota	Environmental Engineer	<i>Salil</i>
15	Jayakrishna Vasam	International GIS Specialist	<i>V. J. Vasam</i>
16	Pawan Ghimire	GIS Specialist	<i>Pawan</i>
17	Bimal Subedi	Nepal Legal Specialist	<i>Bimal</i>
18	Mangala Karanjit	Stakeholder Engagement Specialist	<i>Mangala</i>
19	Sumati Bhatia	International SIA Lead	<i>Sumati</i>
20	Selina Pradhan	International Project Coordinator	<i>Selina</i>
21	David Nicholson	International Biodiversity Specialist	<i>David</i>

SN.	NAME	POSITION	Signature
22	Michael Mangiante	International GIS Specialist	
23	Akshita Misra	International SIA Specialist	
24	Prajna Singh	International SIA Specialist	
25	Swasti Budhathoki	Stakeholder Coordinator	
26	Hathan Mahato	Bird Expert	
27	Hiru Lal Dangaura	Bird Expert	
28	Jyotendra Thakuri	Bird Expert	
29	KP Yadav	Forestry Expert	
30	NP Yadav	Forestry Expert	
29	Lila Raj Paudel	Forestry Expert	







David Blaha

Principal Partner
Power Sector

David Blaha is a principal partner with ERM based in Bangkok, Thailand, after having spent most of his career in Washington D.C. He has extensive experience in applying international good practice (e.g., IFC Performance Standards and Equator Principles) for Environmental and Social Impact Assessments (ESIA), Management Plans (ESMP), and Management Systems (ESMS). He specializes in assisting clients in securing project financing, obtaining host country regulatory approvals, building the social license to operate, and integrating sustainability into project design. He specializes in managing environmental and social risks for large (>\$1 billion CAPEX), complex, and often controversial projects. He has worked in over 45 countries throughout Asia, Africa, Eastern Europe, Latin America, Caribbean, and North America.



Experience: 37 years of experience with managing environmental and social risks of power projects, especially hydropower. He is experienced with all types of dams, project operations, locations, sizes (up to 1800 MW), and issues (e.g., fish passage and movement, critical habitat, environmental flows, water quality, sediment transport, physical resettlement, economic displacement and effects on livelihoods and downstream water uses, FPIC).

Email: david.blaha@erm.com

LinkedIn: <https://www.linkedin.com/in/david-blaha-2a24224/>

Education

- Master of Environmental Management, Duke University, NC, 1981
- Bachelor of Arts, Biology, Gettysburg College, PA, 1976

Professional Affiliations and Registrations

- American Institute of Certified Planners, 1986
- International Association of Impact Assessment
- American Planning Association
- International Hydropower Association
- National Association of Env. Professionals

Languages

- English – native speaker
- Spanish - basic

Fields of Competence

- Environmental and social impact assessment applying the IFC Performance Standards, World Bank Safeguards, and Equator Principles
- Water resources, including water supply planning and water quality management. Analyses of sources, quantities, types, transport, and fate of pollutants.
- Wetland ecology, including wetland delineation, functional assessments, mitigation design, permitting, and protection planning.

Key Industry Sectors

- Power
- Oil & Gas
- Mining
- Infrastructure and Land Use

Training

- Hydropower Sustainability Assessment Protocol, by the International Hydropower Association, July 2007.

Publications and Presentations

- *International Best Practice for Hydropower Development* - chair for thematic session at International Association of Impact Assessment (IAIA) Conference in South Africa, May 2018.
- *Cumulative Impacts of Hydropower Projects* – invited speaker regarding river basin CIA and determining significance of cumulative impacts at IFC-sponsored workshop, Kathmandu, Nepal, January 2018.



Key Projects - International

Trishuli River Basin Cumulative Impact Assessment, Nepal. Co-Project Director for conducting a CIA of the Trishuli River Basin for the IFC. Evaluating effects of potentially over 30 hydropower projects within the basin, in combination with other proposed infrastructure projects and climate risks. Will provide support in developing a Trishuli Basin Co-Management Platform to foster basin-wide, long-term collaboration between the private sector and the government in managing E&S impacts.

Upper Trishuli Hydropower Project, Nepal
Co-Project Director for preparing a summary, non-technical ESIA for the 216 MW Upper Trishuli-1 HEP, including updating the project descriptions and project impacts to reflect the effects of the 2015 Nepal earthquake, including an updated social baseline, ESMS, and ESMP, on behalf of the IFC, WB, ADB, AIB, and other lenders.

Upper Karnali Hydropower Project, Nepal
Senior Project Advisor and technical lead for cumulative impact assessment supporting the completion of a Supplementary Environmental and Social Impact Assessment (ESIA) and associated Management Plans to bring the 900 MW hydropower project into compliance with IFC Performance Standards on behalf of the Project Sponsor (GMR) in coordination with the IFC.

Poko Hydropower Project, Indonesia
Team Lead for preparing an ESIA for a proposed 128 MW HEP on the Mamasa River in Indonesia on behalf of the World Bank. Key issues include cumulative impacts (especially associated with the Bakaru I and II HEP which are planned immediately downstream), and effects on fish and livelihoods.

Alto Maipo Hydropower Project Environmental and Social Due Diligence, Chile. Project Director for preparing an Environmental and Social Due Diligence (ESDD) for the IDB, IFC, and OPIC for a proposed 531 MW run-of-river development near Santiago, involving substantial tunneling and 17 km of transmission lines. Subsequently hired to provide construction phase monitoring support and evaluation of Project effects on recreational boating in the Rio Maipo on behalf of the lenders.

Tanintharyi River Basin Screening Analysis, Myanmar. Senior Technical Advisor screening the environmental and social risks for seven potential hydropower projects in southeastern Myanmar for a confidential client.

SIEPAC Construction Phase Monitoring, Central America. Project Director for construction phase environmental and social monitoring on behalf of the IDB for the SIEPAC transmission line project in Panama, El Salvador, and Guatemala.

Geothermal Power Project ESIA, St. Vincent
Project Director for a 15 MW geothermal power plant ESIA in St. Vincent for the Inter-American Development Bank and the Caribbean Development Bank. Key issues were effects on the St. Vincent Parrot, an IUCN-listed endangered species and adequacy of water supply.

Laguna Colorada Geothermal Project, Bolivia
Project Director for environmental review of a proposed geothermal Project in a protected area in Bolivia for the IDB.

Proyecto Ciclo Combinado Punta del Tigre B, Uruguay. Project Director for ESS for combined cycle gas-fired power plant in Uruguay.

Boca Chica Power Plant ESDD, Dominican Republic. Project Director for an ESDD of a proposed 76 MW combined cycle gas-fired power plant proposed by LS Energia Dominicana near Boca Chica, DR. ERM specifically evaluated air emissions, noise, and potential site contamination associated with the power plant for the IIC.

Cochrane Coal-fired Power Plant ESDD, Chile
Prepared Environmental and Social Due Diligence (ESDD) on behalf of lenders (KEXIM, JICA) for an AES proposed \$1.4B, 236 MW net coal fired power plant using pulverized coal boiler technology, along with port and transmission line improvements, in Mejillones, Chile.

Sanga River Watershed Management TOR, Cameroon. Project Director for preparing a Terms of Reference for a Sanga River Watershed Management Study on behalf of the IFC to support the 420 MW Nachtigal Hydropower Project.



Sounda Gorge Hydropower Alternatives Terms of Reference, Republic of the Congo. Project Director for preparing a Terms of Reference on behalf of the IFC for an innovative program to evaluate potential alternatives to a proposed hydropower project in Sounda Gorge, which poses a variety of biodiversity and indigenous peoples issues.

Kenie Hydropower Project Expert Review, Mali Project Director for an expert assessment of the proposed environmental flow and fish passage design for the 42 MW Kenie HEP on the Niger River for the IFC.

IFC InfraVentures Support. Project Director for preparing a standard Terms of Reference for IFC InfraVentures to provide guidance for Project Sponsors and their consultants in preparing aquatic and riparian baseline studies to comply with the IFC Performance Standards.

Canbalam Hydropower Project, Guatemala. Project Director for an ESDD review per EP and IFC PS for the lenders (CIFI) of a 5 MW run-of-river hydropower project located in traditional lands of indigenous people. ERM was complimented on the quality of our deliverable, which facilitated lender decision making.

Xacbal Hydroelectric Project, Guatemala. Project Director for environmental and social due diligence review of a 94 MW hydropower and 125 km transmission line project on the Xacbal River in northern Guatemala for the Inter-American Investment Corporation (IIC). Key issues focused on ecological base flows, compensation for land acquisition, community investment program, and overall project sustainability.

Pando – Monte Virio Hydropower Project, Panama. Project Director for construction and operation phase monitoring of an 83 MW hydropower project with a 19-km transmission line to ensure project complies with lender requirements, IFC performance standards, Panamanian regulations, and the project's E&S Management Plan and E&S Action Plan on behalf of the lenders, which include the IDB, IFC, and GED.

Porce IV Hydropower Project, Colombia. Project Director for preparing an Environmental and Social Strategy (ESS – precursor to full ESDD) for the IDB for a controversial 405 MW hydropower project on the Porce River. Key issues include the cumulative effects of four hydropower projects in series along the Porce River, potential for impacts to critical habitat, and the potential resettlement of over 5,000 artisanal miners.

Chaglla Hydropower Project, Peru. Project Director for development of an Environmental and Social Strategy document for a 406 MW hydropower project with a 137-km transmission line. This documentation is required by the IDB as part of project financing.

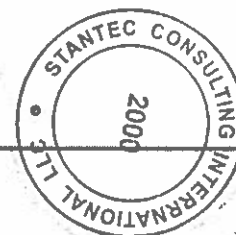
Chacayes Hydroelectric Project, Chile Project Director for conducting an Environmental and Social Due Diligence (ESDD) in accordance with the EP on behalf of the lenders (Credit Agricole) for a 80 MW hydropower project in Chile. Also hired to conduct construction monitoring.

Batang Toru Hydropower Project, Indonesia Served as Senior Advisor and Reviewer for the 500 MW Batang Toru HPP/22-km, 275 kV transmission line ESIA, with a focus on biodiversity issues and the environmental flow analysis.

Bajo Frio Hydropower Project, Panama. Project Director for conducting an ESDD review per IFC PS, EP, and World Commission on Dams Guidelines for a 58 MW hydropower project on the Chiriqui River in Panama on behalf of the lenders (FMO, DEG, DnB NOR Bank ASA).

Hydropower Sustainability Assessment Protocol. America's lead for an assessment of opportunities to expand the use of the HSAP for the International Hydropower Association.

Nicaragua Grand Canal ESIA, Nicaragua Project Director for the world's largest civil works project, of the proposed 270 km long canal linking the Pacific and Atlantic oceans designed to accommodate the world's largest ships at a cost of >\$50B. Responsible for overseeing route selection, coordination with engineering team, supporting stakeholder engagement, maintaining



project schedule, and producing an ESIA consistent with international standards.

Watershed Management in El Salvador.

Invited by the U.S. State Department as the principal speaker for an Earth Day conference on integrated watershed management and sustainable development in El Salvador. Participants in the conference included federal ministry representatives, NGO leaders, academics, and the media.

Special Consultant to Chile.

Invited by the U.S. Embassy in Chile to assist the Chilean government in implementing new national environmental impact assessment regulations. Reviewed the NEPA process in the U.S. with CONOMA (Chilean equivalent of EPA), business leaders, academics, and environmental interest groups. Much of the discussion focused on assessing the environmental effects of hydropower projects such as the Panque Project on the Rio Bio Bio.

East Iceland Sustainability Initiative. Iceland Project Director for project assessing the sustainability of a controversial 690 MW hydropower and aluminum smelter project in a rural area of Iceland. Assisting Alcoa in the development of an overall corporate sustainability framework, as well as specific environmental, social, and economic indicators and metrics, and an Environmental Monitoring Plan.

Nam Sane 3 Hydroelectric Project, Lao PDR.

Technical Advisor for an Initial Environmental Examination of a proposed 85 MW hydropower project in rural northeast Lao PDR. Key issues included resettlement of approximately 2,000 people and effects on downstream fisheries and villages.

Kalivac Hydroelectric Project, Albania

Senior technical advisor for an ESIA for a proposed 100 MW store and release hydropower project with a concrete face rockfill dam on the River Vjose in southern Albania. This will be the first dam on the river so key issues included effects on upstream fish passage, environmental base flows, sediment transport, resettlement, and downstream water users.

Aluminum Smelter/Hydropower Project EIA, Greenland Project Director for development of ESHIA for an integrated hydropower (2 developments totaling 650 MW), transmission line, aluminium smelter, and port complex in southwest Greenland. Coordinating with Greenland Home Rule Government on a Strategic Environmental Assessment, overseeing baseline environmental and social studies, managing stakeholder engagement program, and integrating a sustainability initiative into the ESHIA process.

Santa Rita Hydropower Project, Guatemala. Project Director for a social due diligence review of the 20 MW run-of-river hydropower project on the Icbolay River on behalf of Actis.

Renace II Hydropower Project, Guatemala. Project Director for development of an Environmental and Social Due Diligence for a 114 MW run-of-river hydropower project along the Rio Cahabon on behalf of CIFI.

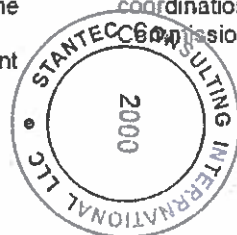
Mt. Coffee Hydropower Project, Liberia. Project Director for providing multi-year support to the U.S. Millennium Challenge Corporation for the rehabilitation of the 88 MW Mount Coffee Hydropower Project.

Nkula Hydropower Project, Malawi. Project Director for providing multi-year support to MCC for the rehabilitation of the Nkula hydropower project and transmission/distribution upgrades.

Key Projects – United States

St. Lawrence-FDR Project EIS, USA

Deputy project manager for third party EIS with FERC, NYSDEC, and NYPA for relicensing of one of the largest (912 MW) hydroelectric projects in the east. Coordinating innovative Cooperative Consultation Process involving all major stakeholders. Key issues include: native-american concerns, water level fluctuations, return of surplus lands, payment-in-lieu-of-taxes, passage of American eel, and cumulative impacts. Close coordination with the International Joint Commission.



Clackamas River EIS, OR, USA.

Project Coordinator for third party EIS contract for the 167 MW Clackamas project for Portland General Electric using the FERC collaborative process option. Key issues are endangered salmonids and U.S. Forest Service 4 (e) authority.

Buckeye Wind Project EIS, Ohio. Senior Technical Advisor and author of the cumulative effects assessment for a 3rd Party EIS for a 250 MW windfarm in Ohio on behalf of the USFWS. The EIS was triggered by the need for an Incidental Take Permit (ITP) for impacts to the Indiana bat, a federally listed endangered species. If issued, this ITP would be the first issued for Indiana bats for a windpower project in the US.

Santee Cooper Property Management Master Plan, USA

Project Director for development of a comprehensive land use master plan, shoreline management plan, and property management strategy for approximately 32,000 acres of land surrounding two hydropower reservoirs.

Upper Penobscot River EIS, Millinocket, ME. Coordinated engineering, economic and planning elements of EIS for the relicensing of 2 hydroelectric projects totaling 93 MW on the Penobscot River for FERC. Major issues included shoreline management for aesthetics and recreation, and whitewater boating.

Lake Gaston EIS, NC, USA.

Prepared an EIS for a proposed 60 mgd interbasin transfer of water from the Roanoke River to meet the city of Virginia Beach's potable water demands. Used HEC-5 to evaluate potential impacts on downstream flow, water quality, fisheries, and economic development. Evaluated impacts on shortnosed sturgeon, an endangered species.

Yadkin Rule-Curve, NC, USA.

Project manager for study evaluations proposed modifications to the operation rule curve at the Yadkin Project to enhance recreation. Evaluated hydropower costs and recreational benefits of proposed changes. Conducted meeting with licensee and community association to resolve issues.

Hoosic River Project EA, NY, USA.

Project manager for relicensing of 2 hydroelectric developments totaling 19 MW. Key issues included fish for bucks, minimum flows and whitewater boating in the Schaghticoke bypass reach, provision of upstream passage for American eels.

Felts Mills Hydroelectric Project EIS, Watertown, NY, USA.

Project manager for licensing evaluation and EIS of original license application to FERC. Key issues involved potential effects on walleye, whitewater recreation, wetlands, and the need for the project. Also addressed cumulative impacts of multiple hydropower projects in the Black River Basin on fisheries and the intrinsic value of free-flowing river. Addresses Department of Army's Section 4(e) recommendations.

Black River Multiple Project EA, Watertown, NY, USA.

Project manager for EA evaluating the relicensing of 6 hydroelectric developments on the Black River for FERC. Key issues included fish passage, entrainment mortality, recreational enhancements, and minimum flows.

Oswego Falls EA, Fulton, NY, USA.

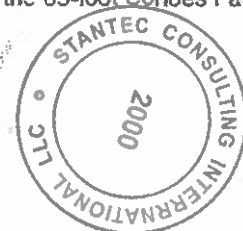
Project manager for EA for original hydropower license from FERC of an existing project. Key issues involved reservoir fluctuations, fish entrainment, wetlands, and minimum bypass flows.

Sebago Lake EIS, Portland, ME, USA.

Project manager for EIS evaluating alternative water level management regimes for the largest recreational lake in the State of Maine. Key issues included effects on recreational boating, shoreline erosion, water quality, wetlands, and aquatic weeds.

School Street Project EA, NY, USA.

Project Manager for a new license for the 39 MW facility. Evaluated the following key issues: conversion to run-of-river operations, minimum flows in bypass reach, downstream fish passage, and aesthetic flows over the 65-foot Cohoes Falls.



Stanley Canyon EA, Colorado Springs, CO, USA. Project manager for EA of proposed hydroelectric capacity expansion in the Pike National Forest and adjacent to the U.S. Air Force Academy with the US Forest Service as a cooperating agency for FERC. Key issues included potential impacts to three threatened and endangered species, aesthetic impacts, and affects on the National Forest.

Hudson River Multiple Project Technical Support, Glens Falls, NY, USA. Project coordinator for EIS evaluating FERC relicensing applications for several hydroelectric projects on the Upper Hudson River. Key issues include water level fluctuations in E.J. West impoundment, water quality, recreation, and cumulative impact issues. Provided on-going technical support regarding watershed modeling for settlement discussions.

Rocky Reach EIS, Wenatchee, WA, USA. Assisted in preparation of EIS evaluating a proposal to raise the Rocky Reach impoundment water level. Focused on impacts to salmon, recreation, wetlands, and land use.

Kerr Hydroelectric Project EIS, Flathead Lake, MT, USA. Assisted in preparing an EIS evaluating effects of alternative hydropower operations on shoreline erosion, fisheries, and water quality.

Condit Hydroelectric Project EIS, White Salmon, WA, USA. Assisted in preparing EIS evaluating the relicensing of the Federal Regulatory Commission of the Condit Hydroelectric Project. Major issues included fisheries and recreation impacts.

Yadkin Hydroelectric Project Studies, NC, USA. Project Manager for detailed recreation use study for 4 reservoirs totaling approximately 23,000 acres. Used IMPLAN model to assess regional economic effects of recreational spending at reservoirs. Conducted study of affects of project facilities and operations on aesthetics, including use of Visual Preference Surveys and the U.S. Forest Service's Scenery Management System.

New York State Dam EA, Albany, NY, USA Project manager for EA evaluating the need for downstream passage of outmigrating adult blueback herring on the Mohawk River for FERC.

Churchman's Marsh EIS, DE, USA. Coordinated with federal and state agencies for development of a proposed 60 MGD drinking water reservoir impacting the largest tidal freshwater marsh in Delaware.

Falls/Jordan Reservoir Watershed Management Plan, Research Triangle Area, NC, USA. Developed comprehensive strategy for protecting water quality of two regional water supply reservoirs including recommendations on the location, type and intensity of new development; performance standards; and sewer extension policies. Authored Watershed Management Guide, a report focusing on the role of local governments in protecting water quality.

Chemung River Basin Restoration Plan, NY, USA. Project manager for 2,600 square mile watershed restoration project for Baltimore Corps. Targeted subwatersheds for restoration activities based on aerial photographs and previous studies. Conducted field investigation to identify specific restoration sites, which included wetland creation, stream restoration, riparian buffer reestablishment, and streambank stabilization. Developed Planning Guide for use by local and state resource agencies.

York County Energy Partners Water Resources Study, Spring Grove, Pennsylvania, USA. Prepared a watershed study using HEC-3 to assess the potential effects of a 2.6 mgd consumptive water use associated with a 250 mgd coal fired cogeneration facility as part of an EIV for DOE in the Susquehanna River Basin.

Middle Cuyahoga River Flow Study, Ohio, USA. Analyzed effects of 42 MGD water diversion by the City of Akron for water supply purposes on downstream water quality, assimilative capacity, aquatic community, recreation, and aesthetics. Calculated natural 7Q10 flow using flow data from a surrogate watershed. Testified as an expert at a trial in state court.



Duke University

The Faculty and Trustees in recognition of
the successful completion of the course of study
required by the

School of Forestry and Environmental Studies

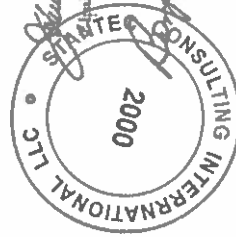
have conferred on

David M. Blaha

the degree of

Master of Environmental Management

Given at Durham in the State of North Carolina this tenth day of
May, one thousand nine hundred and eighty-one.



John Alexander Spitzer
Chairman of Board of Trustees

William A. Payne
Dean



Templeton
President of the Board

Rufus H. Powell III
Secretary of the Board



Madhukar Khadka (Mr.)

Date of Birth: February 03, 1982 (AD)
Marital Status: Married
Address: Gathhagar, Bhaktapur (Temporary Address)
Likhu-6 Rural Municipality, Ramechhap (Permanent Address)
Father Name: Khechar Bahadur Khadka
Phone No.: 9851145320
E-mail: madhukarkhadka1@gmail.com

1. Educational Qualifications:

- 2009 Master of Science (M. Sc.) in Environmental Science (with special emphasis on Water Resource Management and Planning; Air, Water and Land Pollution; Wetland) Tribhuvan University, Kirtipur.
- 2003 Bachelor's in Science and Technology (B. Sc.) in Environmental Science (with emphasis on Environmental Pollution & control, Earth Hazard Control, Resource Conservation & Management, Research Methodology, Statistics) Tri-Chandra Multiple Campus, Kathmandu.
- 2000 Intermediate in Science and Technology (I. Sc.) in Biology Group, Jiri Higher Secondary School Jiri, Dolakha.
- 1997 School Leaving Certificate (SLC) Shree Tamakoshi Jana Jagriti, Secondary School, Khimti, Ramechhap.

2. Professional Involvements

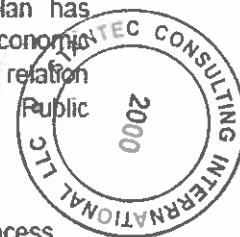
August 2018 - Continue

National EIA Specialist for Electricity Transmission Project (400kV) funded by Millennium Challenges Corporation

Key Responsibilities: As an EIA specialist major task includes - overall coordination of National and international team members and coordinate with concern institutions. Build relation between organizations and local stakeholders; coordination with data collection institutions; regular site visit; EIA, ESIA report preparation, help to Resettlement Action Plan (RAP) and BIKASH plan preparation (this plan has prepared by following MCC Guidelines & IFC Safeguard Policy); socio-economic survey of different purposes; Operation of Help Desk regarding local relation development & information dissemination; establish and monitoring Public Information Centre (PIC) etc.

Key Achievements:

- i. Scoping Document and ToR submitted to DoED and is in approval process



- ii. Establish Public Information Centre (PIC) and now it is running in 9 districts.
- iii. Establish Grievance Redress process through PIC
- iv. Prepare draft stakeholder's engagement plan for further activities.
- v. Project running within time frame.

July 2017 - July 2018

Social and Environmental Consultant of Upper Karnali HE Project (900 MW)

E&S related report editing & Land Acquisition

Key Responsibilities: As a consultant major task includes - overall coordination of National and local level; coordination with data collection institutions; regular site visit; Resettlement Action Plan (RAP) implementation (this plan has prepared by following IFC Safeguard Policy); socio-economic survey of different purposes; Operation of Help Desk regarding local relation development & information dissemination; negotiation meeting with project affected families; Land Acquisition, monitoring and editing IEE of transmission line (400 KV) from Baldae Achham to Nepal India border Kailali etc.

Key Achievements:

- i) Implement prepared RAP Report by following IFC Safeguard Policy.
- ii) Review updated Environmental Management Plan and submitted to MoFE.
- iii) Land Acquisition Started from September 2017 without any obstacles.
- iv) Built better public relationship in project site and district level (may be compare before and after E&S consultant appoint in project)
- v) IEE of transmission line (400 KV) under progress.

Sept 2016 - January 2017 (Part-time)

Coordinator of Rupaligad (downstream of Pancheshwor HEP) HEP (240 MW)

Key Responsibilities: As a coordinator major task includes - overall coordination of National and local level; coordination with different data collection institutions; regular site visit; collection of data and coordination with data collectors, experts and local bodies for the preparation of EIA Report. Built relation with locals for the data collection related to terrestrial, aquatic and social survey in the field.

Key Achievements:

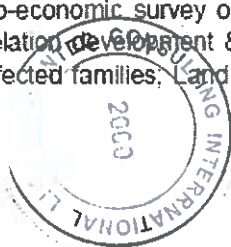
One season Data Collection completed and submitted required report to the concern authorities in time.

July 2015 - July 2017

Social and Environmental Consultant of Arun-3 Hydropower Project (900 MW)

E&S related report preparation, PR & Land Acquisition

Key Responsibilities: As a consultant major task includes - overall coordination of National and local level; coordination with different data collection institutions; regular site visit; RAP Report preparation by following ADB Safeguard Policy, Disclosure and approved by IBN; socio-economic survey of different purposes; Operation of Help Desk regarding local relation development & information dissemination; negotiation meeting with project affected families; Land Acquisition; review of transmission line



IEE (400 KV) from Arun-3 powerhouse to Nepal-India border Dhanusha; preparation of IEE from Tirtare to Arun-3 Dam and Powerhouse site (33 KV) (this is construction power transmission line) etc.

Key Achievements:

- i. Prepared RAP report by following ADB Safeguard Policy and approved report form IBN.
- ii. Preparation of SEIA Report and Submitted it to ministry (Already approved).
- iii. Acquired 49 ha of private land for Arun-3 HEP without any obstacles.
- iv. Built better public relationship in project site and district level (may be compare before and after E&S consultant appoint in project)
- v. Prepare preliminary draft report of Employment and Skill Development Plan & Local Benefit Sharing Plan for Arun-3 Project.
- vi. Approved Transmission Line IEE (400 KV)
- vii. Approved construction power transmission line IEE (33 KV)
- viii. Approved Arun-3 EIA in 2015 (all necessary work including data collection, public consultation, public hearing, report preparation, coordination etc were conducted before this work)
- ix. Now Arun-3 HEP is in construction phase.

August, 2009 - July 2015

Program officer in National Lake Conservation Development Committee (NLCDC), Ministry of Culture, Tourism and Civil Aviation

Key Responsibilities: As wetlands expert, major tasks include – work as focal point for national and international lake (wetlands) governing institution for the sustainable conservation of lakes and wetlands in Nepal; environmental management focusing on water resource, lake shore management, lake and wetland conservation through community participation, coordinate the development of national strategic framework of lake conservation; liaise with the Ramsar secretariat; technical supervision for research to post graduate students; coordination in the national implementation of lakes and wetlands programs; undertaking national inventory of lakes of Nepal; designation of new Ramsar sites in Nepal; program development; production of reports and lake briefs; facilitation to NGOs; project management, development of communication materials like audiovisual on lake conservation; and coordination with different stakeholders like government and non-government institution; and representation of NLCDC in international forum. Now begin in Climate Change and Himalayan Lake degradation collaborating with ILEC Japan.

Key Achievements:

- i) Key 20 lakes or more support provided worth NRs. 300 million for conservation and livelihoods annually,
- ii) Review of lake conservation programs,
- iii) Lake inventory (completed 54 districts of Nepal) and strategic plan development process progress (process of approval),
- iv) Secured fund for lake conservation demo in Pokhara from UNDP



- v) Effective and functional linkage established with International Lake Environment Committee, Japan.
- vi) Successfully conducted Ramsar Bureau, Switzerland funding project,
- vii) Conduct research on Climate Change and Himalayan Lake Degradation.

April 30, 2008 - April 30, 2009

Research Assistance in National Lake Conservation Development Committee (NLDC), Ministry of Culture, Tourism and Civil Aviation

Key Responsibilities: As a research assistant major task includes - Library setup, Map based inventory of lakes of Nepal, Conduct Appreciative Enquiry, Report preparation, Data entry, Conduct Seminars and meeting, coordination with national institutions relating to lake focus activities.

Key Achievements:

- i) National Lake Strategic Plan,
- ii) Appreciative enquiry report,
- iii) A Map based Lake Inventory (5358 lakes of Nepal),
- iv) Seminar Report
- v) Started field-based Lake Inventory.

May 2010 - July 2015

Intermittent Environmental Expert of Arun-3 Hydropower Project

Environmental Impact Assessment (EIA Study)

Key Responsibilities: As an environmentalist major task includes - overall coordinator of National and local level, coordination with different data collection institutions, local level, contact office of SJVN (Residential office Kathmandu and Site office Khandbari), conduct Reconnaissance Survey for EIA study, notice preparation and publication, public consultation for Scoping and ToR Document, primary data collection in different headings like socio-economic survey, terrestrial environment (flora and fauna), aquatic environment (benthos and fish), water and soil sampling and analysis, Preparing, revising and finalizing Scoping and ToR document, Conduct periodic public consultation for dissemination of progress of EIA, conduct Detail EIA Study, preparing EIA draft report, conduct Public Hearing in 10 places of all impact VDCs including District Headquarter, preparing EIA draft report, revising the report and coordination with Ministry of Science, Technology and Environment (MoSTE) for approval process.

Key Achievements:

- vi) Baseline Data collection and preparing Scoping and ToR documents
- vii) Conduct meeting and present current project status to Chief District Officer and other Chief officials on November 10, 2011 in Khandbari,
- viii) Conduct meeting with Buffer zone management committee concern members on December 26, 2011,
- ix) Conduct public consultation in affected VDCs in different dates and time,
- x) Approved Scoping and ToR Document on December 26, 2012,



- xi) Notice preparing and publication (Re-scoping notice, public hearing notice, public feedback notice)
- xii) Preparing EIA Draft report,
- xiii) Conduct public hearings in 10 different places including district headquarters,
- xiv) Preparing EIA final draft report including public concerns,
- xv) Submitted EIA Report to MoSTE on June 30, 2013,
- xvi) Submit Final EIA Report for Expert Group Meeting on June 18, 2014,
- xvii) Expert Group Meeting on November 14, 2014
- xviii) Revising the report and preparing final EIA Report for approval (under progress)

Resettlement Action Plan (RAP Study)

Key Responsibilities: As an environmentalist major task includes - coordinator of RAP study, coordination with different local stakeholders, impact houses, conduct Key Informant Interview (KII), Market Survey, Participatory Rural Appraisal (PRA), conduct detail socio-economic study of impact households, monitoring enumerators activity, sampled survey and discussion in different public places of impact VDCs, preparing and submitting draft RAP Report consultation with socio-economist, finalize report according to comments.

Key Achievements:

- i. Conduct census survey of impact households (monitoring)
- ii. Conduct Key Informant Interview (KII), Market Survey and Participatory Rural Appraisal (PRA) (involvement and monitoring)
- iii. Discussion with impact households' members to identify their concern
- iv. Final RAP Report

February 2005 - April 2008

Environmentalist in Road and Industry Sector (Self-employed and freelancer Consultant)

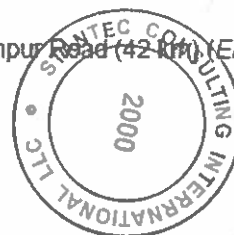
Initial Environmental Examination (IEE Study)

Key Responsibilities: As an environmentalist major task includes - overall coordinator of Study team, related institutions, required data collections (biological environment, physical environment, Chemical, and socio-economic condition of project sites), notice preparation and publishing, Draft report preparation, submission, presentation and finalization of IEE report.

Other responsibilities in different consulting institutions include - proposal preparation, study design, coordination, human resource mobilization, conducting educational and scientific research, field work etc.

Key Achievements: Listed IEE report prepared and approved

- Pre-Fab Pvt. Ltd. Daraechowk, Chitwan (Pre-Fab Pvt. Ltd.)
- Taplejung - Suketar Link Road (11.04 km) (ERMC)
- Janakpur - Jatahi Road (14 km) (ERMC)
- Janakpur - Yadukuwa Road (18 km) (ERMC)
- MRM (Birendra Bazar) - Yadukuwa - Mahinathpur Road (42 km) (ERMC)



- Ilam –Nayabazar Road (20 km) (RRRSDP)
- Ilam – Ivang Road (20 km) (RRRSDP)
- Mangalbarae – Dhuseni – Gajumukhi Road (20 km) (RRRSDP)
- Hile – Utterpani – Chhinteng Road (20 km) (RRRSDP)
- Rajarani – 6 no. Budhbare Road (27 km) (RRRSDP)
- Trisuli – Hattikharka – Murtidhunga – Jitpur Road (20 km) (ERMC)

January 2003 - February 2005

Science and Mathematics Teacher

Key Responsibilities: As a science and Mathematics Teacher in Secondary level, conduct different sports activities, knowledge enhancement programs, clean campaign, and motivational class to other schools.

Key Achievements: Good Result in School Leaving Certificate (SLC).

3. Expertise on Environment Sector

- Involved in different field work including Vegetation analysis, water quality, landslide hazard mapping, landslide damming flood, buffer zone, river channel shifting etc. In addition, some IEE field work and their report preparation at Janakpur, Ilam, Dhankuta and Gulmi District.
- Work as an Environmentalist in Total Management Service (TMS Pvt. Ltd.), Kamalpokhari, Kathmandu
- Work as a Environmentalist in Environment Resource and Management Consultancy (ERMC Pvt. Ltd.), Baneshor, Kathmandu
- District Consultative meeting at Ramechhap District for the Preparation of Strategic plan of lake organized by Nepal Academy of Science and Technology (NAST) Khumaltar, Lalitpur. (2009)
- Volunteer services on "The Fifth National Conference on Science and Technology" organized by Nepal Academy of Science and Technology (NAST) Khumaltar, Lalitpur. (2008)
- One Month Community Field Work Conducted at Khimti, Ward No. 1 in June 2008.

4. Training

- Two days Scientific Writing and Publishing Training in Kathmandu organized by PSD Nepal November 3-4, 2014.
- Three days training on Economic Valuation of Wetlands in Kathmandu organized by CSUWN 2013.
- A week Training Course on Remote Sensing (RS) held between, December 11-19 (2007) organized by Central Department of Geography Kirtipur, Kathmandu, Nepal.



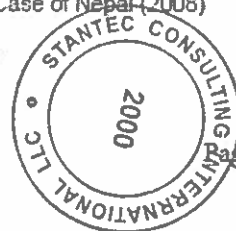
- Advanced training on Environmental Impact Assessment, Jointly Organized by Central Department of Environmental Science, TU and School of Environmental Management and Sustainable Development (SchEMS), Pokhara University, Nepal
- Computer Training including office Package and Graphics designing
- Advance training course in Radio Journalism/FM and Radio Program Productions by Nepal's Anchor's Association (2003)

5. Participation

- Participation on "ILBM Indian National Workshop and ILBM Heartware Export Group Meeting" February 5-9, 2013 India
- Participation on "ILBM for the Sustainability of Himalayan Lakes" A National Seminar March 26-29, 2010
- Participated and Paper presented in ILBM-G meeting Japan Nov. 2-7, 2010 Japan
- One day National seminar on wetlands, organized by Hindu Kush Himalayan Benthological Society (HKH BENSO) (2008)
- Participation on "The Fifth National Conference on Science and Technology" organized by Nepal Academy of Science and Technology (NAST) Khumaltar, Lalitpur. (November 10-12, 2008)
- Member of the Organizing committee of "National Conference on Environment" Jointly Organized by Central Department of Environmental Science (CDES) and Ministry of Environment, Science, and Technology (MoEST), Kathmandu, 2007
- Participation on "Renewable Energy Technology for Rural Development (RETRUD 06)" Jointly Organized by AEPC, CES and NSES, 2006

6. Research Completed

1. Economic Valuation of Jamunxhadi Lake, A Wetland of Jhapa District, Eastern Nepal 2014
2. Role of Vegetation on Water Quality – A Case from Jhilmila Tal in Nepal (2009) (M.Sc Dissertation)
3. Effect on Water Quality by Sewage discharge of Bagmati River at Jorpati (2008)
4. Brick Kiln Industry and its Impact on Air Quality in Kathmandu Valley (2006)
5. Waste Paper as a Resource by the Process of Recycling (2008)
6. Water Quality of the Naxhu River in Different Seasons (2008)
7. Status of Pesticide and Chemical Fertilizers Used in Nepal (2008)
8. Comparative Study of Communicable Diseases like ARI and Tuberculosis in Different Regions (2008)
9. A Study on Pollution Control Act (Review Paper 2008)
10. The Possible Methods of Composting Used in Farm In Case of Nepal (2008)



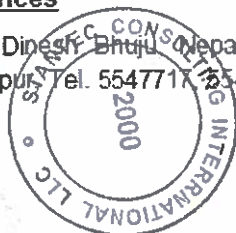
11. Study on the Environmental condition of Begnas watershed, Pokhara, Nepal organized by Tribhuvan University, Kirtipur, Nepal, 2003 and more than 14 case studies related to environment.
12. Environmental study of Phewa Lake and its watershed, Pokhara, Nepal organized by Tribhuvan University, Kirtipur, Nepal, 2007
13. Geo-Environmental Study of The Shainbu-Bungmatii Landslide: a case study Kathmandu, Nepal, 2007

7. Publication

- Pokharel Shailendra, Khadka M. 2014. "An Inventory of Himalayan Lakes of the Eastern Nepal" Published by National Lake Conservation Development Committee. (press)
- Khadka Madhukar, Neupane M. P. 2011. "National lake Strategic Plan and its Implementation Challenges: A case from Nepal" Proceeding World Lake Conference, Texas, USA.
- Naupane, Pawan, Khadka M., Adhakari R., Bhuju DR. 2010 "Lake Water Quality and Surrounding Vegetation in Dry Churiya Hills, Far-Western Nepal" *Nepal Journal of Science and Technology* 11 (2010) 181-183
- Khadka Madhukar 2010. *Lakes and their Importance - A Case from Himalayan Lakes of Nepal*. Published by National Lake Conservation Development Committee.
- Pokharel Shailendra, Khadka M. 2010. "ILBM for the Sustainability of Himalayan Lakes" A National Seminar Proceeding.
- Khadka Madhukar, Pandit R. 2010. "ILBM Implementation for the sustainability of Himalayan Lakes" Paper presented in ILBM-G meeting Japan Nov. 2-7, 2010.
- Khadka Madhukar. 2010 "Study of Himalayan Lakes in Nepal" Paper presented in ILBM-G meeting Japan Nov. 2-7 2010
- Khadka Madhukar 2010. "Abstract on Diverse Environmental Issues", Abstract collection from the CDES/TU (Compilation)
- Ukesh R Bhuju, Khadka M., Neupane P., Adhakari R. 2009. *A Map Based Inventory of Lakes in Nepal*, *Nepal Journal of Science and Technology* 11 (2010) 173-180
- Ukesh R Bhuju, Khadka M., Neupane P., Adhakari R. 2009. *Lakes of Nepal: 5358 - A Map Based Inventory* National Lakes Strategic Plan Preparation
- Ukesh R Bhuju, Belbase N., Bhuju D R., Jnawali SJ., Khadka M., Neupane P. and Adhakari R. 2009. National Lake Strategic Plan Preparation "ISSUES AND SUGGESTIONS PAPER" (Excerpts of Appreciative Inquiry, Experts Consultation and Field Consultation and Observation) (Report)
- Different articles in "Sampada Nepal" related to lake in Nepali language
- Different articles in "Bigyan Lekhmalas" and radio program from NAST

8. References

- Dr. Dinesh Bhuju, Nepal Academy of Science, and Technology, Khumaltar, Lalitpur, Tel. 5547717, 5547714, Email: DineshBhuju@gmail.com



- Yetish K. Singh, Environmental Officer, SJVN Arun-3 Power Development Company (SAPDC), Khandbari Nepal, cell phone 9852058286, email: yatishksingh@gmail.com
- K.K. Sharma, Construction Head, GMR Upper Kamali Hydropower Limited (GUKHL), Chakupat Lalitpur, cell phone 9858051150, email: Kulmeet.Sharma@gmrgroup.in
- Srijana Bhattarai, Coordinator of MCC Project, ERM Bangkok, Srijana.Bhattarai@erm.com





Issue number 53403042

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Tribhuvan University

Office of the Controller of Examinations

Kathmandu, Nepal

Academic Transcript



Student's Name : MADHUKAR KHADKA

Regd. # : 5-2-37-463-2000

Campus : University Campus, Kirtipur

Institute/Faculty : Science and Technology

Examination : Master's Degree in Environmental Science

Course Duration : 2 Academic Years

Subjects appeared in the First Year Examination	Full Marks	Pass Marks	Marks Obtained	Rem arks	Subjects appeared in the Second Year Examination	Full Marks	Pass Marks	Marks Obtained	Rem arks	
ENV511:Ecology (Ass)	20	08	19		ENV621:Environmental Mgmt. & Conservation (Ass)	20	08	18	S.D. 2066-5-19 V.D. 2066-5-30	
ENV511:Ecology	80	32	65		ENV621:Environmental Mgmt. & Conservation	80	32	56		
ENV512:Environmental Earth Science (Ass)	20	08	19		ENV622:Env. Impact & Mitigation Technique (Ass)	20	08	19		
ENV512:Environmental Earth Science	80	32	66		ENV622:Env. Impact & Mitigation Technique	80	32	58		
ENV513:Env. Pollution & Monitoring (Ass)	20	08	19		ENV626:Water Resources Develo. & Plann. (Ass)	20	08	19		
ENV513:Env. Pollution & Monitoring	80	32	64		ENV626:Water Resources Development & Plann.	80	32	66		
ENV514:Environment & Energy (Ass)	20	08	19		ENV62B:Practical Paper	75	30	68		
ENV514:Environment & Energy	80	32	67		ENV629:Field Work	25	10	23		
ENV515:Ecology, Env. Geology, Meteorology, Hydrology, Env. Chem. & Microbiology Pr	50	20	46		ENV650:Dissertation Work	100	40	90		
ENV516:Env. pollution, Energy, Ecotoxicology Natural Hazards & Solid Waste Mgmt. Pr	50	20	45							
Total	500	200	430		Total	500	200	417		
GRAND TOTAL	1000	400	847		Programme starting year : 2005	Ending year : 2007				

First Year		Second Year	
Year	Roll Number	Year	Roll Number
2006	357	2007	889

Percentage : 84.70

Passed Division : Distinction

Passed Year : 2007



Date of Issue 26/10/2009

Prepared by

Checked by

for Chief of Records Div.

Controller of Examinations





**TRIBHUVAN UNIVERSITY
INSTITUTE OF SCIENCE AND TECHNOLOGY
CENTRAL DEPARTMENT OF ENVIRONMENTAL SCIENCE
KIRTIPUR, KATHMANDU, NEPAL.**

Serial No. 504



CHARACTER CERTIFICATE

This is to certify that Mr. / Mrs. / Miss MADHUKAR KHADKA
son / daughter of Mr. KHECHAR BAHADUR KHADKA was a student of this
Department from 2062 B.S. (2005 A.D.) to 2064 B.S. (2007 A.D.) He / She passed
the Master's Degree Level Examination of Tribhuvan University in Environmental Science field
in 2064 B.S. (2007 A.D.) with specialization in WATER RESOURCES DEVELOPMENT, PLANNING and
secured DISTINCTION Division.

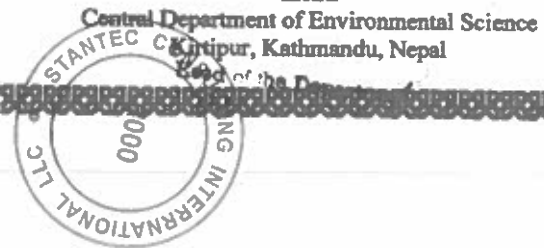
His / Her T.U. Registration Number is 5-2-37-463-2000

He / She bears a good moral character. I wish him / her success in his / her life.

Date 2066/7/16

Prepared by: aw/14


Head





CURRICULUM VITAE (CV) FOR PROPOSED PROFESSIONAL PERSONNEL

1. Proposed Position : Geologist
2. Name of Firm : Nepal Environmental and Scientific Services (NESS) P. Ltd
3. Name of personnel : Toran Sharma, Ph. D.
4. Date of Birth : 5th Sept 1952
5. Nationality : Nepali
6. Education :
 - Post Doctorate (Physical Environment), College of Sciences, University of Ryukyns, Okinawa, Japan, 1984-85.
 - Ph.D. (Environmental Geology), Maharaja Sayaji Rao University of Baroda, Gujrat, India, 1979.
 - M.Sc. Maharaja Syaji Rao University of Baroda, Gujrat, India, 1975.
7. Membership of Professional Associations:
 - Founder Member (Life Member), Nepal Geological Society.
 - Associate Member Nepal Forum of Environmental Journalist
8. Other Trainings :
 - Short Term training on Cleaner Production, Organized by UNIDO and Ministry of Industry, Nepal, 1996.
 - One year on-the-Job Training in Environmental Management Studies in Yagai-Kagaku Co., Ltd., Sapporo, Japan, 1991 -1992.
 - Two months Training on Structural Geology and Geomorphology, 1978, M.S. University of Baroda
9. Countries of Work Experience: Nepal, Japan, India, Uganda
10. Languages:

	<u>Reading</u>	<u>Writing</u>	<u>Speaking</u>
Nepali	Excellent	Excellent	Excellent
English	Excellent	Excellent	Excellent
Hindi	Excellent	Fair	Excellent
Urdu	Good	Good	Good
Japanese	Good	Good	Good
11. Employment Record:

From June 2007	:	Till Date
Employer	:	Nepal Environmental and Scientific Services (NESS) P. Ltd
Position Held	:	Technical Director/Geologist/Environmental Expert
From Sept., 1992	:	May 2007
Employer	:	Nepal Environmental and Scientific Services (NESS) P. Ltd
Position Held	:	Managing Director/Geologist/Environmental Expert
From Feb., 1992	:	Sept., 1992
Employer	:	Yagai - Kagaku Co., Ltd., Sapporo, Japan
Position Held	:	Environmental Engineer
From Aug., 1979	:	Jan., 1992
Employer	:	Department of Mines & Geology, Nepal
Position Held	:	Geologist
From 1978	:	1979



Employer : Department of Geology, M.S. University of Baroda, India
Position Held : Assistant Lecturer

12. Detailed Tasks Assigned:

- Assess the geological condition and fault zone of the project alignment location, assess and develop down wasting and landslides mechanism for the project.

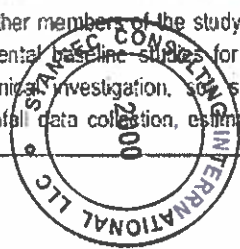
13. Relevant Project Experience:

Name of Assignment or Project: Environmental Impact Assessment (EIA) Study for Eastern Canal System of Sikta Irrigation Project; **Year:** January 2017 –**Till date:** **Location:** Banke District; **Client:** Sikta Irrigation Project; **Main Project Features:** Environmental Impact Assessment (EIA) Study; **Position Held:** Team Leader/Geologist; **Activities Performed:** Responsible for physical environmental baseline studies for EIA covering geology, land use, erosion, investigations such as topographical surveys, geo-technical investigation, soil survey, leak detection survey, ground water investigation i.e. hydro-geological investigations, rainfall data collection, estimate physical environmental losses and predict impact on physical environmental aspects by the project, design mitigation actions and estimate costs required, prepare monitoring plan on physical aspects and give input for the environmental management plan related to physical aspect.

Name of assignment of project: Environmental and Social Management Plan, Underground Electricity/Power Cable Sub Project, Coastal, **Year:** Oct, 2015-Feb., 2016; **Location:** Tamil Nadu, India; **Client:** Cuddalore, Nagapattinam and Velankanni Coastal Towns of Tamil Nadu, (CDRRP Project), India; **Main project features:** Study of Environmental and Social Management Plan; **Position held:** Environment Specialist; **Activities Performed:** To Carryout required survey, environment & social impact assessment and preparation of DPR bidding document, environmental and social impact management plan for conversion of existing overhead line into underground cables in Cuddalore, Nagapattinam and Velankanni Coastal Towns of Tamil Nadu, (CDRRP Project), India

Name of assignment of project: Environmental Impact Assessment Study of Budhigandaki Hydroelectric Project (BGHEP); **Year:** Nov. 2014- Oct 2015; **Location:** Dhading and Gorkha Districts; **Client:** Budhi Gandaki Hydroelectric Development Committee (BGHEPDC); **Main project features:** High dam storage project with an installed capacity of 1200MW generating 3 383 GWh of annual energy. The key project structures are: i) Double curvature arch dam of height 263m from the foundation level, ii) reservoir area occupying nearly 63km² of land along Budhi Gandaki and Anku Khola across 13 VDCs of Gorkha District and 14 VDCs of Dhading District, iii) surface powerhouse at the toe of the Dam at the left bank and iv) short headrace tunnel and penstock tunnels linking powerhouse with the intake in the reservoir; **Position held:** Team Leader/EIA Expert; **Activities Performed:** Responsible for the preparation of project plan and schedule with quality of deliverables in consultation with the national/international policy control and institutional consultant and other team members overall study arrangements and quality control in general and review literature inclusive of Nepal and assess the existing air, water and noise standards in use; study the review the international best practices on physical environment of the area for the preparation of Scoping Document and TOR in particular, conduct scoping meeting, Compile scoping document and TOR. Provide guideline for EIA study to other members of the study group, preparation of physical environment study plan for detailed EIA, carryout physical environmental baseline studies for EIA covering geology, land use, erosion, estimate physical environmental losses and predict impact on physical environmental aspects by the project, design mitigation actions and estimate costs required, prepare monitoring plan on physical aspects and give input for the environmental management plan related to physical aspect

Name of assignment or project: Initial Environmental Examination (IEE) Study of Ghorahi-Dui Khali Rolpa Road (Sahid Lok Marga), Dang and Rolpa Districts; **Year:** Oct 2011-Nov. 2013; **Location:** Dang and Rolpa Districts; **Client:** Government of Nepal Ministry of Physical Planning and Works, Department of Roads, Planning and Design Branch, Geo-Environment & Social Unit, Babarmahal, Khatmandu; **Main project features:** IEE Study.; **Positions held:** Team Leader /Geologist ; **Activities Performed:** Responsible for review literature on physical environment of the area for the preparation of TOR, Provide guideline for IEE study to other members of the study group, preparation of physical environment study plan for detailed IEE, carryout physical environmental baseline studies for IEE covering geology, land use, erosion, investigations such as topographical surveys, geo-technical investigation, soil survey, leak detection survey, ground water investigation i.e. hydro-geological investigations, rainfall data collection, estimate physical environmental losses and predict impact on physical environmental



aspects by the project, design mitigation actions and estimate costs required, prepare monitoring plan on physical aspects and give input for the environmental management plan related to physical aspect

Name of assignment or project: Environmental Impact Assessment of 600 MW Upper Marsyangdi II Hydroelectric Project; **Year:** (2010-2011); **Location:** Mananga and Lamjung Districts; **Client:** Himta Hydropower Company (P.) Ltd.; **Main project features:** Run of the river scheme with a peaking reservoir, tunnel, surge tank, and underground powerhouse with support facilities such as construction camps, spoil disposal, internal access roads etc.; **Positions held:** Team Leader /Geologist; **Activities Performed:** Responsible for review literature on physical environment of the area for the preparation of Scoping Document and TOR, Provide guideline for EIA study to other members of the study group, preparation of physical environment study plan for detailed EIA, carryout physical environmental baseline studies for EIA covering geology, land use, erosion, investigations such as topographical surveys, geo-technical investigation, soil survey, leak detection survey, ground water investigation i.e. hydro-geological investigations, rainfall data collection, estimate physical environmental losses and predict impact on physical environmental aspects by the project, design mitigation actions and estimate costs required, prepare monitoring plan on physical aspects and give input for the environmental management plan related to physical aspect

Name of assignment or project: Environmental Impact Assessment Study of Special Economic Zone Project (SEZP), Simara, Bara; **Year:** June 2009-May 2010; **Location:** Bara; **Client:** SEZ/MOICS; **Main project features:** The proposed SEZP is planned for development in an area of 564.10 hectares (832 Bigha). This land was used by the Birgunj Sugar Factory for sugarcane farming since 1964 (2021 B.S). For the last fifteen years or so, the land has remained as unutilized government land after the seizure of the sugarcane farming by the Birgunj Sugar Factory. The proposed land for SEZP development in Simara, Bara is not a continuous block. There are five discrete blocks of various sizes; **Positions held:** Team Leader / Physical Environmental Expert; **Activities Performed:** Responsible for overall study arrangements and quality control in general and review literature on physical environment of the area for the preparation of Scoping Document and TOR in particular, conduct scoping meeting, Compile scoping document and TOR, Involved in land area identification, preparation of livelihood restoration plan of project affected person

Provide guideline for EIA study to other members of the study group, preparation of physical environment study plan for detailed EIA, carryout physical environmental baseline studies for EIA covering geology, land use, erosion, estimate physical environmental losses and predict impact on physical environmental aspects by the project, design mitigation actions and estimate costs required, prepare monitoring plan on physical aspects and give input for the environmental management plan related to physical aspect. Compile the EIA report from the study documents of the other EIA study group, conduct public hearing meetings, and present the EIA report to the review committee.

Name of assignment or project: Environmental Monitoring, Tender Design Stage, Stage -2, 70 MW Middle Marsyangdi Hydroelectric Project; **Year:** (2001 to 2009); **Location:** Nepal; **Client:** KfW (German)/ NEA; **Main project features:** Run of the river scheme with a diversion dam, tunnel, underground desander, surge tank, and powerhouse with support facilities such as construction camps, spoil disposal, internal access roads etc.; **Positions held:** Team Leader /Environment Safeguard Specialist (Without the Supervision of International Consultant); **Activities Performed:**

- i) Maintain cordial relationship with the local project area people
- ii) Skill transfer to the proponent staff, and contractor staffs for the monitoring of safeguard issues as per the plan and policies
- iii) Preparation of site supervision formats for daily, weekly, and monthly monitoring. Overall monitoring of the project construction activities as per the Environmental Management Plan of the project. Monitoring included monitoring of air, water, noise, fish, community health, occupational health, spoil management, waste disposal and management, erosion, and sedimentation.
- iv) Preparation of bi-monthly monitoring report for corrective actions.
- v) Preparation of the construction phase environmental audit report at the end of the project construction

Name of assignment or project: Environmental Impact Assessment Study Dang Cement Project, including 22 km long access road; **Year:** June 2004 - Feb., 2005; **Location:** Dang and Salween; **Client:** Dang Cement Industries Pvt. Ltd. (DCIPL), Kuponole, Lalitpur; **Main project features:** Environmental Impact Assessment Study Cement factory; **Positions**

held: Team Leader, **Activities Performed:** Responsible for overall study arrangements and quality control in general and review literature on physical environment of the area for the preparation of Scoping Document and TOR in particular, conduct scoping meeting, Compile scoping document and TOR. Provide guideline for EIA study to other members of the study group, preparation of physical environment study plan for detailed EIA, carryout physical environmental baseline studies for EIA covering geology, land use, erosion, estimate physical environmental losses and predict impact on physical environmental aspects by the project, design mitigation actions and estimate costs required, prepare monitoring plan on physical aspects and give input for the environmental management plan related to physical aspect. Compile the EIA report from the study documents of the other EIA study group, conduct public hearing meetings, present the EIA report to the review committee.

Name of assignment or project: Environmental survey for Upgrading Feasibility Study on Upper Seti (Damauli) Storage Hydroelectric Project in the Kingdom of Nepal, including IEE of Damauli – Bharatpur 220 kV Transmission Line and 11 km access road; **Year:** May,2003-Dec,2003; **Location:** Tanahu and Chitwan Districts; **Client:** JICA Study Team/NEA; **Main project features:** High Dam Storage Project, with about 25 km long reservoir with support facilities for construction, spoil disposal, and internal access roads. And the 220 kV transmission line evacuating power from the project to the nearest national grid; **Positions held:** Project Coordinator/Physical Environmental Expert, **Activities Performed:**

- i) Overall coordination of the EIA study and supervision and guidance to the involved study members for the baseline surveys, impact identification and prediction, preparation of respective environmental management plan, resettlement and rehabilitation plan.
- ii) Reviewing of physical environmental status of the project area.
- iii) Generating physical environmental issues related to geology, landslides and erosion, drainage and soil.
- iv) Conducting baseline survey of the project affected areas on physical environmental aspects.
- v) Identifying impacts on the physical environment by the project.
- vi) Preparing mitigation actions required for the minimization of the project impacts along with cost.
- vii) Preparing monitoring plan for the physical environmental issues. Assist Team leader for stakeholder meeting and on the integration of the upgrading EIA report.

Name of assignment or project: Environment Impact Assessment of LMHEP - MMHEP 132 KV Transmission Line, Middle Marsyangdi Hydroelectric Project; **Year:** 2001-2004; **Location:** Nepal; **Client:** German Bank KfW/NEA; **Main project features:** Approximately 40 km 132 double circuit transmission project; **Positions held:** Team Leader /Environment Specialist (Without the Supervision of International Consultant); **Activities Performed:**

- i) Overall study arrangements and quality control in general and reviewing literature on physical biological, and socio-economic environment of the area for the preparation of Scoping Document and TOR in particular, conducting scoping meeting, Compiling scoping document and TOR.
- ii) Providing guideline for EIA study to other members of the study group, preparation of study plan for detailed EIA, carrying out and supervision of physical (water and air quality), biological (floral and faunal survey including fishery survey) and socio-economic environmental baseline studies for EIA, coordinate team members for the identification and prediction of environmental impacts and designing of mitigation measures, preparation of environmental management plan. Estimation of the mitigation and management plan costs. Prepare resettlement action plan and cost estimates for livelihood restoration.
- iii) Conduct public hearing meetings, present the EIA report to the review committee for EIA approval.

Name of assignment or project: Environmental Impact Assessment Bhirkuti Pulp and Paper Industries for the Collection of Biomass from Forest Areas of Various District; **Year:** June 2003 – Dec , 2004; **Location:** Bara, Kapilbastu, Argakhachi and Banke; **Client:** Bhirkuti Pulp and Paper Industries; **Main project features:** Environmental Impact Assessment study of Pulp and Paper Industries; **Positions held:** Team Leader, **Activities Performed:**, Responsible for overall study arrangements and quality control in general and review literature on physical environment of the area for the preparation of Scoping Document and TOR in particular, conduct scoping meeting, Compile scoping document and TOR. Provide guideline for EIA study to other members of the study group, preparation of physical environment study plan for detailed EIA, carryout physical environmental baseline studies for EIA covering geology, land use, erosion, estimate physical environmental losses and predict impact on physical environmental aspects by the project, design mitigation actions and estimate costs required. Prepare monitoring plan on physical aspects and give input for the environmental management plan



related to physical aspect. Compile the EIA report from the study documents of the other EIA study group, conduct public hearing meetings, present the EIA report to the review committee.

Name of assignment or project: Environmental Impact Assessment (EIA) of Drainage, Sewerage and Wastewater Treatment Plant; **Year:** January, 2001- March, 2002; **Location:** Hetauda, Makawanpur; **Client:** Hetauda Industrial District, Hetauda; **Main project features:** Environmental Impact Assessment (EIA) of Drainage, Sewerage and Wastewater Treatment Plant; **Positions held:** Coordinator; **Activities Performed:** Responsible for the overall coordination of the project study activities. Review of physical environmental status of the project area. Generate physical environmental issues related to geology, landslides and erosion, drainage and soil. Conduct baseline survey of the project affected areas on physical environmental aspects. Identify impacts on the physical environment by the project. Prepare mitigation actions required for the minimization of the project impacts along with cost. Prepare monitoring plan for the physical environmental issues. Assist Team leader for stakeholder meeting and on the integration of the upgrading EIA report.

Name of assignment or project: Supplementary Environmental Impact Assessment Survey of Upgrading Feasibility Study on the Development of Kulekhani III Hydropower Project; **Year:** Feb. 2000-Nov, 2002; **Location:** Nepal; **Client:**JICA Study Team; **Main project features:** A 42 MW cascade project of Kulekhani with a diversion weir, tunnel, small reservoir, and powerhouse; **Positions held:** Team Leader; **Activities Performed:**

- i) Overall study arrangements and quality control in general and reviewing literature on physical biological, and socio-economic environment of the area
- ii) Providing guideline for EIA study to other members of the study group, preparation of study plan for detailed EIA, carrying out and supervision of physical (water and air quality), biological (floral and faunal survey including fishery survey) and socio-economic environmental baseline studies for EIA, coordinate team members for the identification and prediction of environmental impacts and designing of mitigation measures, preparation of environmental management plan. Estimation of the mitigation and management plan costs. Prepare resettlement action plan and cost estimates for livelihood restoration.
- iii) Conduct public hearing meetings.

Name of assignment or project: Environmental Impact Assessment, Tender Design Stage, Stage -1, 70 MW Middle Marsyangdi Hydroelectric Project, including access road power transmission; **Year:** Aug. 1992-March,2001; **Location:** Lamjung district; **Client:** KfW (German). NEA; **Main project features:** Run of the River cum storage project with construction camp facilities, spoil disposal facilities, and internal access road; **Positions held:** Team Leader (Without the Supervision of International Consultant); **Activities Performed:**

- i) Overall study arrangements and quality control in general and reviewing literature on physical biological, and socio-economic environment of the area for the preparation of Scoping Document and TOR in particular, conducting scoping meeting, Compiling scoping document and TOR.
- ii) Providing guideline for EIA study to other members of the study group, preparation of study plan for detailed EIA, carrying out and supervision of physical (water and air quality), biological (floral and faunal survey including fishery survey) and socio-economic environmental baseline studies for EIA, coordinate team members for the identification and prediction of environmental impacts and designing of mitigation measures, preparation of environmental management plan. Estimation of the mitigation and management plan costs. Prepare resettlement action plan and cost estimates for livelihood restoration.
- iii) Conduct public hearing meetings, present the EIA report to the review committee for EIA approval



The
Maharaja Sayajirao
University of Baroda

Whereas Shri Toran Sharma
of the Faculty of Science has pursued a
course of study prescribed by the University
and passed the requisite Examination

Now Therefore this is to certify that
he has this day been duly admitted by
the Senate to the Degree of

Doctor of Philosophy

(Geology)

Given under my hand this twenty-third
day of March one thousand nine
hundred and eighty.


Vice-Chancellor



Arun Venkataraman PhD.

Technical Director

Arun is a Technical Director with at ERM. He has a Doctorate of Philosophy in Ecological Sciences. He has almost 30 years' experience working for academic and conservation organizations.

At ERM Arun leads and advises biodiversity initiatives with emphasis on assessing, mitigating and managing impacts on threatened, endemic, restricted range and migratory/congregatory species, protected areas and other Key Biodiversity Areas. Biodiversity assessments and mitigation has been strongly guided by IFC Performance Standard (PS) 6, ADP SPS, EBRD Habitat Directive, ICMM, BBOP, relevant IUCN guidelines and various company standards. Prior to ERM, Arun was formerly Vice President for Sustainability at Olam International and Conservation Director of WWF Malaysia.



Experience:

- 5 years of experience in Renewable Energy (wind, solar and hydropower)
- 5 years of experience in Non-renewable Energy (thermal and gas)
- 5 years of experience in Linear Infrastructure (roads, transmission lines)
- 5 years of experience in Mining and Metals
- 28 years' experience in ecology and biodiversity conservation

Email: arun.venkataraman@erm.com

LinkedIn: <https://www.linkedin.com/in/arun-venkataraman-a86a6375/>

Education

- Doctorate of Philosophy, Ecological Sciences, Indian Institute of Science, Bangalore, India
- Masters of Science (Hons.) Biological Sciences, Birla Institute of Technology and Sciences, Pilani, Rajasthan, India

Professional Affiliations and Registration

- Species Survival Commission Member, IUCN, Gland

- EIA Mentor: National Accreditation Board for Education and Training, Quality Council of India (QCI)

Languages

- English, Native Speaker
- Hindi, Native Speaker
- French, Basic

Publications

Nearly 40 scientifically peer reviewed papers, several chapters in books and popular articles covering behavioural ecology, ecology, conservation and sustainability planning



Fields of Competence

- Biodiversity Assessments and Management Planning
- High Conservation Value Landscape Design for Habitat Suitability and Connectivity
- Environmental and Social Impact Assessments
- Corporate Sustainability Framework Development
- Assessment for ecologically sound environmental flows for hydroelectric projects.

- Education

- Doctorate of Philosophy, Ecological Sciences, Indian Institute of Science, Bangalore, 1991
- M.Sc. Biological Sciences, Birla Institute of Technology and Science, Pilani, Rajasthan, 1964

Key Industry Sectors

- Renewable Energy (wind, solar and hydropower)
- Non-renewable Energy (thermal and gas)
- Mining and Metals
- Linear Infrastructure (roads and transmission lines).

Key Projects

Cumulative Impact Assessment and Management in the Trishuli River Basin, Nepal

Technical Advisor-Biodiversity

The Trishuli River watershed area in Central Nepal, has experienced large hydropower plant development, and many more are proposed and planned for the future. To ensure that there is collaboration and coordination in environment and social impact monitoring, risk management, data sharing and impact management within the project developers, World Bank appointed ERM to undertake a Cumulative Impact Assessment for the Trishuli River basin and the development of a Co-Management platform, consisting of IFC, private sector HPP developers, Government officials and other stakeholders. A key component of the CIA was the assessment of flow dependent impacts, using the DRIFT model, on aquatic Valued Environmental Components (VECs) that included several fish species of conservation significance, aquatic ecosystems and aquatic dependent livelihoods.

Updating Prior Environment and Social Assessments to Develop a Non-Technical Summary for the Upper Trishuli-1 (UT-1) Hydropower project, Nepal

Technical Advisor-Biodiversity

IFC requested ERM to develop a non-technical summary comprising an update on the environmental and social assessment undertaken previously. The main task involved updating the contents and requirements in the National EIA and Supplementary ESIA based on the existing, post-earthquake conditions of the location in terms of environmental impacts and mitigation measures and impacts related to flow transitions. The non-technical summary included brief descriptions of the project, regulatory framework, current E&S baseline conditions, and impact assessment and mitigation measures

Technical Support for Implementing and Monitoring Environmental Management Plans for the 184 MW Shuakhevi hydro project and associated 35 KV transmission line in Republic of Adjara, Georgia.

Technical Advisor-Biodiversity

The support involved advising the client on the requirements of international financial institutions (IFC, EBRD and ADB) and the Georgian legislation are adhered to, delivering commitments made in the project documents such as management and actions plans including implementation and monitoring of a low flow management plan, reviewing monitoring plans provided by local experts and based on these, assessing the efficacy of the mitigation plans, implementing environmental management systems, assessing non-compliance with respect to management systems, effecting due corrective action, advising staff in addressing grievances from Affected communities, reviewing training program outputs for consistency to the objectives of the ESMS and communicating with leaders on the progress of the ESMS.

Biodiversity Action Plan for the Operational Phase of the 197 MW Shuakhevi, Hydropower project, Georgia.

Technical Director-Biodiversity

Located in the biodiverse Caucasian ecoregion, the project involved developing an Operational Phase BAP (end of Construction onward) which focuses on requirements for operational phase for achieving no net loss in compliance to IFC PS6 and the ADB SPS. It also involved developing an internal implementation and monitoring program for ongoing mitigation measures as relevant for the construction monitoring phase which



included implementation and monitoring of a low flow management strategy.

Biodiversity Baseline and Impact Assessment for the Upper Kamali Hydro-electric Project, Nepal

Technical Advisor-Biodiversity

This project involved terrestrial and aquatic fauna biodiversity assessments to contribute towards the development of a biodiversity action plan and a possible offset strategy for natural habitats impacted by the construction of the 900 MW hydro-electric dam. The assessment and management plan was in compliance to the IFC PS6 and ADB SPS. A key requirement was to carry out a Critical Habitat Assessment for threatened and migratory terrestrial and aquatic species and integrate an e-flow management plan guided by DRIFT modelling to address impacts of diverted and peaking flows included within the project's operational regime

Biodiversity Due Diligence of the Lower Likhu Khola Hydropower Project in Nepal

Technical Advisor-Biodiversity

ERM India Private Limited (ERM) was commissioned by a financial institution to conduct an Environmental and Social Due Diligence (ESDD) of the Lower Likhu Khola Hydropower Project located in the Ramechhap and Okhaldhunga districts of Nepal. The LLKHPP is being developed as a 28.1 megawatt (MW) run of the river project. A key feature of the ESSD was a gap assessment against IFC PS6 with a focus on determining if impacts of the project on aquatic biodiversity through flow transitions, were adequate addressed.

Critical Habitat Assessment (CHA) and Indigenous Peoples Assessment (IPA) Screening in 10 proposed Highway Widening Projects in Gujarat, Rajasthan and Madhya Pradesh

Technical Director- Biodiversity

The project involved determining whether any of the highways within the proposed project cluster have potential to trigger critical habitats as per applicable reference standards such as IFC PS6; This assessment involved screening of potential critical habitat candidates using data from IBAT and other secondary sources and carrying out an assessment using critical habitat quantitative thresholds guided by field assessments and

consultation with stake-holders and experts. .

Critical Habitat Assessment (CHA) and Indigenous Peoples Assessment (IPA) Screening in 10 proposed Highway Widening Projects in Gujarat, Andhra Pradesh and Odisha, India

Technical Director- Biodiversity

The project involved determining whether any of the highways within the proposed project cluster have potential to trigger critical habitats as per applicable reference standards such as IFC PS6; This assessment involved screening of potential critical habitat candidates using data from IBAT and other secondary sources and carrying out an assessment using critical habitat quantitative thresholds guided by field assessments and consultation with stake-holders and experts.

Critical Habitat Assessment of NH7 passing through a forest stretch adjacent to the Pench Tiger Reserve in Maharashtra, India.

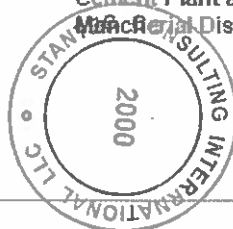
Technical Director-Biodiversity

Given the likelihood to impacts to a tiger corridor and significant tiger habitats, based on IFC advice, the client requested ERM to carry out a critical habitat assessment of the project area aligned to IFC PS6. As the project area was assessed critical habitat, the recommendations made in this assessment were incorporated into a Biodiversity Action Plan that has an objective of achieving net gains in biodiversity values.

Critical Habitat Assessment (CHA) for a ~100 Km stretch of National Highway in West Bengal, India.

The client requested ERM to carry out a critical habitat assessment to establish whether any habitat along project road has the potential to trigger critical habitat with reference to IFC Performance Standard 6. The assessment involved surveys along the road and detailed consultations with experts who had carried out aquatic bird surveys along wetlands in the vicinity of the road as these provide important habitat to several migratory species. Furthermore there are 2 Important Bird and Biodiversity Areas (IBBAs) in the project's vicinity.

Critical Habitat Assessment (CHA) for a 3.0 MTPA Cement Plant and Mines Located in Devapur in Machilipatnam District of Telangana, India.



The client requested ERM to assess biodiversity values within natural and modified habitats for the proposed expansion of the mine, assess critical habitat candidate species as per the quantitative thresholds for critical habitat criteria in IFC PS6, quantify the impacts of project activities, suggest high level mitigation actions to reduce adverse impacts and develop a high level biodiversity offset strategy, if it was found that either natural habitats or critical habitats are degraded or converted

Critical Habitat Assessment for NH-47 (6-laning) of Vadakanchery- Trissur Section of NH-47, Kerala, India

Technical Director- Biodiversity

The client requested ERM to assess ecological risks, especially presence of Critical Habitats, with reference to IFC Performance Standard 6, quantify the impacts of project activities taking into consideration the occurrence of the target species and provide recommendations for the mitigation of adverse impacts by the provision of requisite avoidance, minimisation and compensation measures.

Biodiversity Assessment and Mitigation Aligned to IFC PS6 for Upgradation of the Gopalpur Port, Odisha, India

Technical Director- Biodiversity

The project involved the delineation of the extent of modified, natural habitat and/or critical habitat as per IFC PS6, determination of the presence of key biodiversity values related critical habitat with emphasis on the nearby Olive Ridley Turtle mass nesting sites and reproductive patches, identification of specific impacts and recommendations for mitigation, management and monitoring measures required for compliance with IFC PS6 requirements. A broad level offset strategy was included to address residual impacts to onshore nesting and offshore reproducing turtles.

Gap assessment of EIA against IFC PS6 of the Bangladesh-India Friendship Power Company's 1320 MW Super-thermal Plant at Khulna, Bangladesh

Located near the Sunderbans World Heritage Site, the construction of this power plant has attracted widespread attention on potential impacts on biodiversity resources within the World Heritage Site. ERM has been called to carry out a gap analysis of the EIA's carried out

so far to assess gaps with respect to compliance with IFC PS6 and other financial institutions standards. The assignment involved review of relevant document, stakeholder consultations and rapid field assessments to carry out the assessments and recommend future steps to address these gaps. Among other issues, the gap assessment focussed on IUCN threatened and nationally protected species, priority ecosystem services and designated areas of national and international biodiversity significance

Impact Assessment of Fisheries and Marine Biodiversity and Evaluation of Decommissioning Options in an Oil and Gas Field in the Gulf of Kutch, Gujarat, India

Technical Director- Biodiversity

A client proposing to decommission a gas production facility, comprising of rigs, processing platforms and pipelines requested that an assessment be carried out to propose the least impacting options keeping in mind fisheries, threatened species and coastal, pelagic and benthic habitats. It was anticipated that these options would promote thriving marine ecosystems and fisheries post-decommissioning.

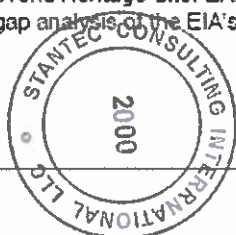
Key Projects Prior to Joining ERM

ESIA's in 80,000 ha of Olam International Palm Concessions in Gabon.

The ESIA's have involved social and socio-economic mapping, biodiversity and carbon stock assessments, analysis of LIDAR data, hydrological, agronomic, biodiversity and soil assessments and legal reviews. The ESIA's were carried out in accordance to RSPO and IFC PS6 specifications, and called for the design and implementation of High Conservation Areas in accordance to the guidance of the High Conservation Value Resource Group. The identified plantation lands comprised of habitats with high biodiversity and contained several globally threatened and endemic species.

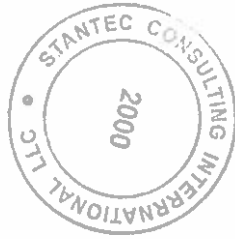
Implementation of Conservation Strategies in the Heart of Borneo and Coral Triangle, Malaysia

The above following eco-regions were identified as targets for WWF International's priority global initiatives. Responsibilities included developing and implementing national conservation strategies in alignment with global strategies focussed on mitigating threats from unsustainable resource utilisation such as those from

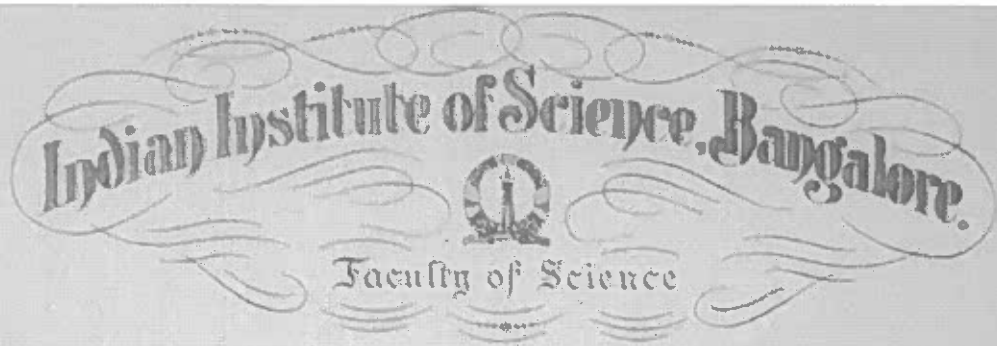


Arun Venkataraman PhD.

forestry, oil palm development, artisanal and commercial fisheries and hydro-dam construction. All strategies called for active stakeholder involvement and rigorous monitoring and evaluation.







*The Council on the recommendation of the Senate of the Institute
hereby confers on*

ARUN DALI VENKATARAMAN


the degree of

Doctor of Philosophy

in recognition of the research work on

" Studies on the Mechanism of Nestmate Discrimination in a Primitively
Eusocial Wasp: Implications for the Evolution of Eusociality "


Director


Chairman of the Council

16 MARCH 1991





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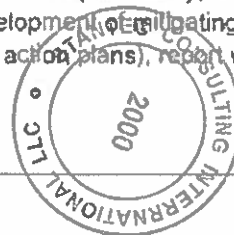
CURRICULUM VITAE (CV) FOR PROPOSED PROFESSIONAL PERSONNAL

1. Proposed Position : Domestic Biodiversity and Wildlife Specialist
2. Name of Firm : Nepal Environmental and Scientific Services (NESS) P. Ltd
3. Name of personnel : Mukesh Kumar Chalise
4. Date of Birth :
5. Nationality : Nepali
6. Education :
 - Ph. D., Tribhuvan University Nepal. 1992-95
 - M. Sc. in Zoology, One year course of Ecology as major subject in Central Department of Zoology, Tribhuvan University (TU.). Other Subjects: Vertebrate and Invertebrate Zoology, Physiology, Taxonomy and ecology of wild animals. M. Sc. Thesis on "Mammalian Fauna of Barun Valley with Particular Reference to their Habitat" in Arun River Basin. 1983-86
 - Diploma Level (B. Sc.) and Certificate Level (I. Sc.) in Biological sciences from Tri-Chandra Campus Kathmandu, Nepal. Main Subjects: Zoology, Botany, Bio-Statistics, Chemistry, Physics, 1973-78
7. Membership of Professional Associations:
 - Member, Monkey Conservation Sub-Committee. Pashupati Area Development Trust, Kathmandu, 2005-07
 - Executive Member, Tribhuvan University Teachers' Association, University Campus Unit, Kirtipur and Editor of the Journal of the University campus. Prospectives on Higher Education- Vols 2, 3. & 4., 2004-06
 - Secretary, Fulbright Alumni Association of Nepal, FAAN, American Center Gyaneswor Kathmandu, 2004-2006.
 - Member, University Unit Kirtipur TU, Tribhuvan University Professor's Association, Nepal, 2003-06
 - Secretary, SAFE Concern, devoted to socio-economic, agro-forestry & Env. Concern of local people, 2003-06
 - President and Founder member of the Nepal Biodiversity Research Society (NEBORS), Nepal. 2003
 - Regional Secretary for Asia, International Primate Society, IPS, USA. 2001-4
 - Task Force Member for Rhino Census-2000 in Royal Chitwan National Park. Organized by DNPWC/ GoN, and funded by WWF Nepal and UNDP/GEF/RTCPA, 2000
 - Member, Executive member (2003-04), Nepal Forum for Environment Journalists, Thapathali Kathmandu, 2000
 - Task Force Member for Rhino Translocation from Royal Chitwan National Park to Babai Valley of Royal Bardia National Park, Bardia. Organized by DNPWC/GoN and funded by WWF Nepal, 2000
 - Member, International Society of Behavioral Ecology, UK. 1998-01
 - Diploma Level (B. Sc.) and Certificate Level (I. Sc.) in Biological sciences from Tri-Chandra Campus Kathmandu, Nepal. Main Subjects: Zoology, Botany, Bio-Statistics, Chemistry, Physics, 1973-78
8. Countries of Work Experience: Nepal, Japan
9. Languages:

	<u>Reading</u>	<u>Writing</u>	<u>Speaking</u>
Nepali	Mother Tongue		
English	Excellent	Excellent	Excellent
Hindi	Good	Good	Good
10. Detailed Tasks Assigned:

Design and execute biodiversity assessment and impact study, assess the impact and risks to biodiversity, consult with the stockholders, development of mitigating measures (Environmental and Social Management Plan including biodiversity action plans), report writing on biodiversity section.
11. Relevant Project Experience:

Position held &



Description of the Duties : **Biodiversity Expert, Preparation of Scoping Document and Terms of Reference for Environmental Impact Assessment of Jamti-Bardagaha-Neulapur System and Extension of Western Main Canal, Babai Irrigation Project, Bardiya district, Responsible for Field survey works in the project area on wildlife (terrestrial and aquatic fauna) relating to types, status, conservation significance, migratory behavior, feeding, nesting and breeding characteristics and overall habitat types and conditions; Interaction with the local people on the wildlife types and sighting and migratory, feeding, nesting and breeding characteristics of the area wildlife including illegal poaching and trade; Identification of impacts the project on the wildlife, particularly on the habitat, migratory behaviors, nesting, feeding and breeding characteristics. Impacts on the wildlife diversity, species of conservation significance etc ; Preparation of mitigation measures for the identified impacts along with required costs and responsibilities; and Preparation of monitoring plan and environmental management plan for the project related to wildlife monitoring and management.**

From Nov., 2014 : To Feb. 2016

Employer : Nepal Environmental Scientific Services [NESS] (P) Ltd.

Position held &

Description of the Duties : **Biodiversity Expert, Environmental and Social Impact Assessment of Budhi Gandaki Hydroelectric Project (Storage Type 1200 MW), Budhi Gandaki HEP Development Committee, Goikha and Dhading Districts, Responsible for review of secondary literature of the proposal area on the wildlife (terrestrial/aquatic) relating to types, status, conservation significance, migratory behavior, feeding, nesting and breeding characteristics and overall habitat types and conditions; Field survey works in the project area on wildlife (terrestrial and aquatic fauna) relating to types, status, conservation significance, migratory behavior, feeding, nesting and breeding characteristics and overall habitat types and conditions; Interaction with the local people on the wildlife types and sighting and migratory, feeding, nesting and breeding characteristics of the area wildlife including illegal poaching and trade; Identification of impacts the project on the wildlife, particularly on the habitat, migratory behaviors, nesting, feeding and breeding characteristics. Impacts on the wildlife diversity, species of conservation significance etc ; Preparation of mitigation measures for the identified impacts along with required costs and responsibilities; and Preparation of monitoring plan and environmental management plan for the project related to wildlife monitoring and management.**

From Jan., 2012 : To Sept., 2012

Employer : Nepal Environmental Scientific Services [NESS] (P) Ltd.

Position held &

Description of the Duties : **Biodiversity Expert, Environmental Impact Assessment of 600 MW Upper Marsyangdi II Hydroelectric Project, Hintal Hydropower Company (P.) Ltd., Manang and Lamjung Districts, Responsible for review of secondary literature of the proposal area on the wildlife (terrestrial/aquatic) relating to types, status, conservation significance, migratory behavior, feeding, nesting and breeding characteristics and overall habitat types and conditions; Field survey works in the project area on wildlife (terrestrial and aquatic fauna) relating to types, status, conservation significance, migratory behavior, feeding, nesting and breeding characteristics and overall habitat types and conditions; Interaction with the local people on the wildlife types and sighting and migratory, feeding, nesting and breeding characteristics of the area wildlife including illegal poaching and trade; Identification of impacts the project on the wildlife, particularly on the habitat, migratory behaviors, nesting, feeding and breeding characteristics. Impacts on the wildlife diversity, species of conservation significance etc ; Preparation of mitigation measures for the identified impacts along with required costs and responsibilities; and Preparation of monitoring plan and environmental management plan for the project related to wildlife monitoring and management.**

From 1997 : To 2012

Employer : Various national and international organization such as IUCN Nepal, ASP, IPS, WTLCIP(UNDP), METCON, NORPLANKAS & others agencies various

Position held &

Description of the Duties : **Wildlife Consultant, Wildlife Study, Conservation, Planning and Management , Responsible for participating on Habitat analysis, Wildlife survey, Ecology and Behavioral**

analysis of wild animals, park-people conflicts, Conservation education and awareness program around protected areas, buffer zone and schools, PRA and RRA activities, Conflict resolution in conservation areas, Capacity building of rural people for active participation in natural resources management and their sustainable use, Planning for conservation areas, Action plan, management plan and Implementation scheme, etc.

Worked for research and management of species in following areas

1. Mammals (Red Panda, Musk Deer and Himalayan Thar) in Api-Nampa Conservation Area, Darchula, Nepal. 2011-12
2. Chitwan National Park and its Buffer Zone, 2005-2012
3. Jagadishpur Reservoir (Ramsar site), Kapilbastu, Nepal, 2010-2012
4. Langtang National Park and its Buffer Zone, 2001-2012
5. Shivapuri National Park and its buffer zone, Kathmandu, Nepal, 2004-2012
6. Baghmara Community Forest area, Chitwan. 2010-2012
7. Suklaphanta Wildlife Reserve and its Buffer zone, Far-western Nepal, 1999, 2007, 2011
8. Musk Deer Captive Breeding Project in Manang (Humde, Manang and Khangsar forest) of ACAP/NTNC Nepal. 2009
9. Red Panda monitoring and habitat analysis in community forests of Ilam, East Nepal. 2008
10. Musk deer and Red Panda Conservation area, LNP Central Nepal, 2005-2007
11. Bardia National Park and its Buffer Zone and Black buck conservation area Khairapur, Bardia, 1999-2000, 2006-2007
12. Beesh Hazari Tal (Ramsar site), Chitwan, 2005
13. TAL (WWF program) and WTLCP (UNDP) area : Kailali-Kanchanpur, Nepal, 2004
14. Snow leopard study in Langtang since 2003
15. Tinjure-Milke-Jaljale Area (Rhododendron Conservation Area, IUCN Nepal), East Nepal, 2001
16. Makalu-Berun National Park and its Buffer Zone, East Nepal, 1997-2001
17. Sagarmatha National Park and its buffer zone, East Nepal, 2000
18. Chulachuli Range, Churiya (Mechi and Koshi zone), Nepal 1998-1999
19. Ghoda Ghodi Tal (Ramsar site), Kailali, Nepal, 1998

From Dec, 2009 : To May 2010

Employer : Nepal Environmental Scientific Services [NESS] (P) Ltd.

Position held &

Description of the Duties : Biodiversity Expert, Environmental Impact Assessment (EIA) Study of Kaligandaki Upper Hydropower Project (KGUHP), Trade Link Global Pvt. Ltd.; Responsible for review of secondary literature of the proposal area on the wildlife (terrestrial/aquatic) relating to types, status, conservation significance, migratory behavior, feeding, nesting and breeding characteristics and overall habitat types and conditions; Field survey works in the project area on wildlife (terrestrial and aquatic fauna) relating to types, status, conservation significance, migratory behavior, feeding, nesting and breeding characteristics and overall habitat types and conditions; Interaction with the local people on the wildlife types and sighting and migratory, feeding, nesting and breeding characteristics of the area wildlife including illegal poaching and trade; Identification of impacts the project on the wildlife, particularly on the habitat, migratory behaviors, nesting, feeding and breeding characteristics. Impacts on the wildlife diversity, species of conservation significance etc.; Preparation of mitigation measures for the identified impacts along with required costs and responsibilities; and Preparation of monitoring plan and environmental management plan for the project related to wildlife monitoring and management.

From August 2009 : To December 2009

Employer : Nepal Environmental & Scientific Services [NESS] (P) Ltd.

Position held &

Description of the Duties: Biodiversity Expert, Initial Environmental Examination (IEE) Study of Balephi HEP (50 MW), Client: Green Ventures (P) Ltd, Responsible for collection of secondary data in biodiversity status of the project affected areas, and preparation of TOR document. Provided input in physical environment

and coordinated the overall team provided guideline for study team members of the study group, preparation of biological environment study including identification of issues and mitigation measures , plan for detailed IEP, carryout biological environmental baseline studies for IEP covering wildlife (terrestrial/aquatic) relating to types, status, conservation significance, migratory behavior, feeding, nesting and breeding characteristics and overall habitat types and conditions; Field survey works in the project area on wildlife (terrestrial and aquatic fauna) relating to types, status, conservation significance, migratory behavior, feeding, nesting and breeding characteristics and overall habitat types and conditions losses and predict impact on biological environmental aspects by the project, design mitigation actions and estimate costs required, prepare monitoring plan on biological aspects and give input for the environmental management plan related to physical aspect.

From May, 2007 : To June 2008

Employer : Nepal Environmental Scientific Services [NESS] (P) Ltd.

Position held &

Description of the Duties : **Biodiversity Expert, Environmental Impact Assessment (EIA) Study for Mahakali Irrigation Project, Stage III, Mahakali Irrigation Project, Department of Irrigation, Responsible for review of secondary literature of the proposal area on the wildlife (terrestrial/aquatic) relating to types, status, conservation significance, migratory behavior, feeding, nesting and breeding characteristics and overall habitat types and conditions; Field survey works in the project area on wildlife (terrestrial and aquatic fauna) relating to types, status, conservation significance, migratory behavior, feeding, nesting and breeding characteristics and overall habitat types and conditions; Interaction with the local people on the wildlife types and sighting and migratory, feeding, nesting and breeding characteristics of the area wildlife including illegal poaching and trade; Identification of impacts the project on the wildlife, particularly on the habitat, migratory behaviours, nesting, feeding and breeding characteristics. Impacts on the wildlife diversity, species of conservation significance etc.; Preparation of mitigation measures for the identified impacts along with required costs and responsibilities; and Preparation of monitoring plan and environmental management plan for the project related to wildlife monitoring and management.**

From May, 2006 : To December 2006

Employer : Nepal Environmental Scientific Services [NESS] (P) Ltd.

Position held &

Description of the Duties : **Biodiversity Expert, Environmental survey for Upgrading Feasibility Study on Upper Seti (Damauli) Storage Hydroelectric Project in the Kingdom of Nepal, including IEE of Damauli – Bharatpur 220 kV Transmission Line ,/JICA Study Team/NEA, Responsible for review of secondary literature of the proposal area on the wildlife (terrestrial/aquatic) relating to types, status, conservation significance, migratory behavior, feeding, nesting and breeding characteristics and overall habitat types and conditions; Field survey works in the project area on wildlife (terrestrial and aquatic fauna) relating to types, status, conservation significance, migratory behavior, feeding, nesting and breeding characteristics and overall habitat types and conditions; Interaction with the local people on the wildlife types and sighting and migratory, feeding, nesting and breeding characteristics of the area wildlife including illegal poaching and trade; Identification of impacts the project on the wildlife, particularly on the habitat, migratory behaviours, nesting, feeding and breeding characteristics. Impacts on the wildlife diversity, species of conservation significance etc.; Preparation of mitigation measures for the identified impacts along with required costs and responsibilities; and Preparation of monitoring plan and environmental management plan for the project related to wildlife monitoring and management.**

From June, 2004 : To Feb., 2005

Employer : Nepal Environmental Scientific Services [NESS] (P) Ltd.

Position held &

Description of the Duties : **Zoologist / Wildlife Specialist, EIA Study Dang Cement Project, Responsible for review of secondary literature of the proposal area on the wildlife (terrestrial/aquatic) relating to types, status, conservation significance, migratory behavior, feeding, nesting and breeding characteristics and overall habitat types and conditions; Field survey works in the project area on wildlife (terrestrial and aquatic fauna) relating to**

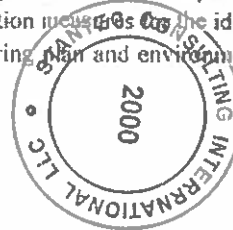
types, status, conservation significance, migratory behavior, feeding, nesting and breeding characteristics and overall habitat types and conditions; Interaction with the local people on the wildlife types and sighting and migratory, feeding, nesting and breeding characteristics of the area wildlife including illegal poaching and trade; Identification of impacts the project on the wildlife, particularly on the habitat, migratory behaviors, nesting, feeding and breeding characteristics. Impacts on the wildlife diversity, species of conservation significance etc.; Preparation of mitigation measures for the identified impacts along with required costs and responsibilities; and Preparation of monitoring plan and environmental management plan for the project related to wildlife monitoring and management.

From June, 2003 : To Dec., 2004
Employer : Nepal Environmental Scientific Services [NESS] (P) Ltd.
Position held &

Description of the Duties : Biodiversity Expert, EIA of Collection of Sabai grass for Bhrikuti paper and Pulp Industries, Nawalparasi, Responsible for review of secondary literature of the proposal area on the wildlife (terrestrial/aquatic) relating to types, status, conservation significance, migratory behavior, feeding, nesting and breeding characteristics and overall habitat types and conditions; Field survey works in the project area on wildlife (terrestrial and aquatic fauna) relating to types, status, conservation significance, migratory behavior, feeding, nesting and breeding characteristics and overall habitat types and conditions; Interaction with the local people on the wildlife types and sighting and migratory, feeding, nesting and breeding characteristics of the area wildlife including illegal poaching and trade; Identification of impacts the project on the wildlife, particularly on the habitat, migratory behaviors, nesting, feeding and breeding characteristics. Impacts on the wildlife diversity, species of conservation significance etc.; Preparation of mitigation measures for the identified impacts along with required costs and responsibilities; and Preparation of monitoring plan and environmental management plan for the project related to wildlife monitoring and management.

From May, 2000 : To December, 2000
Employer : Nepal Environmental & Scientific Services [NESS] (P) Ltd.
Position held &

Description of the Duties : Zoologist / Wildlife Specialist, Environmental Impact Assessment (EIA) of Melamchi Diversion Scheme (MDS) -Based on Stand Alone Water Supply and IEA of Yangri and Larke valley. METCON/ NORPLAN AS, Responsible for review of secondary literature of the proposal area on the wildlife (terrestrial/aquatic) relating to types, status, conservation significance, migratory behavior, feeding, nesting and breeding characteristics and overall habitat types and conditions; Field survey works in the project area on wildlife (terrestrial and aquatic fauna) relating to types, status, conservation significance, migratory behavior, feeding, nesting and breeding characteristics and overall habitat types and conditions; Interaction with the local people on the wildlife types and sighting and migratory, feeding, nesting and breeding characteristics of the area wildlife including illegal poaching and trade; Identification of impacts the project on the wildlife, particularly on the habitat, migratory behaviors, nesting, feeding and breeding characteristics. Impacts on the wildlife diversity, species of conservation significance etc.; Preparation of mitigation measures for the identified impacts along with required costs and responsibilities; and Preparation of monitoring plan and environmental management plan for the project related to wildlife monitoring and management.





त्रिभुवन विश्वविद्यालय

Registered Number

Tribhuvan University

[Handwritten Signature]



विद्यावारिधि उपाधि

परीक्षण गर्दा सुयोग्य ठहरिएका ... मुकेश कुमार चालिसे ... लाई
... जन्तु शास्त्र ... विषयमा ... २०२३ ... सालमा
... विज्ञान तथा प्रविधि ... अध्ययन संस्थान अन्तर्गत विद्यावारिधि उपाधि
प्रदान गरिएको व्यहोरा प्रमाणित गरिन्छ ।

Doctor of Philosophy (Ph. D.)

This is to certify that *Mukesh Kumar Chalise*
having been examined and found qualified has been awarded
the degree of Doctor of Philosophy in *Zoology*
... under the Institute of
Science and Technology ... in 1997.

Kathmandu dated the 21 NOV 1997



Kamal K. Joshi
Vice-Chancellor



1998

1999

2000

2001

2002

CURRICULUM VITAE (CV) FOR PROPOSED PROFESSIONAL STAFF

Proposed Position : Biologist
Name of the Consultant : Nepal Rural and Advancement Committee (P) Ltd.
Name of the Professional : Jyoti Prasad Gajurel, Ph. D.
Profession : Biodiversity, Ecology/Conservation Biology
Date of Birth : December 22, 1982
Nationality : Nepali
Years with Consultant / Entity : 4 Years
Address of Expert/Professional : GPO Box 7301, Thapathali, Kathmandu

Key Qualifications:

Dr. Jyoti Prasad Gajurel has obtained Ph. D., in a joint Project from SWISS FEDERAL INSTITUTE (WSL) and Central Department of Botany, Tribhuvan University. He has more than 12 years of experience in teaching, research and training in the field of Biodiversity, Plant Systematics and Environmental Science. He has accomplished a number of projects as a Team Leader/Biodiversity expert/Biologist or Assistant Expert and also a study member in a multi-disciplinary team of experts. Some of the recent key assignments undertaken by Dr. Gajurel as Team Leader/Biologist / Biodiversity: are: EIA Study of Sharada Babai HEP (93 MW)-Assisting Expert, Dang and Salyan Districts; EIA Study of Nupche Likhu HEP (57.5 MW)-Team Leader, Ramechhap District, October 2017-Ongoing; EIA Study of Seti Nadi HEP (30 MW)-Team Leader, Kaski District, September 2017-Ongoing, IEE of Lungri HPP (4.4 MW)-Team Leader September 2017-Ongoing, IEE of New Naupheri Irrigation Project in Jajarkot (2017 September completed) - Team Leader, IEE of New Ghodamasan Irrigation Project in Parsa (2017 September completed) - Team Leader, IEE of New Irrigation Project in Panchthar (2017 September completed) - Team Leader, IEE of Sustainable collection/extraction of River Bed Material from Jhapa/Ilam (2017 September completed); Naumure Multipurpose Project-Pyuthan, Dang, Argakanchi- Assisting Team Leader (January, 2018 ongoing).

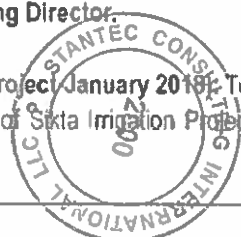
Education

- PhD in Botany: WSL Switzerland and Central Department of Botany, Tribhuvan University, Kirtipur Kathmandu, Nepal (May, 2016).
- M. Sc. in Botany: Central Department of Botany, Tribhuvan University, Kirtipur Kathmandu, Nepal. Plant Systematics. 2007.
- B. Sc. in Plant Science: Department of Botany, Trichandra Multiple Campus, Tribhuvan University, Nepal. 2003.
- 10+2 Biology: Bagmati Modern College, Nepal. 2001.
- SLC: Bagmati H. S. School, Nepal. 1999.

RECENT EMPLOYMENT RECORD

From April 2014: Till date; Employer: Nepal Rural & Advancement Committee [NRAC] (P) Ltd.; Position Held and Description of the Duties: Biologist as well as Managing Director.

IEE Study of Quarry Sites, Banke (for Sikta Irrigation Project) January 2018: To help in the construction of the Sikta Irrigation Project, five IEE has been prepared on behalf of Sikta Irrigation Project and NESS, The ToRs have been prepared and while detailed IEE will soon progress.



EIA Study of Nupche Likhu HEP (57.5 MW)-Ramechhap District- Team Leader for EIA studies; prepared Scoping and ToR and in stage of presentation to DOED in association with NESS.

EIA Study of Setinadi HEP (30 MW)- Kaski District- Team Leader for EIA studies; prepared Scoping and ToR and in stage of presentation to DOED in association with ERS.

IEE Study of Lungri Khola HPP (4.4MW), Rolpa (for ERMC-September2017): Leded as Team leader and submitted the ToR, it is approved and in stage of Detailed IEE from February 2018).

Biologist, Environmental Impact Assessment (EIA) Study of Katigandaki Fed Industries, Syngia: Responsible for review literature on biological environment of the area for the preparation of Scoping Document and TOR in particular, conduct scoping meeting, Compile scoping document and TOR.

EIA Study of Sharada Babal HEP (93 MW), Dang and Salyan Districts, Department of Electricity Development, Responsible for review literature on biological environment of the area for the preparation of Scoping Document and TOR in particular, conduct scoping meeting, Compile scoping document and TOR. Provide guideline for EIA study to other members of the study group, Compile the EIA report from the study documents of the other EIA study group, conduct public hearing meetings, and present the EIA report to the review committee.

Assisting Expert, EIA of Sikta Irrigation Project, Banke district, Responsible for Partial Study of EIA, biodiversity and forestry baseline study.

Some other Projects

- Naumure Multipurpose Project-Pyuthan, Dang, Argakanchi- Assisting Team Leader (January, 2018 ongoing)
- IEE of New Ghodamasan Irrigation Project in Parsa (2017 September completed) - Team Leader
- IEE of New Irrigation Project in Panchthar (2017 September completed) - Team Leader
- IEE of Sustainable collection/extraction of River Bed Material from Jhapa/Ilam (2017 September completed)

Trainings/Workshop/Conference

- Award (2017): Nepal Bidhyabhutan "KA": Gold medal for PhD
- Award (June, 2010): "Krishna Chandra Regmi Award" for best Thesis of year 2007/2008 among post graduate level from Tribhuvan University, Nepal.
- Statistical Training: Tribhuvan University, CDB (2013, 2014) short courses. *Training Focus:* Fundamentals of SPSS. "R" Statistics.
- PhD Scholarship from project(2011): "Biodiversity and livelihood development in land-use gradients in an era of climate change" of Prof. Dr. ChristophScheidegger (Biodiversity and Conservation Unit, Swiss Federal Research Institute WSL).
- Research Scholar (May, 2010) Missouri Botanical Garden, Saint Louis. *Training Focus:* Study of Asian Commelinaceae, Curatorial and molecular techniques.
- Smithsonian Fellowship (June, 2010): Smithsonian Institution (US National Herbarium), Washington DC. *Training Focus:* Study of Asian Commelinaceae, Curatorial, anatomical and cytological and basic molecular techniques.

Additional Skills and Knowledge

- Advanced computer and internet skills, Microsoft office and Page-maker
- Statistical packages (R and SPSS)
- DIVA-GIS, Basic Arc-GIS



S. No. 83381/54

Year and date of issue by
Ministry of Foreign Affairs,
Department of Consular
Services, Kathmandu, Nepal

[Signature]
Consular Officer
Date: 07 AUG 2017

त्रिभुवन विश्वविद्यालय

Certified to be true copy of the original

Tribhuvan University



[Signature]
Raghuram Shrestha
For Chief of Records Division
Office of the Controller of Examinations
Tribhuvan University



विद्यावारिधि



परीक्षण गर्दा सुयोग्य ठहराएका

ज्योति प्रसाद गजुरेल

लाई

वनस्पतीशास्त्र विषयमा

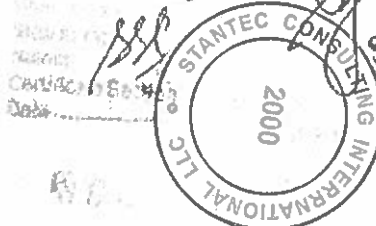
विक्रम सम्वत् २०७३ मा विद्यावारिधि उपधिद्वारा विभूषित गरिएको व्यहोरा प्रमाणित गरिन्छ ।

Doctor of Philosophy (Ph.D.)

This is to certify that *Jyoti Prasad Gajurel* having
been examined and found qualified has been awarded the degree of
Doctor of Philosophy in *Botany*
in the year 2016 A.D.

Kathmandu, Nepal.

Date: 29 December 2016



[Signature]
Section Officer
Vice-Chancellor



CURRICULUM VITAE (CV) FOR PROPOSED PROFESSIONAL PERSONNEL

1. Proposed Position : Fauna Specialist
2. Name of Firm : Nepal Environmental and Scientific Services (NESS) P. Ltd
3. Name of personnel : Tej Bahadur Basnet
4. Date of Birth : 28th April, 1971
5. Nationality : Nepali
6. Education :
 - Masters degree in Zoology, Tribhuvan University, Central Department of Zoology, Kathmandu, Nepal, 2008.
 - Bachelors Degree in Biology, Tribhuvan University, Kathmandu, Nepal, 1994.
7. Membership of Professional Associations:
 - Member – The Ecological Society of America (ESA)
 - Member – Ecological and Environmental Change Research Group, UiB, Norway.
 - Founder Member – Friends of Birds, Nepal (FoB)
 - Member – Bird Conservation Nepal (BCN), Kathmandu
8. Other Trainings :
 - Bio-statistical programme: Multivariate analysis in 'CANOCO 4.5', R, SPSS
 - Endnote library
 - Computer: MS-Word, Excel, Access, Power Point, Adobe and Omni page.
 - GIS- ESRI ArcView 3.2, Nov. 13 -17, 2006

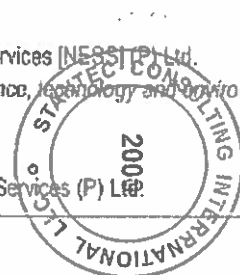
9. Countries of Work Experience: Nepal

10. Languages:

	<u>Reading</u>	<u>Writing</u>	<u>Speaking</u>
Nepali	Excellent	Excellent	Excellent
English	Excellent	Excellent	Excellent
Hindi	Excellent	Fair	Excellent

11. Employment Record:

- From Feb 2015 : May 2016
Employer : Nepal Environmental and Scientific Services
Position held : Zoologist,
- From Dec. 2013 : To Feb. 2015
Employer : Forest Resource Assessment (FRA), Nepal Project
Position held : Forest Ecosystem Expert,
- From July, 2002 : To Nov. 2013
Employer : Freelance consultant
Position held : Biodiversity Expert,
- From Dec, 2009 : To May 2010
Employer : Nepal Environmental Scientific Services (NESS) P. Ltd.
Position held : Zoologist/Aquatic Life Expert science, technology and environment.
- From January 2008 : To May, 2010
Employer : Nepal Environmental & Scientific Services (P) Ltd.



Position Held : Zoologist/Aquatic Life Expert.

From Jan. 2007 : To Feb. 2008
Employer : Bird Conservation Nepal (BCN)/Social Welfare Association of Nepal (SWAN)
Position held : Wildlife biologist

From May, 2007 : To Sept. 2007
Employer : Environmental Technology and Economic Development(WWF/ CNPWC)
Position held : Team Member (Wildlife Expert)

From Dec., 2006 : To July, 2007
Employer : Socio-economic Development Academy (SEDA), Banke, Nepaigunj / GoN
Position held : Coordinator

From Jan. 2004 : To Dec. 2006
Employer : Nepal Nature dot Com
Position held : Team member (Wildlife biologist)

From June, 2004 : To Feb., 2005
Employer : Nepal Environmental Scientific Services (NESS) (P) Ltd.
Position held : Team Member (Wild life expert)

From June, 2003 : To Dec. 2004
Employer : Nepal Environmental Scientific Services (NESS) (P) Ltd.
Position held : Team Member (Wild life expert)

From May, 2000 : To December, 2000
Employer : Nepal Environmental & Scientific Services (NESS) (P) Ltd.
Position held : Team Member (Wild life expert)

12. Detailed Tasks Assigned:

- Design and implement focal study related to fauna, consult with the stockholders, development of mitigating measures.

13. Relevant Project Experience:

Name of assignment or project: Initial Environmental Examination (IEE) for the 400 kV D/C Transmission Line System from 900 MW Upper Kamali HEP Power House Substation to Nepal India Border

Year: August 2015- December 2015

Location: Achham, Surkhet Kailali Districts

Client: Kamali Transmission Line Company P. Ltd through consultant: Nepal Environmental and Scientific Services (NESS) P Ltd

Position held: Fauna Expert/ Zoologist

Main project features: Initial Environmental Examination (IEE) Study

Activities Performed: Responsible for review of the literature on biological environment particularly fauna of the area for the preparation of Scoping Document and ToR in particular, review of land acquisition in Transmission Line (TL) corridor (permanent for tower and lands under RoW) from biodiversity perspective, conduct scoping meeting, compile scoping document, provide guideline for EIA study to other members of the study group on faunal assessment, assist in preparing resettlement and rehabilitation matrix from wildlife perspective, drafting public consultation and disclosure planning, prepared all the proceeding and records in a systematic fashion in IEE report.

Name of assignment of project: Environmental Impact Assessment Study of Budhigandaki Hydroelectric Project (BGHEP) 1200 MW

Year: Nov. 2014 - Oct 2016



Location: Dhading and Gorkha Districts

Client: Budhi Gandaki Hydroelectric Development Committee (BGHEPDC) through NESS

Main project features: Storage project with an installed capacity of 1200MW generating 3 383 GWh of annual energy. The key project structures are: i) Double curvature arch dam of height 263m from the foundation level, ii) reservoir area occupying nearly 63km² of land along Budhi Gandaki and Anku Khola across 13 VDCs of Gorkha District and 14 VDCs of Dhading District, iii) surface powerhouse at the toe of the Dam at the left bank and iv) short headrace tunnel and penstock tunnels linking powerhouse with the intake in the reservoir

Position held: Zoologist/Wild life expert

Activities Performed: review literature on biological environment of the area for the preparation of Scoping Document and ToR in particular, conduct scoping meeting, conduct field visit and survey, provide guideline to other study members on biodiversity (fauna) assessment, data analysis and prepare EIA report (Biodiversity/fauna part), facilitate public hearing meetings and present the report to the review committee.

Name of assignment of project: 1. Environmental Impact Assessment Study of Sanjan Khola Hydroelectric Project 78 MW, 2. Feasibility study of 132 kV transmission line study from P/H of SKHEP to Chyamdon

Year: Nov. 2012- May 2013

Location: Rasuwa District

Client: Salasungi Power Limited through Nepal Environmental and Scientific Services (NESS) P Ltd

Main project features: Run of the river scheme with a peaking reservoir, tunnel, underground desander, surge tank, and surface powerhouse with support facilities such as construction camps, spoil disposal, internal access roads, transmission lines etc.

Position held: Wildlife Expert/ Zoologist

Activities Performed: review literature on biological environment of the area for the preparation of Scoping Document and ToR in particular, conduct scoping meeting, conduct field visit and survey, provide guideline to other study members on wildlife assessment, data analysis and prepare EIA report (Biodiversity part) and facilitate public hearing meetings.

Name of assignment or project: Environmental Impact Assessment of 900 MW Upper Karnali Hydroelectric Project

Year: March 2012- September 2012

Location: Nepal

Client: Upper Karnali Hydropower Company (P.) Ltd.

Main project features: Run of the river scheme with a peaking reservoir, tunnel, underground desander, surge tank, and surface powerhouse with support facilities such as construction camps, spoil disposal, internal access roads etc.

Positions held: Wildlife/Fauna Expert

Activities Performed: Responsible for the review literature on biological environment of the area for the preparation of Scoping Document and ToR in particular, conduct scoping meeting, compile scoping document and ToR. Provide guideline for EIA study to other members of the study group on biodiversity assessment (wildlife), prepare EIA report (wildlife part) and present the report to the review committee.

Name of assignment or project: Environmental Impact Assessment of 600 MW Upper Marsyangdi II Hydroelectric Project

Year: 2011-2012;

Location: Nepal

Client: Himtal Hydropower Company (P.) Ltd.

Main project features: Run of the river scheme with a peaking reservoir, tunnel, surge tank, and underground powerhouse with support facilities such as construction camps, spoil disposal, internal access roads etc.

Positions held: Wildlife Expert/ Zoologist

Activities Performed: Responsible for the review literature on biological environment of the area for the preparation of Scoping Document and ToR in particular, conduct scoping meeting, conduct field visit and survey, provide guideline to other study members on wildlife assessment, data analysis and prepare EIA report (Biodiversity part - fauna).

Name of assignment of project: Environmental Impact Assessment Study of Bheri-Babai Diversion Multipurpose Project (48 MW)

Year: May 2011-Aug. 2012

Location: Surkhet, Banke and Bardiya Districts

Client: Bheri-Babai Diversion Multipurpose Project, Department of Irrigation, Jawalakhel, Lalitpur

Main project features: Run of the river scheme with a diversion dam, tunnel, surge tank, and powerhouse with support facilities such as construction camps, spoil disposal, internal access roads

Position held: Wildlife Expert/ Zoologist

Activities Performed: Responsible for the review literature on biological environment of the area for the preparation of Scoping Document and ToR in particular, conduct scoping meeting, conduct field visit and survey, provide guideline to other



study members on wildlife assessment, data analysis and prepare EIA report (Biodiversity part), facilitate public hearing meetings and present the report to the review committee.

Name of assignment or project: Kabeli Corridor 132kV Transmission Line Project, Transmission Line / substation Construction

Year: August, 2011 – October , 2011

Location: Nepal

Client: Nepal Electricity Authority through NESS

Main project features: Preparation of Resettlement Action Plan, Social Action Plan and VCDP for Kabeli Corridor TL Project

Position held: Fauna Expert/ Zoologist

Activities performed: Review of project documents, provided training to the NESS study team on fauna/biodiversity assessment, assist to prepare entitlement matrix for project affected households, developed modality for compensation payment for buildings, crops, fruits, vegetables which needs to be acquired which are along the TL alignment, assist to prepare RAP, SAP and VCDP from biodiversity perspective and advisory services to the NEA engineering team on wildlife issues.

Name of assignment of project: Environmental Impact Assessment Study of Katigandaki Upper Hydropower Project (KGUHPP)

Year: December 2009-April 2010

Location: Myagdi and Mustang Districts

Client: Trade Link Globe Pvt. Ltd

Main project features: Run of the river scheme with a diversion dam, tunnel, surge tank, and powerhouse with support facilities such as construction camps, spoil disposal, internal access roads

Position held: Zoologist/Biodiversity expert

Activities Performed: Responsible for the review literature on biological environment of the area for the preparation of Scoping Document and ToR in particular, conduct scoping meeting, conduct field visit and survey, provide guideline to other study members on wildlife assessment, data analysis and prepare EIA report (Biodiversity part), facilitate public hearing meetings and present the report to the review committee.

Name of assignment of project: Environmental Impact Assessment of Waste Resource Management center, Biratnagar Dharan Corridor

Year: Feb., 2004 – Feb., 2005

Location: Hetauda, Makawanpur District

Client: Waste Resource Management center, Biratnagar

Main project features: Environmental Impact Assessment Study of Waste Resource Management center, Biratnagar Dharan Corridor

Position held: Wildlife expert

Activities Performed: Responsible for the review literature on biological environment of the area for the preparation of Scoping Document and ToR in particular, conduct consultation, conduct field visit and survey, data analysis and prepare EIA report (Biodiversity part - fauna).

Name of assignment or project: Supplementary Environmental Impact Assessment Survey of Upgrading Feasibility Study on the Development of Kulekhani III Hydropower Project

Year: Feb2000-Nov, 2002

Location: Nepal

Client: JICA Study Team

Main project features: A 42 MW cascade project of Kulekhani with a diversion weir, tunnel, small reservoir, and powerhouse

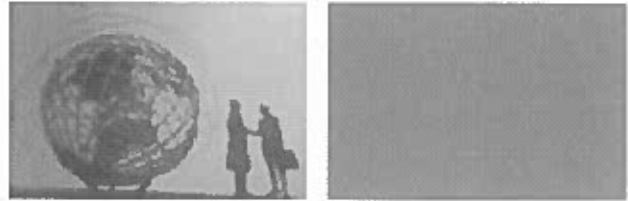
Positions held: Wildlife expert

Activities Performed: Responsible for the review literature on biological environment of the area, conduct consultation meeting, conduct field visit and survey, data analysis and prepare SEIA report (Biodiversity part - fauna).



Neena Singh

Partner



Neena Singh has more than 25 years of experience in the field of social development and is presently a Partner with ERM India in the Impact Assessment Planning Practice. As the Partner in Charge for the practice she is responsible for business development as well as co-ordination of all the projects that are undertaken by the Group. She is also a key member of ERM's global social consulting team and is the Social Practice leader for the Asia Pacific region.

She has extensive experience in carrying out social assessments, reviews, assurance audits, Social Impact Assessment and Resettlement and Rehabilitation studies and preparation of Rehabilitation Action Plans (RAP), in diverse sectors such as mining, oil and gas, infrastructure such as roads and power, manufacturing, agriculture, forestry and water and sanitation. She has also worked with local governments, both urban and rural, in the areas of utility and sector reforms, governance and capacity building/training in environmental and social management. Prior to joining ERM she was associated with Centre for Science & Environment, an international environmental NGO, as a Policy Analyst and Programme Associate for Forestry and Conservation and Livelihood programmes. In that capacity she extensively researched and wrote on policy issues as well as on grass-root issues in CSE publications like Down to Earth.

She has led a number of renewable energy project in wind, solar, small and large hydro as well as biomass, where she has been the Partner in charge as well as the social expert.

She has worked in Asia and Africa including India, Bangladesh, Sri Lanka, Laos, Vietnam, Indonesia, and Angola, Kenya, Egypt, Liberia, Guinea and Malawi in different capacities as a social, IP and R & R expert. Ms. Singh has worked with local, state and central government, and a large number of donor agencies like the World Bank, IFC, ADB, EBRD, DFID, DEG, FMO, Proparco, OeB, Swedfund, ICEF, WSP-SA and UNICEF. Her key private sector clients include Rio Tinto, BHP Billiton, Holcim, Lafarge, Chevron, BP,

Shell, Vedanta Resources and Cairn Energy amongst others. Some of her private banks/financial institutions clients include Citigroup, HSBC, Wachovia, Barclay, Standard Chartered, HSBC, Aix Bank, ICICI etc. In doing this she has been regularly using, and is very familiar with institutional policies corporate policies, guidance manuals and global commitments to social and environmental goals of such companies.

Fields of Competence

- Social Impact Assessments
- Strategic Socio-economic studies
- Resettlement & Rehabilitation
- Indigenous Peoples Development Plan or Tribal Development Plan
- Social audits, Independent reviews and Assurance
- Monitoring and Evaluation
- Community relations and stakeholder engagement
- Poverty analysis, social analysis and livelihoods studies
- Training and Capacity Building
- Sector reforms and policy studies

Education

- M.Phil in Geography (Thesis on Rural Development) from Delhi School of Economics, University of Delhi.
- M.A (Geography) from Delhi School of Economics. (Specialised in Regional Planning) 1991.
- Bachelor of Arts (Honors) in Geography, from Kirozi Mal College in Delhi University, 1989.

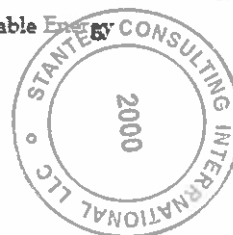
Languages

- English
- Hindi

Key Sectors

- Oil and Gas and energy
- Mining
- Power
- Renewable Energy

Delivering sustainable solutions in a more competitive world



- Infrastructure
- Local Government and sector reforms
- Natural Resource Management
- Agriculture and Rural Development

CERTIFICATION

Neena is trained as a Lead Auditor for SA 8000.

OTHER EXPERIENCE

- South Asian Focal Point for the GEF-NGO Network between 1996 and 1998.
- NGO Coordinator at the first Global Environment Facility (GEF) Assembly, held in New Delhi in 1998, where representatives of nearly 150 governments participated.

EMPLOYMENT RECORD

- July 06 to present: **Partner** at ERM
- March 03 to July 06: **Technical Director** with the Social Development and Natural Resources Group at ERM India
- Nov ' 2002 to March 2003: **Principal Consultant** at ERM India
- May 2001 to November 2002: **Senior Consultant** with at ERM India
- Sept '98 to May 2001: **Consultant** at ERM India
- July '95 to Aug '98: **Policy Analyst and Programme Associate**, Centre for Science and Environment, New Delhi.
- Aug '94 to June '95: **Research Associate**, Indian Institute of Public Administration, New Delhi
- Sept '93 to July '94: **Research Associate** in the Centre for Micro Planning and Regional Studies in the Lal Bahadur Shastri National Academy of Administration, Mussoorie.
- Mar '93 to Sept '93: **Research Associate** in the Centre for Education Management and Development, a Delhi based NGO

Socio-economic Impact Assessment, Social Analysis and Resettlement Action Plans

Neena has led the Social Consulting team to undertake detailed baseline surveys, social impact assessment and develop Social Management Plans, Resettlement Action Plans as well as specific plans to address livelihood restoration and community development issues.

Social Impact Assessment (SIA), Resettlement Action Plan (RAP) and Livelihood Restoration Plan (LRP)

for 900 MW Hydro Power Project in Upper Karnali, Nepal

Client: Confidential

ERM has been commissioned to undertake an SIA, RAP and LRP for a 900 MW HPP in Nepal. The work involves survey of more than 500 households and assessing the level of impacts on the local community, community forests and fishing areas. The project involves household surveys, land & asset inventories, measuring of land of PAFs and devising an RAP for the physically displaced families. In addition, an LRP for economically displaced will also be prepared.

Neena is the Partner in Charge and the Social Expert for the project.

Environmental and Social Impact Assessment (ESIA) of proposed 50 MW solar power project: Mymensingh District, Bangladesh, May- August, 2017

Client: Sunenergy Holdings Pvt. Ltd and DEG

The project is the second largest PV power plant among approved plans in Bangladesh. Neena was the Project director and Social QA/QC on this assignment.

Preparation of a Livelihood Restoration Plan for a 216 MW Greenfield runoff-river hydropower project in Trishuli watershed, Kathmandu, Nepal *Client: Nepal Water and Energy Development Company (NVEDC)*

Environmental Resources Management, India (ERM) was commissioned by Nepal Water and Energy Development Company (NVEDC) to undertake an Assessment of the Land Acquisition and Resettlement and Development of a Livelihood Restoration Plan for the Upper Trishuli-1 (UT-1) Hydropower project in Nepal. The project involved household surveys, land & asset inventories. ERM undertook this study in association with a Kathmandu based firm Nepal Environmental & Scientific Services [NESS] (P) Ltd.

Neena is the Partner in charge and the Social Lead for this project.

Development of Resettlement Plans for mine, deep sea port and 700 km railway line for a mining project in Guinea

Client: Rio Tinto

The project is one of the largest iron ore project in the world which proposes to develop large scale

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infrastructure for the project, including 700 km railway line across the country. The railway will go through inaccessible and remote areas without clear definition of land ownership in many parts of the project. ERM's resettlement studies including household surveys, asset inventories, ownership identification, need assessment and preparation of RAPs and LRPs.

Neena was the Technical Partner leading the resettlement studies.

Preparation of Resettlement Framework for a iron ore mine, 70 km road and a port in Liberia
Client: Western Clusters Limited (Vedanta Resources)

ERM has recently concluded the environmental and social impact assessment (ESIA) for regulatory approval and to meet IFC standards. A Resettlement Framework was developed to provide the overarching principles, entitlement framework and project commitments on resettlement and compensation. The Framework has been since approved and will inform and guide the resettlement action plans.

Neena was the Partner in Charge for the project

Development of Resettlement Action Plan and Livelihood Restoration plan for an LNG project in Philippines
Client: and Oil and gas major.

The LNG project will impact fishing routes and fishing livelihoods through establishment of exclusion zones. ERM is conducting surveys of the fishing community to understand the extent of impacts and will develop mitigation measures and a RAP/LRP.

Social Impact Assessment and Resettlement Framework for the Luhri Hydel Power project in Himachal Pradesh.
Client: Sutluj Vidury Nigam Limited (SJVN)

ERM is undertaking a detailed social impact assessment and preparing a resettlement framework for the 775 MW Luhri Run of the River (RoR) project. The SIA covers 68 potentially impacted villages and includes extensive consultations, household and village impact assessment and drafting a resettlement framework for the project. The project is being funded by the World Bank.

Neena is the Partner- in- Charge and lead Social Specialist for the assignment

ESDD of NTPC's proposed 750 MW solar power

project within future Pavagada Solar Park, Karnataka, India , April-September 2016

ERM was commissioned by KfW Development Bank to undertake ESDD of a proposed 750 MW solar power project by NTPC within future Pavagada Solar Park located in Karnataka, India. The Pavagada solar park (total approximately 2000 MW spread across 20,000 acres) is being developed by Karnataka Solar Power Development Corporation Limited.

Neena was the Partner in Charge and Social lead for the assignment. She was involved in identifying and assessing the potential issues related to labour, work force, livelihood etc.

Resettlement Action Plan for a Sugar Plantation Project, Kenya, KISCOL, 2011-2012. ERM developed a resettlement action plan for a major sugarcane plantation and factory on the East coast of Kenya. ERM prepared a detailed Action Plan as a recommendation for the client.

Neena was the Technical Partner and resettlement Lead for the project.

Independent Performance Standards Review of a Sugar Plantation Project in Kenya
Client: Confidential

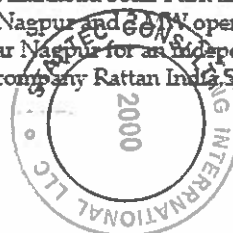
The client is planning to revive a major sugarcane plantation and factory in the East coast of Kenya and is proposing to seek international funding. ERM was asked to conduct a detailed independent review of the environmental and social/resettlement performance of the project and suggest measures to close the gaps and develop compliance to the standards. ERM prepared a detailed Action Plan as a recommendation for the client.

Neena was the Social and Resettlement expert in the three- member team.

ESDD of Solar Power Projects (4 sites) in Maharashtra, Karnataka, Uttar Pradesh and Rajasthan, July-September 2016

Client: GE Capital

Neena was involved as Partner in Charge and social lead for carrying out the ESDD of 50 MW proposed project in Allahabad Solar Park and 40 MW proposed project in Nagpur and 60 MW operational Solar power project near Nagpur for an independent power producer company Rattan India Solar Limited.



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Environmental and Social Impact Assessment and Resettlement Action Plan for a slum development project in India with investment from ADB
Client: Kumar Builders, Pune

ADB was seeking to invest in the project to resettle and rehabilitate a slum in Pune in western India. ERM prepared an environmental and social impact assessment for the project to meet ADB requirements and also a resettlement Action Plan to guide the resettlement of the slum dwellers. The RAP subsequently underwent public disclosure.

Neena was the Partner In Charge and the lead social specialist for the assignment.

Land Acquisition and Resettlement Advisory Support for integrated cement plant in Darlaghat, Himachal Pradesh, India.

Client: Ambuja Cements Limited, Holcim group of companies

The assignment involves dealing with and supporting ACL on issues of resettlement, land acquisition strategies and community engagement practices. Preparation of RAP/SIA and implementation of these are some of the crucial aspects of this complex project involving large scale land acquisition and resultant displacement. Neena is the project director and overall in charge of this year long assignment

ESIA and Resettlement Framework for of the Nam Xane 3 Hydropower Project in Lao PDR

Client: Rohas Euco Industries Berhad, 2007.

Nam Sane 3 Hydroelectric Power (HP) Project, located in Ngan subdistrict of Khouane District, Xeng Khouang Province has been identified as one of the potential sites for hydropower generation in Lao PDR. The proposed Nam Sane 3 hydro power project is being funded and developed by Rohas- Euco Industries (REI) Berhad. As about 500 families are expected to get displaced because of the project, a resettlement framework is also being developed to inform decision for the feasibility stage.

Neena was the lead social specialist for the project which includes a social impact assessment and resettlement planning for the proposed hydro power project in a remote and impoverished mountainous region of Laos.

ESIA of a 126 MW wind farm project in Pratapgarh District in the state of Rajasthan,

Client: Welspun Energy Rajasthan Pvt. Ltd.

The role includes carrying out an Environmental and

Social Impact Assessment for proposed wind farm project site based on IFC Performance Standards, ADB Safeguard Policy Statement and General and specific EHS Guidelines. The study involved Environmental Baseline Assessment, including the understanding of the scope for bird/bat monitoring of the entire project, identification of the impacts, evaluating the impacts, prepare the Impact Assessment and Mitigation Plan. The study also involved prediction of noise and shadow flicker assessment on neighboring households within 500 m from the wind turbine generators.

Neena was the Partner in Charge and Social lead of the project. She oversaw the identification and assessment of potential social impacts which may arise as a result of project development.

Development of RAP and associated risk management for a voluntary resettlement project in Kazakhstan. Client: Tengizchevroil (TCO)

ERM was asked by a consortium of oil companies to assess the impacts of voluntary resettlement of 179 families to an urban settlement in Kazakhstan. ERM analysed the household survey to assess impacts, developed an entitlement framework and a detailed RAP for the project affected families, following the international best practices. The RAP included an implementation plan, institutional arrangements, and a public consultation and disclosure plan. Neena was a part of an international team working on the project.

Social Assessment and development of Resettlement Action Plan for the Guangdong LNG Project in Guangzhou, Guangdong province in China: Client: Guangdong LNG Project

Client: Guangdong LNG Project

The GD LNG Project is an equity joint venture (JV) partnership of CNOOC, BP and a number of Sponsor Companies. GDLNG sponsors are committed to socially responsible development of the project and have therefore requested that a Social Impact Assessment be conducted and a Resettlement Plan be developed for the project.

The purpose of the SIA was to identify, at an early stage, potential health and social impacts resulting from the construction and operation of this project and provide management measures to reduce potential impacts and maximise the positive effects as far as practicable. Engagement with project affected people and the wider community was recognized as being crucial to the timely and successful implementation of such projects in China. Neena was the Resettlement Specialist in the project and was involved in preparation of the Public Consultation and Disclosure Plan and RAP.

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Social Impact Assessment and Developing an RAP for Impacts on fishing for an LNG Terminal Project in Angola, Africa. Client: Cabindia Gulf Oil Company Limited

ERM was involved in conducting an Environmental and Social Impact Assessment for a proposed LNG project around the Kwanda Base. Fishing was an important livelihood activity in the project area, and ERM assessed the impacts of the project on fisheries and fishing livelihoods, and eventually preparing an RAP outlining the entitlement framework to compensate and mitigate the impacts on the local community. Neena was a part of a two-member RAP team who prepared the RAP and disclosed it to the local community.

Social Assessment and preparation of RAP for the Allain Duhangan Hydel Power Project and Transmission Line in Himachal Pradesh Client: Rajasthan Spinning and Weaving Mills Pvt Ltd/IFC

RSWML is seeking partial financing from the International Finance Corporation (IFC) for the project. To fulfill the requirements of IFC's Environmental and Social Review of the project, ERM India was invited to prepare a detailed information on environmental and social impact assessment of the project, along with seven specialized studies and a reconnaissance survey for the proposed transmission line corridor, prior to IFC's approval on financing the project. ERM prepared a detailed RAP for the project, recommended institutional and monitoring mechanisms and developed a detailed Public Consultation and Disclosure Plan for the entire project period.

Neena was the lead social specialist for the project and in addition to undertaking the tasks listed above, was also responsible for the public consultations, public hearings and dialogue with villagers, IFC and the NGOs as a part of the public disclosure programme.

Social Assessment, Preparation of the Public Consultation and Disclosure Plan, Resettlement and Rehabilitation Action Plan and the Indigenous Peoples' Development Plan for the proposed limestone mining project in Nongtraï village, Meghalaya

Client: Lafarge Umiam Mining Private Limited (LUMPL)/IFC

ERM India had conducted the social impact assessment and done R&R planning for the limestone mining project proposed by LUMPL in Shella and

Nongtraï Durbar in Meghalaya. ERM is currently updating the SIA and also developing an R&R plan for the individuals/groups affected by the project. The assignment involves census survey of all the project affected households in the mine and the 10 kms long over land belt conveyor area. Neena is the project director for the assignment.

ESIA of a 54 MW wind farm project in Anantapur District in the state of Andhra Pradesh. October 2013 - January 2014

Client: Energon Power Resources Pvt. Ltd

The role includes carrying out an Environmental Impact Assessment for proposed wind farm project site based on IFC Performance Standards and General and specific EHS Guidelines. The study involved Environmental Baseline Assessment, including the understanding of the scope for bird/bat monitoring of the entire project, identification of the impacts, evaluating the impacts; prepare the Impact Assessment and Mitigation Plan.

Neena was the social lead and partner in charge for the assignment.

Social Assessment and preparation of the RAP for Ashram Chowk Flyover Project

Client: Noida Toll Bridge Company Limited

NTBCL proposed to construct a flyover with two clover leaves at the intersection of the Mathura Road and the Ring Road at Ashram Chowk in Delhi. The project is supported by the World Bank. The implementation of the project was likely to result in displacement of about 50 hutments (families) and a partial/total elimination of commercial enterprises in the project affected area. ERM was commissioned to undertake the socio-economic baseline survey of the affected people, identify the project affected persons, evaluate the extent of their loss, develop a compensation package, locate a resettlement site and develop a R&R Action Plan. Neena as a project manager in this assignment was involved in household survey, RAP and specifically overlooked livelihood restoration strategies for all PAFs.

ESIA of a 50 MW wind farm project in Jaisalmer District in the state of Rajasthan.

Client: Ostro Renewables

Location of the Project: Jaisalmer District, Rajasthan, India

Duration: June 2014 - September 2014

Key words: Renewable, Power, Wind

The role includes carrying out an Environmental and Social Impact Assessment for proposed wind farm project site based on IFC Performance Standards and



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General and specific EHS Guidelines. The study involved Environmental Baseline Assessment, including the understanding of the scope for bird/bat monitoring of the entire project, identification of the impacts, evaluating the impacts; prepare the Impact Assessment and Mitigation Plan. The study will also involve prediction of noise and shadow flicker assessment on neighboring households within 500 m from the wind turbine generators.

Neena is the Environmental Expert for Project and responsible for noise and shadow flicker assessment, review of environmental impact assessment and development of environmental management plan.

Social Assessment and preparation of RAP for the Allain Duhangan Hydel Power Project in Himachal Pradesh

Client: Rajasthan Spinning and Weaving Mills Pvt Ltd/IFC

RSWML is seeking partial financing from the International Finance Corporation (IFC) for the project. To fulfill the requirements of IFC's Environmental and Social Review of the project, ERM India was invited to prepare a detailed information on environmental and social impact assessment of the project, along with seven specialized studies and a reconnaissance survey for the proposed transmission line corridor, prior to IFC's approval on financing the project. ERM prepared a detailed RAP for the project, recommended institutional and monitoring mechanisms and developed a detailed Public Consultation and Disclosure Plan for the entire project period.

Neena was the lead social specialist for the project and in addition to undertaking the tasks listed above, was also responsible for the public consultations, public hearings and dialogue with villagers, IFC and the NGOs as a part of the public disclosure programme.

ESIA and Resettlement Framework for of the Nam Xane 3 Hydropower Project in Lao PDR

Client: Rohas Euco Industries Berhad, 2007.

Nam Sane 3 Hydroelectric Power (HP) Project, located in Ngan subdistrict of Khouang District, Xieng Khouang Province has been identified as one of the potential sites for hydropower generation in Lao PDR. The proposed Nam Sane 3 hydro power project is being funded and developed by Rohas- Euco Industries (REI) Berhad. As about 500 families are expected to get displaced because of the project, a resettlement framework is also being developed to inform decision for the feasibility stage.

Neena was the lead social specialist for the project which includes a social impact assessment and resettlement planning for the proposed hydro power project in a remote and impoverished mountainous region of Laos.

Social Assessment and Risk Assessment of three Hydropower Projects in Himachal Pradesh and Uttarakhand

Client: Confidential

ERM undertook a Social assessment of three hydropower project in terms of Social impacts, labour and human resource, and land acquisition in order to identify potential EHS risks and liability for the client. The work involved due diligence and review of social aspects and performance of the three HPPs which had a cumulative generation capacity of 1500 MW located in the mountainous districts of Himachal Pradesh and Uttarakhand in India.

Neena was the Partner in charge and the Social lead for the project

Social Assessment and Livelihood Mitigation strategy for a midstream pipeline project

Client: Cairn India

Cairn Energy India Limited, in joint venture with ONGC, is developing oil fields in the Rajasthan state. There is a proposal to lay an on-shore crude oil evacuation pipeline and related facilities located about 35 Km North-East of Barmer in State of Rajasthan, up to a new terminal at Jamnagar-Salaya in State of Gujarat via Sanchole and Viramgam.

It has been tentatively estimated that the overall pipeline route length for transportation of crude oil would be 600 km. The pipeline will traverse through the state of Rajasthan for approx 150 km and the rest in the state of Gujarat. The pipeline will cross the districts of Barmer, Jalore and Sanchole in Rajasthan and Banaskantha, Ahmedabad, Patan, Rajkot, Surendranagar and Jamnagar in Gujarat

To meet its internal corporate requirements as well as IFC Performance Standard requirements, Cairn asked ERM to undertake a socio-economic baseline and impact assessment and develop a management plan to address key impacts. Neena was the Project Director for the assignment and responsible for all reporting and deliverables as well as client interaction.

ESIA of a 50 MW wind farm project in Jaisalmer

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District in the state of Rajasthan,

Client: Ostro Renewables

The role includes carrying out an Environmental and Social Impact Assessment for proposed wind farm project site based on IFC Performance Standards and General and specific EHS Guidelines. The study involved Environmental Baseline Assessment, including the understanding of the scope for bird/bat monitoring of the entire project, identification of the impacts, evaluating the impacts; prepare the Impact Assessment and Mitigation Plan. The study will also involve prediction of noise and shadow flicker assessment on neighboring households within 500 m from the wind turbine generators.

Social Impact Assessment and preparation of impact mitigation plans for China Light and Power in Jhajjar, Haryana.

Client: China Light and Power/ADE/IFC

The assignment involved preparation of a SLA and undertaking census survey of more than 1800 project affected households and developing impact mitigation strategies (like the Livelihood Restoration and Community Development plan) for these families. Neena is the project director and overall in charge of this assignment

ESIA Studies and Resettlement Plan Framework (RPF) for the Western Cluster Iron Ore Project: Liberia

Client: Western Cluster Limited

ERM has been commissioned to undertake Environmental and Social Impact Assessment (ESIA) and associated studies including preparation of RPF for the development, operation and closure/handover of the Western Cluster iron ore assets in Liberia including the railroad corridor(s) connecting the port and mining developments, road for transportation in initial years

ERM through the ESIA has been asked to inform the Project's management of environmental and social risks and impacts; meet expectations of good international industry practice (GIIP) and Vedanta's internal corporate standards; and fulfil Liberian regulatory ELA requirements before commencing with the project.

ERM India is playing an important role in the Project design too through environmental and social consideration identified in course of the baseline studies. ERM is also preparing the Resettlement Plan Framework (RPF) for the client which is quite crucial

in wake of the complex land issues in Liberia and the regulations which apart from being complex are still in the nascent stages, primarily due to civil war which spanned almost 20 years.

IEE Update of 50 MW Wind Energy Project in Sindh Province of Pakistan

Client: Gul Ahmed Wind Power Limited

Gul Ahmed Wind Power Limited (hereinafter referred to as "GAWPL") is developing a 50 MW Wind Energy Project at Jhimpir area, Taluka and District Thatta in Sindh Province of Pakistan. The sponsors of the Project are Gul Ahmed Energy Limited and InfraCo Asia Indus Wind Pte Ltd.

The Project involves gap assessment of Initial Environmental Examination (IEE) report and other project documents of the project with respect to IFC Performance Standard and EHS Guidelines and to update the IEE report in order to meet IFC Sustainability Framework 2012.

Neena was the Project lead for the assignment and was also involved in project discussions with the IFC during the project financing.

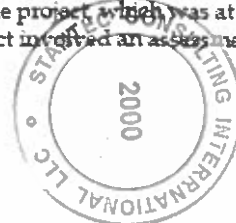
Comprehensive Environment, Social and Health Impact Assessment: Client: Hazira Port Private Limited (Shell Hazira Group)

ERM was commissioned by HPPL, a part of Shell India, to undertake a CESHIA for all their project components (multi-cargo port, terminal, pipeline and infrastructure corridor) in Hazira and prepare an implementable impact management action plan. The CESHIA was developed not only under the requirement of MoEF but also as a corporate requirement of the Royal Dutch/Shell Group. The assignment involved extensive field analysis covering 6 villages in and around Hazira and a series of workshops with Shell personnel to develop a practical and mutually acceptable management action plan. Neena is the project director and overall in charge of this year long assignment

Socio-Economic Baseline Study and impact assessment of a mine exploration site in Madhya Pradesh

Client: Rio Tinto

Rio Tinto commissioned ERM for a project, which entailed the development of a detailed social baseline for the project, which was at the prospecting stage. The project involved an assessment of local community



dependence on forest resources, which may be impacted by the project and issues to enhance the ongoing community relations interventions by the client.

ERM was asked to conduct village appraisals, detailed stakeholder analysis and local institutional assessment to enable the project proponent to make informed decisions for the subsequent stages, including scoping for the impact assessment. Village appraisals were conducted through participatory methods and involved the villagers in the process of developing community maps, resource maps as well as interaction patterns with different receptors. Stakeholder mapping and analysis was done for individual villages as well as for the project as a whole. Neena was the project director and overall in charge of the study.

Socio-economic Baseline Study for a proposed iron ore mine in Orissa

Client: Rso Tinto

The study involved preparation of the socio-economic and political profile of the area and provide strategic inputs into their project planning. The study took a broad brush approach drawing on existing data and literature with the multiple purpose of providing the company with background socio-economic, demographic and political information coupled with interpretative assessment. The study brought out a preliminary risk assessment as well as a stakeholder mapping and indicate broad level mitigation strategies.

Socio- Economic baseline study for proposed facility in Vadodara and Halol (India):

Client: Alcoa Asia Limited

ERM India was commissioned by Alcoa Asia Limited to conduct a social screening and social risk profiling for its proposed Foil manufacturing facilities in western India. The outcome of the assessment was to compare the risks and opportunities in two possible site options for the client. Neena was the Project Director for the assignment and responsible for all reporting and deliverables as well as client interaction.

Social and Environmental Analysis for the Second Maharashtra Rural Water Supply and Sanitation project.

Client: Department of Water Supply and Sanitation, Government of Maharashtra

ERM conducted a social and environmental analysis, which a part of the project preparation study of the World Bank supported water and sanitation project. The objective of the study is to assist the G.O.M. in

designing the project taking into account the socio-economic characteristics of the target population and the environmental issues, so that the project / program delivers sustainable water and sanitation services to rural communities at large and poor and vulnerable groups (such as women, scheduled castes and scheduled tribes), in particular. The analysis was conducted in 20 villages spread over 5 districts covering different geographical locations in the state and more than 600 households. A separate Indigenous Peoples Development Plan (IPDP) was also prepared with extensive consultations and participatory PRA and planning activities with tribal communities in Gram Panchayats (local village representative bodies) in seven districts with high tribal concentration. Neena was the project manager and lead social expert for the assignment.

Resettlement Action Plan (RAP) and Livelihood Restoration Plan (LRP) of fishing communities for an off-shore Jetty and FSRU in Philippines

Client: Confidential (Oil & Gas)

A confidential Client is planning to construct an off-shore Jetty and an FSRU in Batangas Bay, Philippines and ERM has been assigned to undertake social research based studies in order to devise a RAP and LRP for the potentially impacted families which include fishing communities. Devanshu was the social specialist in the project and undertook data collection comprising of socio-economic baseline, GPS tracking of fishing boats, fishing gear survey, focused group discussions and community consultations. Later on a comprehensive LRP for the client was formulated.

Neena was the Social Lead and Partner for the project.

IEE of proposed geophysical surveys (3D seismic surveys) in offshore block located in Ayeyarwady, Myanmar

Client: Eclairage Myanmar Pte. Ltd

The project involved carrying out an Initial Environmental Examination for the proposed offshore seismic exploration activities in the block located in the water south of the Ayeyarwady River Delta.

Neena is the social lead for the project

IEE of proposed geophysical surveys (3D seismic surveys) in offshore block located in Ayeyarwady, Myanmar

Client: Statoil Myanmar Ltd (Singapore)

The project involved carrying out an Initial Environmental Examination for the proposed offshore seismic exploration activities in the block located in the



Rakhine Basin offshore Myanmar at a distance of about 200 km from the coast, covering an area of 9000 sq. km.

Neena is the social lead for the project

IEE of proposed geophysical surveys (3D seismic surveys) in offshore block located in Rakhine, Myanmar

Client: Chevron Group

The project involved carrying out an Initial Environmental Examination for the proposed offshore seismic exploration activities in the block located in the waters of the inner continental shelf adjacent to a portion of the Rakhine State coast and next to Ayeyarwady Region as well as beyond the shelf break across the continental slope into deep ocean waters of the abyssal plains (>2000 m depth).

Neena is the social lead for the project

EIA-EMP for Oil and Gas Development in Existing Ravva Offshore Field, PKGM-1 Block, located off Surasniyanam (S. Yanam) in the Bay of Bengal, East Godavari District, Andhra Pradesh (AP),

Client: Cairn India Limited

This project involved the identification of significant environmental and social impacts associated with the proposed activities and preparation of environmental management plan for minimising the adverse impacts, putting forth an implementation schedule and preparation of post project monitoring plan.

Neena was the social lead and Partner for this project.

EIA-EMP of proposed geophysical surveys (2D & 3D seismic and geomagnetic surveys) in offshore block located in the Mumbai Basin, West Coast of India,

Client: British Gas Exploration British Gas Exploration and Production India Limited

The work involves carrying out a desk-based EIA studies for the proposed offshore seismic exploration activities in the six blocks. Neena was the social lead and Partner for this project.

EIA of proposed geophysical surveys (3D seismic and geomagnetic surveys) in six blocks (MB-DWN-2005-2/3/4/5/7/9) located in the Mumbai Basin, West Coast of India,

Client: Confidential

The work involved carrying out a desk-based EIA studies for the proposed offshore seismic exploration activities in the six blocks. Neena was the social lead and Partner for this project.

EIA of proposed geophysical surveys (3D seismic and geomagnetic surveys) in KK-DWN-2005-1 block located in the Kerala Konkan Basin, West Coast of India,

Client: Confidential

The work involved carrying out a desk-based EIA study for the proposed offshore seismic exploration activities in the block. Neena was the social lead and Partner for this project.

EIA of proposed Exploratory drilling operations in offshore block AN-DWN-2003/2 in the union territory of Andaman and Nicobar Islands,

Client: Confidential

The work involved carrying out a desk-based EIA study for the proposed offshore exploration drilling activities in the block. Neena was the social lead and Partner for this project.

Decommissioning, Restoration and After Care Environmental Management Plan (EMP),

Client: Niko Resources Limited, India

The project involved undertaking a scoping study to inform the development of an EMP for the decommissioning of onshore and offshore oil and gas assets in the Hazira Field, Gujarat, India.

Neena was the social lead and Partner for this project.

ESIA of proposed geophysical surveys (3D seismic surveys) in onshore block located in Ayeyarwady, Myanmar

Client: CAOG Pte. Ltd

The project involved carrying out an Environmental and Social Impact Assessment for the proposed onshore seismic exploration activities in the Ayeyarwady Region.

Neena is the social lead for the project

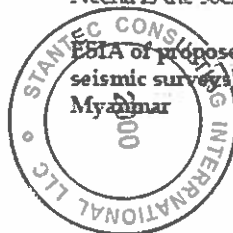
ESIA of proposed geophysical surveys (2D and 3D seismic surveys) in onshore block located in Ayeyarwady, Myanmar

Client: MPRL E&P Pte Ltd (MPRL E&P)

The project involved carrying out an Environmental and Social Impact Assessment for the proposed onshore seismic exploration activities in the Ayeyarwady Region.

Neena is the social lead for the project

ESIA of proposed geophysical surveys (2D and 3D seismic surveys) in onshore block located in Bago, Myanmar



Client: MPRL E&P Pte Ltd (MPRL E&P)

The project involved carrying out an Environmental and Social Impact Assessment for the proposed onshore seismic exploration activities in the Bago Region.

Neena is the social lead for the project

Environmental and Social Assessment for a 250 MW combined cycle gas power plant in Mandalay Region, Myanmar

Client: Ministry of Electric Power (MOEP) and International Finance Corporation (IFC)

The International Finance Corporation (IFC) is advising the Ministry of Electric Power (MOEP) of the Government of Myanmar (GOM) on the competitive selection of a private sector independent power producer (IPP). The selected IPP will develop a 250 MW combined cycle gas power plant (CCFP) on a Build, Own, Operate and Transfer (BOOT) basis in the Myingyan Township in the Mandalay region (hereafter referred as the 'Project').

IFC, in their role in providing MOEP with technical, legal, environmental and financial due diligence advisory services, had commissioned Environmental Resources Management (ERM) to provide environmental and social (E&S) consultancy services to the Project.

Neena was the social lead for this project

IEE of proposed geophysical surveys (3D seismic surveys) in onshore block located in Bago Region, Myanmar

Client: Pacific Hunt Energy

The project involved carrying out an Initial Environmental Examination for the proposed onshore seismic exploration activities in the block located in the Bago Region.

Neena is the social lead for the project

IEE of proposed geophysical surveys (3D seismic surveys) in onshore block located in Sagaing Region, Myanmar

Client: Pacific Hunt Energy

The project involved carrying out an Initial Environmental Examination for the proposed onshore seismic exploration activities in the block located in the Sagaing Region.

Neena is the social lead for the project

Environmental and Social Impact Assessment (ESIA) and Regulatory Environmental Impact Assessment

(EIA) for Proposed Pet Coke Gasification Acetic Acid Plant, Koyali, Vadodara, Gujarat

Client: Indian Oil Corporation Limited and EP Chemical

ERM has been commissioned by IOCL-EP to carry out an ESIA and regulatory EIA study for a proposed Pet Coke Gasification Acetic Acid Plant in the village Koyali, Vadodara District, Gujarat.

The project, being undertaken as a joint venture between M/s Indian Oil Corporation Limited (IOCL) and BP Chemicals, UK (BP), with a capacity of 1000 KTA of acetic acid over an area of 202 acres.

The ESIA for the proposed project is to be in line with the requirements of the local and national legislations as well as the international standards such as the IFC Performance Standards, General EHS guidelines and the sector specific EH Guidelines for large volume petroleum based organic chemicals manufacturing and the equator principles.

Neena was the social lead and partner for this project

Regulatory Environmental Impact Assessment (EIA) for Cairn Energy Limited in Amlapuram, Andhra Pradesh

Client: Cairn Energy Limited

ERM was commissioned to undertake a regulatory Environmental Impact Assessment (EIA) for an off shore oil facility of Cairn Energy Limited in the district Amlapuram in Andhra Pradesh.

Neena was the social lead and partner for this project

Social Impact Assessment & formulation of Social Management Plan (SMP) in Bangladesh

Client: Unocal's (Chevron) Oil & Gas operations

ERM assessed the range of impacts that the 30 year project will have in the host area, tracing the project social footprints and formulating a management plan to mitigate the negative impacts and maximize the positive benefits. The assignment involves close coordination with the corporate group and in depth capacity building and handholding for the Unocal/Chevron business unit in Bangladesh to actually implement a Social Management Plan. A series of workshops and trainings have been organized to enable the organization for such activities. Neena was the Senior Reviewer and Quality Assurance Partner for the project.

Updating an Environment and Social Impact Assessment Report to meet EP requirements for a



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petroleum refinery project in Gujarat, India

Client: Essar Oil Limited

ERM is in the process of updating an ESIA report for a petroleum refinery expansion project in Jamnagar, Gujarat. EOL is seeking funds from financial institutions for the purpose. The report needed to meet the requirements of Equator Principles Financial Institutions (EPFIs). Neena was the social specialist in the team.

Social Baseline studies and stakeholder analysis

Client: Cairn Energy India Pvt. Ltd.

The assignment included preparation of social baseline, strategic impact assessment of Cairn's operations in the block as well as formulation of stakeholder management strategy based on consultations with various categories of stakeholders. Neena was responsible for regular interaction with the client, developing the methodology and reviewing the reports. Neena was the Project Director for the assignment, with overall responsibility of the project, client interface and quality assurance of the deliverables.

Environment and Social Impact Assessment, Nepal

Client: Cairn Energy Plc.

Cairn Energy has signed an agreement with the Government of Nepal to explore oil and gas in 5 block in primarily the Terai regions of Nepal. The initial work would include geological field work, airborne geophysics and seismic surveys in each block. ERM was asked to conduct a desk-based environmental and social screening together with a stakeholder assessment, identification of impacts and development of generic mitigation measures. The aim of the early ESIA was to aid planning and design of the seismic operations, and to provide relevant information for Cairn's Nepalese permitting requirements.

The work was jointly undertaken by ERM India and ERM UK team. Neena was the Social Development Specialist in the project.

Social, Environmental and Political Risk Assessment for a Coal Bed Methane Project

Client: British Petroleum

The client has been awarded a Coal Bed Methane exploration concession in West Bengal. The client is looking for an initial project screening based on desk-top research as well as a reconnaissance visit to understand the major risks to the viability of the project from an environmental and social perspective, and scope out the requirement of a detailed ESIA. Neena is the Project Director for the assignment.

Environmental and Social Impact Assessment for Coal Bed Methane Project.

Client: British Petroleum

The operator of Coal Bed Methane (CBM) exploration and production license issued by Government of India for the Birbhum Block located in the State of West Bengal, India.

ERM was commissioned to undertake the Environment and Social Impact Assessment study for the project. The ESIA was done to not only meet the requirements of the regulatory framework but also to the standards of BP. Neena was the Partner in Charge and Project Director for the assignment.

Review and Assurance

Neena has been involved in a number of independent reviews, due diligence assessments as well as provided external assurance to firms and large projects against international standards like the IFC Performance Standards, the various Operational Policies of the World Bank and sister organizations as well as several Equator Banks. These reviews have been instrumental in identifying gaps and providing guidance to the organizations on measures for gap closure and strengthening their Environment and Social Management Systems.

Social Impact Assessment & formulation of Social Management Plan (SMP) in Bangladesh

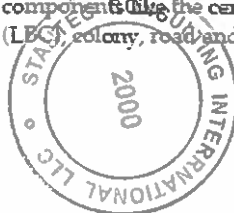
Client: Unocal's (Chevron) Oil & Gas operations

ERM assessed the range of impacts that the 30 year project will have in the host area, tracing the project social footprints and formulating a management plan to mitigate the negative impacts and maximize the positive benefits. The assignment involves close coordination with the corporate group and in depth capacity building and handholding for the Unocal/Chevron business unit in Bangladesh to actually implement a Social Management Plan. A series of workshops and trainings have been organized to enable the organization for such activities. Neena was the Senior Reviewer and Quality Assurance Partner for the project.

Resettlement Completion Audit

Client: Lafarge Surma Cement Limited, Bangladesh

Lafarge has undertaken construction of a cement plant about 250 km from Dhaka with funds from the International Finance Corporation (IFC). The company has acquired 178 acres of land for different project components like the cement plant, long belt conveyor (LBC), colony, road and community area. A



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Resettlement Action Plan (RAP) was prepared for the above mentioned project and has been implemented since 1999. ERM was commissioned to undertake a resettlement completion audit with the objective of assessing resettlement in the context of the objectives of OD 4.30 (Involuntary Resettlement), and determine whether the Resettlement Action Plan (RAP) was implemented in such a way that affected people were not made worse off and, preferably, benefited by the resettlement. Neena was the Project Director and responsible for interaction with the Client and overall project execution.

Independent review of Environmental and Social Impact Assessment Report/Statement of the 1000MW Hydroelectric Project in Himachal Pradesh
Client: An International Financial Bank (Confidential)

The proposed HEP envisages construction of a dam on Sattu river. ERM was asked to carry out a review of the ESI report of the above project to identify environmental and social issues, which would directly or indirectly have financial or legal implications for the project proponent during commissioning, operation and decommissioning. An assessment of the potential for an adverse reaction on environmental and social grounds on a local, national and international scale was also required. Neena was one of the social and resettlement specialists involved in the review, along with team members from India and UK.

Social Assessment and Risk Assessment of three Hydropower Projects in Himachal Pradesh and Uttarakhand
Client: Confidential

ERM undertook a Social assessment of three hydropower project in terms of Social impacts, labour and human resource, and land acquisition in order to identify potential EHS risks and liability for the client. The work involved due diligence and review of social aspects and performance of the three HPPs which had a cumulative generation capacity of 1500 MW located in the mountainous districts of Himachal Pradesh and Uttarakhand in India.

Neena was the Partner in charge and the Social lead for the project

IFC Performance Standard Review of the Sasan Ultra Mega Power Plant
Client: US Exim Bank

R-Power is undertaking the development of an ultra mega power plant in the Singrauli district of Madhya Pradesh. ERM undertook an environmental and social

diligence for the same to develop an action plan for key environmental and social commitments for US Exim Bank. Neena was the lead social specialist for the assignment.

Independent Equator Principle Review of a Coal reject based Thermal Power Plant in Chhattisgarh.
Client: Confidential

The client, an American bank, financed a 27135 MW coal reject-based thermal power plant in Korba in Chhattisgarh India. Being an Equator Principle signatory bank, the client required an independent environment and social review of the Environmental Impact Assessment and Environment Management Plan of the project to assess any significant gaps with respect to Equator Principles and the relevant IFC Performance Standards. Neena was the project director, senior reviewer and Partner-in-Charge of the project

IFC Performance Standard Review of the Sasan Ultra Mega Power Plant
Client: US Exim Bank

R-Power is undertaking the development of an ultra mega power plant in the Singrauli district of Madhya Pradesh. ERM undertook an environmental and social diligence for the same to develop an action plan for key environmental and social commitments for US Exim Bank. Neena was the lead social specialist for the assignment.

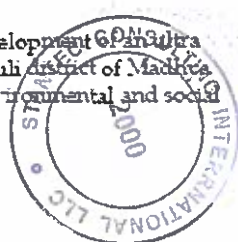
Independent Review of community engagement and CSR programme for an integrated cement plant in Himachal Pradesh
Client: Ambuja Cements/ Holcim

ERM India was engaged to review the community engagement and CSR programme of Ambuja's integrated cement plant in Himachal Pradesh. The objective of the review is to provide a third party and unbiased assessment of the approach to community relations and engagement till date, identify the issues of concern and key challenges and provide a broad strategy for the project expansion planned in the near future based on lesson learnt till date. Findings of the review were discussed in a workshop. Neena was the project director and overall in charge of the assignment.

Independent Review and Comparison of World Bank Group Guidelines on Environmental and Social Issues with Indian Regulations
Client: International Finance Corporation

As a part of this exercise Neena comprehensively compared the social and environmental policies of these two institutions to highlight the coherence and

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divergence both at the policy levels as well as operational levels. The study was a part of an initiative by the two institutions to streamline their safeguard policies

Independent Desk top assessment of a proposed acquisition of coal mines in Indonesia

Client: An International Bank

ERM was asked to undertake a desk top review of the ESIA and related information for a proposed acquisition of coal mines in Indonesia by an Indian multinational company to identify key gaps with respect to Equator Principles and IFC/World Bank requirements. ERM was asked to provide broad recommendations to be included in the covenants between the bank and the client company. Neena was the project director and overall in charge of assignment

RAP External Monitoring & Assurance

Client: Sakhalin Energy Investment Company (SEIC)

As a part of its Resettlement Action Plan commitments, SEIC is committed, in addition to internal monitoring, a regular *Third Party Monitoring* and assurance that is to be conducted by independent experts. Neena has been appointed as the external RAP Monitor and is conducting monitoring twice a year till such time that the expert believes that the RAP commitments have been met. The objective of the monitoring is to highlight progress in RAP implementation, identify gaps or deviations from the RAP and recommend measures to close those gaps and improve overall social performance of the company.

Independent Third Party Resettlement Audit for the West Africa Gas Pipeline Project Resettlement Action Plans

Client: West Africa Gas Pipeline Company Limited

The West Africa Gas Pipeline (WAGP) Project involved the development of a pipeline to transport gas produced in the Western Niger Delta of Nigeria to three neighboring countries - Benin, Togo and Ghana. A separate RAP has been prepared for each country. ERM has been invited to conduct a third party independent audit for the 4 RAP as well as the Community Development Plans in each country, and assess whether the RAP objectives have been met, the adequacy of the compensation measures and transparency and effectiveness of the grievance redressal mechanisms.

Neena was the overall Project Director for the Audit, which involved an international team.

Independent environmental and social review of the

Colombo-Kutanayake Expressway Project, Sri Lanka

Client: Confidential

The Expressway is being proposed to link Colombo with the international airport. The client, an international financial institution, required an independent review of the EIAs and EMPs of the project to assess any significant gaps with respect to WB/IFC/Equator Principles (the 'Applicable Standards'), before deciding to fund the project. Neena was the lead social expert for the assignment and partner-in-charge for the project

Environmental and social due diligence for the Lenders Group to the Tangguh project

Client: Lenders Group

ERM was appointed by the Lenders Group to BF Berau to undertake an environmental and social due-diligence of the Tangguh LNG project in West Papua, Indonesia. ERM was required to review relevant national and international policies and guidelines and appraise the compliance of the ESIA (locally called AMDAL) document that was approved by the Indonesian Government. In doing so ERM advised the Lenders groups on risks and way forward. Neena was a part of the due diligence process as a resettlement and indigenous community specialist.

Post Resettlement Audit in Uralsk and Aksai (Kazakhstan)

Client: KPO

ERM undertook a mid term and end term assessment of the resettlement and rehabilitation of 179 families that were resettled by KPO, a consortium of oil companies. The assignment assessed whether the objectives of the RAP are being met, and processes in place sustainable. The assessment also identified issues that need to be taken up for action and remediation if required. Neena is a part of a 3 member international team as a resettlement specialist.

Review of Land Acquisition and Resettlement and advisory services to the proposed Petrochemical and Port Development Project in Vietnam

Client: Confidential

ERM is advising a Thailand based company interested in setting up a petrochemical plant in Vietnam on a range of issues including Environment and Social Impact Assessment and resettlement. The assignment included a rapid assessment of land acquisition and resettlement, providing a gap assessment against international standards, and determining the actions to be taken to close the gaps. ERM also conducted a workshop with government and other stakeholders on international standards as a part of the advisory

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service.

Neena was the lead Resettlement Specialist for the assignment.

Independent Review of a Cement Plant expansion project in Assam, India

Client: DEG

ERM was contracted by Calcom Cement Private Limited to independently review and prepare and action plan for its expansion and development project in the state of Assam, against national environmental, health and safety and labour requirements, ILO convention commitments as well as IFC Performance Standards. Neena was the senior social reviewer for the project.

Independent Environmental and Social Review of the India Tollroad Expansion Project

Client: Citigroup

Citigroup was proposing to finance a toll road project in Gujarat and Rajasthan in India, which it had categorized as Category A project, according to the Equator Principles and Citigroup's internal Environmental and Social Risk Management Policy (ESRMP). Citigroup requested ERM (the Independent Environmental and Social Consultant-IEC) to perform an Environmental and Social Due Diligence (ESDD) of the project to confirm compliance with the Equator Principles, ESRMP, IFC Performance Standards, IFC EHS and World Bank PPAH Guidelines. Neena was the Project Director and Social and Resettlement Specialist in the team.

Independent Social Review of the SIA, RAP and IPDP of the Rural Transport Improvement Project in Bangladesh.

Client: Local Government Engineering Department, Bangladesh

LGED invited ERM India to conduct an independent social and environmental review of the social and environment impact assessment reports and Resettlement Framework of the RTIP to ensure that the reports met the guidelines and basic requirements of the World Bank, which is funding the project. The assignment included assessing the adequacy of data and baseline information, methodology, Project impacts and remedial measures, policy framework, assessment, appropriateness of institutional arrangements, implementation mechanisms and monitoring and evaluation. The scope of the social review also included rewriting and finalizing the Social Assessment and Resettlement Framework report. Neena was the Project Director and responsible for interaction with the Client and overall project

execution

Independent Review and finalizing of Resettlement Action Plan for Public Disclosure (Sakhalin, Russian Federation)

Client: Sakhalin Energy Investment Company (SEIC)

SEIC has been asked by prospective Lenders (EBRD) to prepare and RAP and disclose it for public review. ERM has been asked to independently review the RAP prepared by SEIC as well as the comments provided by the Lenders, identify and close gaps, and highlight potential risks to SEIC. As the Team Leader, Neena worked closely with the SEIC Social Performance Team, the Legal team and the Land Approvals team in Sakhalin to review and finalise the RAP.

Monitoring and Evaluation of the R&R of Vadodara Halol Road project

Client: Gujarat Toll Road Company Limited

The Government of Gujarat and IL&PS are promoting the widening of the existing state highway (SH-57) between Vadodara and Halol to increase traffic flow capacity in this vital economic zone of Gujarat. The acquisition of land for constructing the bridge has resulted in the loss of agricultural land and livelihood for some people who would be resettled and rehabilitated.

The monitoring work assigned to ERM involved the assessment of the progress of the resettlement programme to provide the project proponents with an independent evaluation of the situation, identification of difficulties, ascertaining problem areas, providing signals of caution and thereby drawing attention to the mitigation measures required. Neena was the project director and overall in charge of the assignment.

Monitoring and Evaluation of the R&R Programme of the Delhi- Noida Project

Client: Noida Toll Bridge Company Limited

NTBCL has financed the construction of the Noida Toll Bridge over the River Yamuna connecting Delhi and Noida in UP. The acquisition of land for constructing the bridge has resulted in the loss of agricultural land and livelihood for 300 people who had to be resettled and rehabilitated. ERM was appointed to facilitate negotiations, ensure appropriate compensatory arrangements, and to undertake an independent monitoring and evaluation of the implementation of the rehabilitation program.

Monitoring & Evaluation of the Resettlement and Rehabilitation Action Plan for the proposed Steel Plant in Gopalpur, Orissa

Client: Tata Iron & Steel Company (TISCO).



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TISCO had acquired large tracts of land in Gopaipur, Orissa, for setting up a 10MW integrated steel plant. The land acquisition resulted in the displacement of over 10,000 people in the area. TISCO has undertaken a Resettlement and Rehabilitation (R&R) Action Plan (RAP) for the displaced people.

ERM was commissioned by TISCO to monitor and evaluate the implementation of the RAP. Apart from the monitoring and evaluation of the RAP, TISCO had also requested ERM to work in close association with the implementing agency and suggest various income generating activities which could be introduced in the rehabilitation site to ensure a regular and sustainable source of income for the resettled people to restore or improve their standard of living compared to the pre-resettlement period.

Monitoring and Evaluation of R & R activities in the Grand Trunk Road Improvement Project.

Client: National Highways Authority of India

The National Highways Authority of India (NHAI) has been given the mandate for implementation of the National Highways Development programme (NHDP) that includes nearly 421 km of the 900 km long Agra-Dhanbad section of the National Highway-2 (NH-2), which is being strengthened under the Grand Trunk Road Improvement project (GTRIP) funded by a credit from the International Bank for Reconstruction and Development (IBRD).

The project proponents intended to have an independent assessment of the implementation of the R&R Action Plan and its compliance to the World Bank guidelines to enhance its effectiveness and hence reduce the adverse impact on the resettled community. ERM India has been asked by NHAI to conduct monthly and quarterly monitoring of R and R activities as also annual, mid term and end term evaluation.

Developing Policy and Systems for Environmental and Social Management and Monitoring and Evaluation

An increasing focus in preparing action plans to meet international standards has been to ensure that these actions get embedded in robust environmental and social management systems of the organization that improve performance over a period of time, and the process and outcomes can be monitored and reported. In some cases these assignments involve monitoring and advisory services, and in others developing policies and systems, and capacity building and training.

Independent monitoring and advisory support to Calcom Cements

Client: DEG and FMO

DEG and FMO have together invested in Calcom Cements in Assam. An earlier social and environmental due-diligence against IFC Performance Standards, also conducted by ERM, brought out several gaps, based on which a detailed Environmental and Social Action Plan (ESAP) was prepared. In this assignment ERM has been asked by DEG and FMO to provide independent monitoring services for the ESAP implementation as well as provide expert advice to Calcom on technical studies. ERM conducts quarterly monitoring and currently a 3-year monitoring is proposed. Neena is the project director for the assignment.

Independent Monitoring of the Environmental and Social Action Plan implementation of a slum rehabilitation and development project in Mumbai

Client: Akruti City Limited

ERM has been asked by ACL and their financiers to independently review on a six-monthly basis, the implementation of an ESAP that came out as recommendation from a review and gap assessment of the project by ERM. ERM will undertake a detailed monitoring of the various commitments made on environmental, health and safety and social parameters in the ESAP.

Preparing and Operational Manual and training on IFC Performance Standards for Infrastructure Development Finance Company (IDFC)

Client: International Finance Corporation

Environmental Resources Management (ERM), was in collaboration with Econ Pöyry assigned by the International Finance Corporation (IFC) to carry out environmental capacity building in IDFC. The main objectives of the assignment were to align IDFC internal processes and management systems for Environmental and Social Due Diligence (ESDD) with the IFC's Performance Standards (IFC P5s) and the Equator Principles (EPs); and to build the capacity within IDFC to undertake ESDD according to the updated processes and management systems.

Neena was the ~~top~~ ^{lead} ~~manager~~ ^{franchiser} from India and as one of the two



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Environmental Capacity Building Phase II

Client: IFC

The IFC Advisory Services supports the development of the formal banking sector with a view to increasing access to finance for businesses and consumers in India and elsewhere. IFC Advisory Services implements its mandate through tailored, enterprise and organization-specific capacity building programs, training, and research and policy interventions.

IFC, as a part of the Environmental Capacity Building Project, Phase II, asked ERM to develop a Generic Operational Manual (the Manual) that would be downloadable from the IFC website. The intent of the Manual was to provide more clear guidance on why and how to implement the IFC PSs. Once an organization is interested in applying the PSs, the Manual could be used to transform that interest to action.

EHSS Protocol and Systems for Mine Life Cycle for a proposed Nickel mine in North Vietnam.

The project involved the development of operational protocols and systems and provision of ongoing support for environment, health, safety and social aspects during construction, operations and closure of the project. Neena was the Technical Advisor on resettlement.

Developing a Social Investment Strategy

Client: British Gas

ERM India was commissioned by BG, India to prepare a Social Investment and Sustainable Development Strategy for its subsidiary- Gujarat Gas Company Limited's operations in the state of Gujarat, India. The strategy aims to enable the company to respond to changing priorities and pressures from the state and country, utilize this strategy as a competitive means to differentiate GGCL as a socially responsible company to its customers and local communities, whose support is important for future expansion and enable the company to face increasing competition going forward. Neena was the project director and overall in charge of the assignment.

Publications

- Kothari, A. N. Singh & S. Suri (eds) 1996. *People and Protected Areas: Towards Participatory Conservation in India*, Sage Publication, New Delhi
- Sarkar S, A. Kothari, N. Singh & S. Suri. 1995. *Joint Protected Area Management: Report of a Workshop*, IIPA, New Delhi
- *Struggling to Survive*, Down To Earth, Jan 1997

- *Conservation Boomerang*, Down To Earth, September 1995
- *Sowing Loss, Reaping Sarc*, Down to Earth, April, 1996
- *Community Participation in India (GEF Projects: A Case of Eco-development)*, paper presented at the GEF Council Meeting, Washington 1996.
- Contributed articles on forest and people's conflicts in the Ecologist, Economic and Political Weekly, as well as leading India Newspapers.



कला-निष्णात, 1991.

प्रमाणित किया जाता है कि तन् 1991 में, परीक्षा के उपरान्त कला-विषय
की उपाधि के योग्य सिद्ध होने पर नीना सिंह
को 1992 के वीक्षांत-समारोह में उक्त उपाधि प्रदान की गई।

विषय भू-गोल

श्रेणी द्वितीय

University of Delhi

MASTER OF ARTS, 1991.

This is to certify that Neena Singh
having been examined in 1991, and found qualified for the
degree of Master of Arts was admitted to the said degree at
the Convocation held in 1992.

Subject Geography
Division Second



Princeman
मुख्य अधिकारी

P. K.
कुलपति,
दिल्ली विश्वविद्यालय





CURRICULUM VITAE (CV)

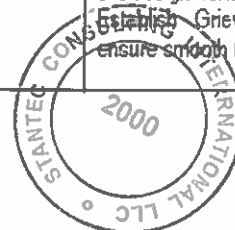
Proposed Position	Social Development/Resettlement Expert
Name of expert:	Rabin Dhakal
Date of Birth:	17/02/1967
Citizenship	Nepal
Phone	977-1-9851023494
E-Mail Address	ods.rabin@gmail.com

Education:

Names of Educational Institutions	Date	Degree(s) / Diploma(s) Obtained
Tribhuvan University, Nepal	2002	Masters in Sociology
Tribhuvan University, Nepal.	1992	Master's in Business Administration

Employment record relevant to the assignment:

Period	Name of Employing organization and your title/ Position. Contact information for references	Country	Summary of activities performed relevant to the Assignment
August 2018 To Date	Employer: Stansec/ERM under Millennium Challenge Corporation Position held :Social Development/Resettlement expert Project: 300 km Transmission Line project(400 kv)	Nepal	-Responsible to prepare SIA and EIA scoping report. -Carryout: HHs survey and socio economic report -Prepare resettlement plan and arrange skills enhancement training to affected people to reinstate their income. -Identify other social and gender issues and make appropriate plan to address their requirement. -Proposed budget to preserve archaeological and culture heritage which is likely affected by tunnel construction project. -Social Protection (SP) is key responsibilities of this assignment. Establish Grievance redress committee and ensure smooth function of the organization
July 2017 to August 2018 date(intermittent)	Employer: NIPPON-KOEI Japan /Department of Roads Nepal Position held :Social Development/Resettlement and Cultural expert Project: Tunnel and Approach road Construction Type of employment: Part time	Nepal	-Responsible to prepare archaeological, cultural and social development report. -Prepare resettlement plan and arrange skills enhancement training to affected people to reinstate their income. -Identify other social and gender issues and make appropriate plan to address their requirement. -Proposed budget to preserve archaeological and culture heritage which is likely affected by tunnel construction project. -Social Protection (SP) is key responsibilities of this assignment. Establish Grievance redress committee and ensure smooth function of the organization.



Period	Name of Employing organization and your title/ Position. Contact information for references	Country	Summary of activities performed relevant to the Assignment
February 2017 – to date (intermittent)	Employer: Nepal Electricity Authority/Power Grid India In association with Jade Consult Pvt. Ltd. Position held: Social Safeguard Specialist Project: SASEC Power System Expansion Project Type of Employment: Part time	Nepal/India	Responsible for Carry out review of secondary information on social and economic status of the population and communities that are likely to be affected by the project and may require resettlement. Identify methods of field investigations, field checklists, structured and semi structured questionnaires etc. oversee compensation payment and land transfer. Review Social Action Plans, Social Protection Plan (SPP) and Resettlement Framework policy, screening and planning procedure. Verify requirements of ADB's Resettlement Policy. Prepare the guideline, Monthly, quarterly, Semi-annual Progress reports with social and environmental issues and suggest for suitable solutions. Identify archaeological site and study the culture and customs of people of project site and prepare social development report.
December 2017 to November 2018 date (intermittent)	Employer: FSDI in Jv with PEC, DMES and Silt /Department of Railway Nepal- Position held: Social Development and Resettlement expert Project: Detail survey and design of high Speed Electrified Railway line for Sukhad-Gaddachowki sector (94km) of Mechhi-Mahakali Railway package-IV Type of employment: Part time	Nepal	-Responsible to prepare Social impact assessment report -Prepare resettlement plan and consultation with APs and local Government -Identify other social and gender issues and make appropriate plan to address their requirement. -Proposed budget for land acquisition and resettlement to the affected people which is likely affected by Railway project. -Train and Mobilization of cadastral surveyor and social surveyor. -Prepare of survey questionnaire get approval from department before send to field. -Prepare periodic social impact report to update department. -Advice and facilitate project manager and engineers regarding impact and route of railway to minimize the impact -Social Protection (SP) is key responsibilities of this assignment. Establish Grievance redress committee and ensure smooth function of the organization.
September 2016 to October 2017	Employer: DOHWA in Jv with KRNA, SOOSUNG and Silt /Department of Railway Nepal- Position held: Social Development and Resettlement expert Project: Detail survey and design of high Speed Electrified Railway line for Inruwa-Kakarvita section and Itahari –Birajnagar Link of Mechhi-Mahakali Railway package-IV Section: Inruwa-Birajnagar-Kakarvita		



Period	Name of Employing organization and your title/ Position. Contact information for references	Country	Summary of activities performed relevant to the Assignment
November 2016 to December 2017	Employer: Asian Development Bank Project: Rural connectivity Improvement Project (TA0690NEP) Contract Number: 130929S91786 Position held: Context Sensitive Design Specialist Type of Employment: Part-time	Nepal	<ul style="list-style-type: none"> -Participate in the review of selected sample road DPRs, ensuring that Community Participation plan(CPP)categories meet ADB's requirements. -Prepare Community participation Plan(CPP) with close coordination of EA and local Government and affected people. -Assist to international consultant to prepare CPP framework to -Prepare land donation agreement paper to timely transfer the ownership of affected plots. - Conduct orientation to EA, local government, consultant and contractor -Prepare CPP implementation report.
July 2015 to December 2016 (Intermittent)	ERMIC (P.) Ltd. Position Title: Social Safeguard Specialist / Resettlement Expert / Social Development Expert	Nepal	Various Projects of Road and Bridges. Prepare ESIA report for Pathlaiya Kakarvita Road. Prepare resettlement plan of this section. Develop institutional capability of DoR divisional office. Prepare estimate cost of affected land, structure and trees. Prepare impact assessment report of the section. Prepare consultation meeting minute and assess the impact of proposed bridge which is plan to construct Nepal, India boarder in kakarvita and Paritanki(India).
August 2016 to October 2016	Employer: Millennium Challenge Cooperation (MCC)/Tetra Tech US Base consultant Project: Transmission Line Project-Nepal Position held: Resettlement Expert Type of Employment: Part-time		Millennium Challenge Cooperation (MCC) and Government of Nepal(GoN) has agreed to work on Transmission line project in Nepal with the assistance of MCC.TETRA-TECH has been assigned to carry out the detail feasibility study of Transmission line and associated substation project in Nepal. The major deliverable to be produced through this task will be a Resettlement Policy Framework (RPF), which will take into account a review of applicable national laws/policies on land acquisition and resettlement, as well as information gathered through a participatory stakeholder feedback process, to identify and assess potential resettlement impacts and risks, and measures to minimize them. The RPF will be in compliance with MCC's Environmental Guidelines, as well as the International Finance Corporation's Performance Standard 5 (IFC PS5) on Land Acquisition and Involuntary Resettlement, as well as Nepal legal requirements and policies – including the Land Acquisition Act (1977) and the Land Acquisition, Resettlement and Rehabilitation Policy for Infrastructure Development Projects (2015).



Period	Name of Employing organization and your title/ Position. Contact information for references	Country	Summary of activities performed relevant to the Assignment
March 2012 – to August 2017	Employer: Ministry of Federal Affairs & Local Development/Swiss Development: cooperation Title/Position: Resettlement Advisor Type of Employment: Part time	Nepal	Raise the awareness among stakeholders (centre and district level) regarding land acquisition, compensation, Land Donaton and Deed mutation issues are fully complied. Prepare resettlement plans, oversee compensation payment and land transfer documentation.
Mar 2009– Mar 2012	Employer: Swiss Development Cooperation (SDC) and Asian Development Bank (ADB) Title/Position: Resettlement Advisor Type of Employment: Full time	Nepal	Prepare resettlement plans, oversee compensation payment and land transfer documentation. Contribute to Project Procedure Manual in respect of resettlement procedures.
Mar 2007– Mar 2009	Employer: MMM Group association with CEMAT- Soil Test – TMS JV Title/Position: Social Development and Resettlement Specialist Type of Employment: Full time	Nepal	Performed and supervise social base line survey. Carry out review of secondary information on social and economic status of the population and communities that are likely to be affected by the project and may require resettlement; identify areas for baseline study and methods of field investigations, field checklists.
Aug 2006 – Sep 2007	Employer: ITECO Nepal in JV with Full Bright Consultants JV Title/Position: Social Development and Resettlement Specialist Type of Employment: Full time	Nepal	Preparation of Resettlement Action Plan, Vulnerable Development Plan and compile screening report of RAIDP district. Monitor, supervise and coach district NGOs. Planning and budgeting resettlement cost and Social Management Framework (ESMF) and Resettlement Framework, policy, screening and planning procedure.
July 2003– Feb 2007	Employer: Roughton International in JV with ITECO Nepal. Title/Position: Social Development and Resettlement Specialist Type of Employment: Full time	Nepal	Prepare and implement Resettlement Action Plan, Social Action Plan and Indigenous Development Plan. Facilitate to DoR for land acquisition, resettlement, relocation, and community consultation activities.
Oct 2002 – May 2003	Employer: ITECO Nepal (P) Ltd Title/Position: Socio-economist Type of Employment: Full time	Nepal	Major responsible for Socio-economist study and Social Surveyor, Preparation Social technical profiles, site conflict management, Introduction of Integrated Rural Accessibility Planning (IRAP) process in the project districts to prepare District Transport Master Plans (DTMP) and development plans.



Period	Name of Employing organization and your title/ Position. Contact information for references	Country	Summary of activities performed relevant to the Assignment
Aug 2001- Sep 2002	Employer: ERMIC (P) Ltd Title/Position: Sociologist Type of Employment: Full time	Nepal	Carried out field appraisal and assessment of Support organization (SO) who fulfill the eligibility criteria to work in RWSSFDB assisted projects. It requires verifying conformation on pre-feasibility study reports schemes and sub-schemes eligibility criteria.
Jan 2000 - Dec 2000	Employer: ERMIC and Omni JV Title/Position: Socio-Economist/Social Development Specialist Type of Employment: Full time	Nepal	Develop institutional capability of road users to make the project Output sustainable. Formation of legitimate local labor groups and ensures fair working condition to the laborers including timely and transparent wage payment. Implementation of training programs to achieve primary objective of the project.
May 1999- Dec 2000	Employer: Udaya and ERMIC in association with SAFE JV Title/Position: Social Development Expert Type of Employment: Full time	Nepal	Carried out field Socio appraisal and assessment of Support Organizations (SO) who fulfill the eligibility criteria to work in RWSSFDB assisted Batch I to III Water Supply and Sanitation Projects
Oct 1998- July 1999	Employer: SYTEC (P) Ltd. (RWSSFDB) Title/Position: Socio-Economist / Community Action Plan (CAP) Trainer Type of Employment: Full time	Nepal	Conducting training on Hygiene and Sanitation Education (HSE)/Community Action Plan (CAP) trainings to Team Leaders, Field Coordinators, and Community Health Supervisors.
June 1993 -Dec 1995	Employer: OXFAM-Bhutanese Refugee Support Program Title/Position: Camp Coordinator/Program Officer Type of Employment: Full time	Nepal	Managing overall camp level activities and day to day administrations. Identify training needs in discussion with refugee committees, women groups and beneficiaries Supervision and monitoring day-to-day activities such as maintaining records, accounts and bookkeeping. Assist consultants and experts.

Membership in Professional Associations and Publications:

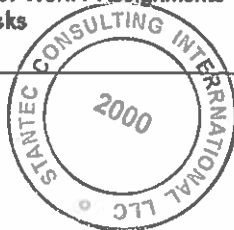
- Nepal Red Cross society

Language Skills (indicate only languages in which you can work):

Language	Speaking	Reading	Writing
Nepali	Mother Tongue		
English	Excellent	Excellent	Excellent

Adequacy for the Assignment:

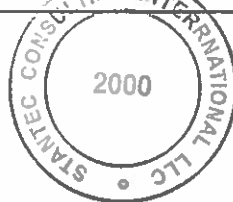
Detailed Task Assigned on Consultant's Team of Experts:	Reference to Prior Work / Assignments that Best Illustrates Capability to Handle the Assigned Tasks
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Detailed Task Assigned on Consultant's Team of Experts:	Reference to Prior Work / Assignments that Best Illustrates Capability to Handle the Assigned Tasks
	<p>Project: SASEC Power System Expansion Project – Project Supervision Consultant (Project includes three nos. of 220 kV Transmission Line Project such as Kaligandaki Transmission Corridor Subproject, Marsyangdi Transmission Corridor Subproject, Marsyangdi – Kathmandu TL Project and one 132 kV TL Project namely Samundratar – Trishuli 3B Hub 132 kV TL Project)</p> <p>Year: Feb 2017 to date Location: Different locations of Nepal Client: Nepal Electricity Authority Positions held: Social Safeguard Specialist</p> <p>Description of duties: Responsible for Carry out review of secondary information on social and economic status of the population and communities that are likely to be affected by the project and may require resettlement, identify methods of field investigations, field checklists, structured and semi structured questionnaires etc. oversee compensation payment and land transfer. Review Social Action Plans and Resettlement Framework, policy, screening and planning procedure. Verify requirements of ADB's Resettlement Policy. Prepare the guideline, Monthly, quarterly, Semiannual Progress reports with social and environmental issues and suggest for suitable solutions. Establish grievance redress committee and ensure well functioning of the organization. Train the member of GRC</p>
	<p>Project: Asian Development Bank Agriculture Sector Development Programm(TA8690NEP) Contract Number:130929S91786 Year: November 2016 to date</p> <p>Prepare 26 CPP as per ADB requirement and prepare CPP framework. Train and orient district team to get accurate data from field. Verify requirements of ADB's Resettlement Policy. Prepare land donation agreement paper with affected land owners. Assist PCU and PIU to transfer the ownership of affected plots. Hold consultation meeting with affected people, local Government and district technical office to assess the impact of road and witness to donate the small strip of barren land. Prepare the document which is required for CPP document.</p>
	<p>Project: Decentralized Rural Infrastructure and Livelihood Project Year: March 2012 to December 2017 Location: DRILP-AF -18 districts Client: Ministry of Federal Affairs & Local Development, Do LIDAR/ Swiss Development Cooperation (SDC) and Asian Development Bank (ADB) Positions held: Resettlement Advisor</p> <p>Description of duties: Raise the awareness among stakeholders (center and district level) regarding land acquisition, compensation, Land Donation and Deed mutation issues are fully complied. Prepare resettlement plans, oversee compensation payment and land transfer. Review Social Action Plans and Resettlement Framework, policy, screening and planning procedure. Verify requirements of ADB's Resettlement Policy.</p>



Detailed Task Assigned on Consultant's Team of Experts:	Reference to Prior Work / Assignments that Best Illustrates Capability to Handle the Assigned Tasks
	<p>Project: Consulting services for feasibility review and preparation of resettlement plan for HEP and 132 kV transmission line and prepare social safeguard compliance for tender documents of Upper Solu Hydroelectric Project. Year: January 2012 to March 2013 Location: Solukhumbu district Client: Upper Solu Hydroelectric and Sisa Khola "A" Main project features: 23.5 MW / 132 kV Transmission Line Positions held: Sociologist/Resettlement Advisor Description of duties: Perform and supervise social base line survey, Carry out review of secondary information on social and economic status of the population and communities, Identify areas for baseline study and methods of field investigations, field checklists, structured and semi structured questionnaires etc. to generate database on project area economic aspects. Prepare resettlement action plan.</p>
	<p>Project: Kathmandu Mass Rapid Transit Consortium Project (KMRTC) Year: March 2012 to December 2012 Location: Kathmandu, Client: Ministry of Physical Planning Department of Railway and Works Positions held: Social Development & Resettlement Specialist Description of duties: Responsible for Reviewing project document, consultation with affected people, prepare checklist to conduct focus group discussion, Prepare resettlement plans, determine compensation of affected assets and verify. Review resettlement related policy, act prepare resettlement Framework, policy, screening and planning procedure. Advise the Department of Railway on the requirement of the Resettlement Framework.</p>
	<p>Project: Preparation of Feasibility Study, Detail Project Report (DPR), Survey, Engineering Design and EIA Report of Likhu 1 (77 MW), Ramechhap District Year: April 2009 to April 2010 Location: Syangja Client: Pan Himalayan Energy (P) Ltd Positions held: Sociologist/Resettlement Advisor Description of duties: Carry out review of secondary information on social and economic status of the population and communities that are likely to be affected by the project and may require resettlement, Identify areas for baseline study and methods of field investigations, field checklists, structured and semi structured questionnaires etc.</p>
	<p>Project: Decentralized Rural infrastructure and Livelihood Project Year: March 2009 to March 2012 Location: Nepal Positions held: Resettlement Advisor Description of duties: Responsible for Ensuring that land compensation and resettlement requirement of Client and of ADB are fully complied with. Prepare resettlement plans, oversee compensation payment and land transfer documentation. Review Social Action Plans and Resettlement Framework, policy screening and planning procedure.</p>



Detailed Task Assigned on Consultant's Team of Experts:	Reference to Prior Work / Assignments that Best Illustrates Capability to Handle the Assigned Tasks
	<p>Project: Likhu IV Hydroelectric Project (120MW) Year: April 2008 to March 2009 Location: Ramechhap and Okhaldhunga Districts. Client: Green Venture Pvt. Ltd. Positions held: Sociologist/Resettlement Advisor Description of duties: Performed and supervise social base line survey, Carry out review of secondary information on social and economic status of the population and communities that are likely to be affected by project and may require resettlement. Identify areas for baseline study and methods of field investigations. field checklists</p>
	<p>Project: Road Connectivity Sector Project design and implement of 594KM Hill Roads) Year: April 2007 to March 2009 Location: Nepal Client: Department of Roads (DOR)/ ADB Positions held: Social Development and Resettlement Specialist Description of duties: Responsible for Preparing and implement Resettlement Action Plan, Social Action Plan and Indigenous Development Plan. Facilitate to DoR for land acquisition, resettlement, relocation, and community consultation activities e.g. organize and participate CDC meetings, coordinate Govt. institutions, preparation of report for finalization the cost of lose, Prepare resettlement related cost plan. Aware the project affected people to get compensation timely and transparently</p>
	<p>Project: Rural Access Improvement and Decentralization Project Year: August 2006 to September 2007 Location: 20 districts of Nepal. Client: Government of Nepal and World Bank Positions held: Project Engineer Description of duties: Capacity building component: that includes training, institutional strengthening, transport services development and policy document implementation support. Central Project Management and Implementation Support Consultant Preparation of Resettlement Action Plan, Vulnerable Development Plan and compile screening report of RAIDP district. Monitor, supervise and coach district NGOs.</p>
	<p>Project: Road Network Development Project (RNDP), (design and implementation of 274 km Road Blacktop and Otta seal) Year: July 2003 to February 2007 Location: Eastern and Central Region of Nepal Client: ADB Bank Positions held: Social Development and Resettlement Specialist Description of duties: Prepare and implement Resettlement Action Plan, Social Action Plan and Indigenous Development Plan. Facilitate DoR for land acquisition, resettlement, relocation, and community consultation activities e.g. organize and participate CDC meetings, coordinate Govt. institutions, report preparation for finalize the cost of lose, Implementation of Resettlement Plans including fair and just treatment of displaced persons and adherence to ADB policy. Conduct socio-economic survey.</p>



Detailed Task Assigned on Consultant's Team of Experts:	Reference to Prior Work / Assignments that Best Illustrates Capability to Handle the Assigned Tasks
	<p>Project: Preparation of social profile for various Rural Roads Year: May 1999 to December 2000 Location: Kaski, Salyan and Parbat Districts Positions held: Social Development Expert, Description of duties: Develop institutional capability of road users, formation/mobilization local labor groups; ensure fair working condition, genuine participation, timely and transparent wage payment, training, awareness raising programme, enhance socio-economic condition; preparation of social profile for various rural road in Kaski, Salyan and Parbat Districts under DDC.</p>

14. Certification		
I, the undersigned, certify to the best of my knowledge and belief that:	Yes	No
i) this CV correctly describes my qualifications and my experience;	✓	
ii) I am employed by the Executing or the Implementing Agency;		✓
iii) I am a close relative of a current ADB staff member		✓
iv) I am the spouse of a current ADB staff member		✓
v) I am former ABD staff member		✓
If yes, I retired from ADB over 12 months ago;		
vi) I was part of the team who wrote the ToR for this consulting services assignment;		✓
vii) I am sanctioned (ineligible for engagement) by ADB		✓

I understand that any willful misstatement described herein may lead to my disqualification or dismissal, if engaged.

Rasim Ali

: _____
Signature of expert

Date: 03/01/2019
(Day/Month/Year)





Issue number 4306025

A251857



Tribhuvan University

Office of the Controller of Examinations
Kathmandu, Nepal

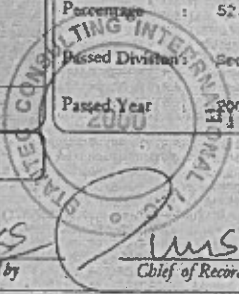
Academic Transcript

Student's Name	: RASIN CHAKAL	Regd. #	: 256124-68
Campus	: Tri-Chandra, Ghantapaha	Institute/Faculty	: Humanities & Social Sciences
Examination	: Master's Degree in Sociology	Course Duration	: 2 Academic Years

Subjects appeared in the First Year Examination	Full Marks	Pass Marks	Marks Obtained	Remarks	Subjects appeared in the Second Year Examination	Full Marks	Pass Marks	Marks Obtained	Remark
I FOUNDATION IN SOCI. & ANTH.	100	40	42		V NEPALI CUL. AND SOCIETY	100	40	45	
II HUMAN EVD. & PREHISTORIC CUL.	100	40	43	**	VI SOCI. OF RURAL SOCIETY	100	40	57	*
III THEO. APPRO. IN SOCI. / ANTH.	100	40	46	**	VII POPULATION STUDIES	100	40	43	*
IV METHODOLOGY OF SOCIAL RESE.	100	40	56	**	VIII DISSERTATION	100	40	87	
Total	400	160	187		Total	400	160	232	

(S.D. 2060.12.18)
(V.D. 2060.12.22)

Subjects appeared in the Third Year Examination	Full Marks	Pass Marks	Marks Obtained	Remarks	Programme starting year : 1997	Ending year : 1996																														
					<table border="1"> <thead> <tr> <th colspan="2">First Year</th> <th colspan="2">Second Year</th> <th colspan="2">Third Year</th> </tr> <tr> <th>Year</th> <th>Roll Number</th> <th>Year</th> <th>Roll Number</th> <th>Year</th> <th>Roll Number</th> </tr> </thead> <tbody> <tr> <td>1997</td> <td>2842</td> <td>1998</td> <td>6903</td> <td></td> <td></td> </tr> <tr> <td>1999</td> <td>6209</td> <td>1999</td> <td>6209</td> <td></td> <td></td> </tr> <tr> <td>2000</td> <td>2555</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	First Year		Second Year		Third Year		Year	Roll Number	Year	Roll Number	Year	Roll Number	1997	2842	1998	6903			1999	6209	1999	6209			2000	2555					
First Year		Second Year		Third Year																																
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1997	2842	1998	6903																																	
1999	6209	1999	6209																																	
2000	2555																																			
Total					Percentage : 52.38	Passed Division : Second																														
GRAND TOTAL	800	320	419		Passed Year : 2000																															



Date of Issue 08/07/2004

Prepared by *[Signature]*

Checked by *[Signature]*

[Signature]
Chief of Records

[Signature]
Controller of Examinations

NOTE : * means the student has passed in the second attempt.

** means the student has passed in more than two attempts.



Rutuja Tendolkar

Principal Consultant

Rutuja Tendolkar is a Principal Consultant engaged in the planning and implementation of major capital projects that entail physical and economic displacement, impact on community resources and ecosystem services and specific livelihood impacts. She has interpreted IFC, World Bank, ADB, JBIC, EBRD and OPIC environmental and social safeguards requirements (particularly related to land acquisition, community-based impacts, stakeholder engagement and labour) for projects across their lifecycle. These include ESIA's, RAP, LRP and associated management plans on stakeholder engagement, community development, livelihood restoration and labour influx management for. Rutuja has provided resettlement related advisory (including RAP, implementation, completion audit and monitoring and evaluation) for sectors that include mining, power, power transmission, oil & gas and infrastructure development. Rutuja also leads sustainable finance transactions that pertain to project finance and multilateral investment (direct and through financial intermediaries). Her experience at ERM has given her an exposure to geographies in South Asia; Africa; South-east Asia; Middle-east; and CIS countries. She has directly worked with multilateral institutions that include: ADB, IFC, DEG, KfW, Proparco, CDC, Swedfund, US Exim Bank, FMO and JBIC.



Experience: 11 years

LinkedIn: <https://in.linkedin.com/in/rutuja-tendolkar-13369845>

Email: rutuja.tendolkar@erm.com

Education

- MSc Ecological Economics, University of Leeds, United Kingdom; 2010;
- Economics & Statistics, St. Xavier's College, Mumbai University; 2006;
- Diplôme de Français Commercial; 2005 and Diplôme de Langue Française; 2004, Alliance Française de Bombay.

Professional Affiliations and Registrations

- Not applicable

Languages

- English
- French

- Hindi
- Marathi

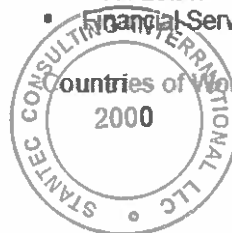
Fields of Competence

- Resettlement and Livelihood Restoration;
- Environment and Social Impact Assessments;
- Environmental and Social Management Systems;
- Social, human rights and labour due diligence;
- E&S Training for Lenders and Financial Intermediaries;
- E&S Monitoring and Advisory Support.

Key Industry Sectors

- Mining
- Power - Hydro, Wind, Solar, Thermal
- Oil & Gas
- Pharmaceuticals
- Infrastructure (Roads, Airports, Ports)
- Real Estate
- Financial Services

Countries of Work Experience
2000



- South Asia: India, Nepal, Bangladesh, Sri Lanka, Maldives;
- South-east Asia: Thailand, Vietnam, Philippines, Malaysia and Indonesia;
- Middle-east: Turkey;
- Africa: Guinea, Democratic Republic of Congo, Ethiopia;
- CIS Countries: Armenia, Uzbekistan and Kazakhstan;
- Myanmar, Jordan – Desk-based.

Key Projects

Land Procurement Strategy for a Renewable Energy Company, Magwe (December 2018-ongoing)

Client: Confidential

A renewable energy company has engaged ERM to undertake a land access and social risks review of four (4) sites to develop a wind energy project. The outcome of the review is to support the client in developing a Land Procurement Strategy. Rutuja is the Social Specialist supporting the project team in developing the strategy and a ToR to frame a Land Acquisition Plan.

Resettlement Action Plan for a 305 km transmission line project, Nepal (2018-ongoing)

Client: Millennium Challenge Corporation

A consortium (comprising of Stantec, ERM and Power Engineers) was awarded a contract for Project Preparation and Technical Supervision support for a 305 km transmission line project across ten (10) districts in Nepal. The scope of PPTS includes an EIA/ESIA, local benefit sharing plan, stakeholder engagement and resettlement planning. Rutuja is the Resettlement Lead for the transmission line project and will coordinate temporary and permanent land access, RAP development and presentation of compensation agreements for the project.

Resettlement Action Plan and LRP development for a 900 MW hydro-electric power project, Nepal (2015-2017)

Client: GUKHL

GMR Energy (through its subsidiary GUKHL) has engaged ERM to prepare a Resettlement Action Plan and Livelihood Restoration Plan as per IFC PS (2012) and ADB SPS (2009) for a 900 MW peaking hydropower project in the Far-western and Mid-western regions of Nepal. The project entailed physical displacement, economic displacement, community-based livelihood impacts as well as the potential displacement of artisanal riverine fishing communities linked to the bypass reach of the project. Rutuja was the Project Manager and lead social specialist for the RAP and LRP development. In addition to coordination of the land and asset and social surveys (Feb-April 2015), she also developed the report and carried out extensive consultations with the client, lenders and IBN to finalize the entitlement matrix as well as household-specific entitlement plans for 426 affected households. Rutuja is presently advising the early implementation for the RAP and LRP.

Resettlement Implementation Audit for a natural gas pipeline, Turkey (2016)

Client: TANAP

The Trans Anatolian Natural Gas Pipeline (TANAP) Project is seeking external finance from multilateral agencies, including the World Bank. TANAP commissioned ERM to undertake a resettlement implementation audit to assess the conformance of the land acquisition process and the key commitments in the resettlement documentation against the requirements of the IFC and World Bank standards. Rutuja is the lead social specialist for the project. She led three survey teams within Turkey (across the pipeline corridor) to assess RAP implementation and also undertook the gap assessment against WBG's operational policy on involuntary resettlement.

Resettlement Planning and Implementation for the Simandou project, Guinea (2011-2013)

Client: Rio Tinto and Simfer

ERM was commissioned by Rio Tinto and its subsidiary Simfer to provide resettlement advisory pertaining to the land acquisition and associated



impacts for the Simandou Iron Ore Project and its key components, i.e. early works, the marine offloading facility (MoF), the mine, the power and the 700 km railway corridor. Rutuja was the Content Manager for resettlement planning over a period of three years (from 2011-2013 – FIFO arrangement) and undertook the following:

- drafting the "Plan d'Action de Reinstallation et de Compensation" (Resettlement Framework) for the Simandou Project;
- supporting the development of a legal instrument to commission land acquisition and resettlement activities for the early works of the Simandou Project (notably the MoF, borrow areas and other early works);
- developed the RAP and LRP for the proposed marine offloading facility (MOF), associated borrow pit and phase I of the deep water port in Forecariah Prefecture which entailed the physical and economic displacement of over 500 households;
- supported the implementation of the RAP and LRP for the MoF and BP 33 with respect to advisory support to Simfer's Community Relations team, finalizing agreements with affected households and supervising the temporary resettlement of the initial set of physically displaced households;
- Regular presentation and interface with the Land Commission and the Technical Committee of the Government of Guinea to update on the resettlement progress for the project.

Land Acquisition and Resettlement Audit for an urban township project (2017)

Client: IFC

ERM was commissioned by the IFC to undertake a retrospective land acquisition and resettlement completion audit for the Purbachal New Town Project for which the Government of Bangladesh acquired land in 1995-96. Rutuja is the Project Manager and is leading the field assessments. The focus of the assessment is to identify any legacy issues linked to the safeguards applied for the land acquisition process and residual livelihood implications that may pose a reputation risk for IFC's involvement.

Land Acquisition and Completion Audit for the Dewas Bhopal Project Corridor, India

Client: IDFC Alternatives

ERM was commissioned to undertake an LA completion audit by DBCPL, a road SPV that is the Concessionaire for the Dewas Bhopal Project Corridor. Rutuja was the Project Manager and supported the team to compile and present findings to the client linked to any residual and legacy issues that pose a reputation and/or compliance risk to the FI and to also assess the private-sector responsibilities under government-led resettlement.

Independent review of the Land Acquisition and Resettlement Process of the Cai Mep Container Port Terminal, Vietnam

Client: Asian Development Bank

ERM was commissioned to undertake an independent review of the land acquisition and compensation process involved for an upcoming container port terminal project in the Ba Ria Vung Tau province of Vietnam. Rutuja led the social review and field discussions with the households and the local government officials to understand and compare the compensation process followed with respect to the ADB Policy on Involuntary Resettlement.

Resettlement Plan and Resettlement Framework for two urban slum redevelopment projects in Mumbai (2016-2017)

Client: ADB and ORDPL

ERM has been commissioned by a consortium of ADB and ORDPL to develop safeguards documentation as per ADB SPS, 2009 for two slum redevelopment projects in Mumbai. This includes Resettlement Plans, IEE-ESMP and a Cultural Impact Assessment for one of the two projects. Rutuja is the lead resettlement specialist and the Project Manager.

Livelihoods Restoration Plan and Resettlement Action Plan for an offshore LNG terminal project, Philippines (2013-2015)

Client: Confidential



ERM has been commissioned by one of the largest oil & gas companies to undertake an assessment of livelihood and resettlement impacts and develop mitigation measures for a proposed offshore LNG terminal in the Batangas Bay area of the Philippines. Rutuja is the Project Manager of the assignment and is leading the LRP with regards to assessment of impacts on fishing communities and fishermen in the vicinity of the proposed project.

Resettlement Framework and Livelihood Restoration Plan for a diamond mining project in Central India (2014-2015)

Client: Confidential

ERM has been commissioned by a multinational mining company to develop a Resettlement Policy along with a Framework for Land Acquisition and Livelihood Restoration for a mining project located in Madhya Pradesh, India. The project involves an economic impact to households from over 10 villages, especially on communities dependent upon forest areas and other common property resources. Rutuja is the Project Manager and Resettlement Specialist for the assessment.

Rehabilitation Plan and Environmental and Social Impact Assessment for a slum rehabilitation project in Pune, India

Client: Kumar Urban Developers/ADB

ERM was commissioned by KUL to develop a Rehabilitation Plan and ESIA for an integrated township project involving the in-situ resettlement of over 4000 households in the city of Pune. The environmental and social documentation was to be prepared in accordance to the ADB Safeguards Policy (2009). Rutuja was the Project Manager for this assignment and led the development of the Rehabilitation Plan as well as the Social Impact Assessment and Social Management Plan.

Formulation of a Resettlement Framework for the proposed Red Sea Dead Sea Conveyance Scheme

Client: Consortium of International Donors

ERM is undertaking an Environmental and Social Impact Assessment as well as a Resettlement Action Plan as a part of the feasibility studies associated with the proposed 810 km Red Sea Dead Sea Conveyance Scheme wherein water from the Red Sea is to be transported to the Dead Sea basin for the generation of power as well as to stabilize the basin. Rutuja was associated in the formulation of a Land Acquisition Compensation and Resettlement Planning Framework based on a desk-based review of the ESIA and associated project documentation.

Social Impact Assessment and Preparation of an Entitlement Framework and Livelihood Restoration Plan for a thermal power plant, Jhajjar, Haryana August 2008-2009

Client: CLP Holdings /ADB

CLP is expanding its power sector assets and has been in discussion with international donors like the ADB and the IFC for funding its proposed projects. ERM was commissioned to undertake a social impact assessment of an upcoming thermal power plant located near the town of Jhajjar in the north Indian state of Haryana as per the guidelines of the IFC and the ADB. The SIA involved a detailed baseline study of the villages within the project's area of influence which included a 100% household survey for those directly impacted by land acquisition for the project. As a core team member, Rutuja was involved in the identification of social impacts from the project and addressing their mitigation through management plans for stakeholder engagement, livelihood restoration and community development.

Independent Review of the Land Acquisition and proposed resettlement of project-impacted persons of the KMTR Toll Road, Gujarat, India - 2012

Client: DEG

ERM India undertook an Independent Environmental and Social Review of the proposed expansion of the National Highway 8A for a length of 83 km in the Kutch district of Gujarat, India. The review was undertaken as per the IFC Performance Standards. As the Project



Manager, Rutuja led the social review process and also undertook an assessment of the land acquisition and proposed resettlement involved in the widening of the Right-of-Way for the toll road.

Resettlement and Rehabilitation Monitoring as part of Environmental Management and Capacity Building Services to the World Bank funded Mumbai Urban Transport Project (2008-2009)

Client: World Bank and MMRDA

MMRDA and World Bank were desirous of undertaking a pilot project intervention using the EMCB Consultant services in one of the R&R building site wherein project affected people (PAP) have been relocated and resettled. As a core team member, Rutuja undertook a rapid review of the R&R activities undertaken in compliance to state and national level policies. Rutuja was also involved in implementing a community-based environmental management plan for one of the Resettlement and Rehabilitation sites.

Environmental and Social Impact Assessments

Cumulative Impact Assessment of the Trishuli River Basin, Nepal (2017 – ongoing)

Client: IFC

The IFC is supporting a basin-level management intervention for Trishuli River Basin in the context of upstream and downstream hydropower development. ERM has been commissioned to undertake a CIA of the entire river basin, in accordance to IFC's CIA Handbook, in order to determine cumulative environmental, biodiversity and social impacts. Rutuja is the lead social specialist and Project Manager for the assignment.

ESIA and Resettlement Framework for a 225 MW dual fuel power project in Bhola, Bangladesh (2016-2017)

Client: SP Infra

ERM was commissioned to develop an ESIA, Resettlement Framework and secure local regulatory approvals for a power project in Bhola, Bangladesh. The site was adjoining an existing operational power

project of the Bangladesh Power Development Board. As Project Manager, Rutuja coordinated studies across the team leaders for environment, ecology, social and cumulative impacts and compiled the report for local permitting and international lenders. She also led the social impact assessment which included an understanding of specific cumulative impacts linked to availability of land for cultivation, fishing (linked to the two power plants) and in-migration.

Environmental and Social Impact Assessment for a 900 MW hydropower project, Nepal (2015-ongoing)

Client: GMR Energy

GMR Energy (through its subsidiary GUKHL) has engaged ERM to prepare an Environmental and Social Impact Assessment (ESIA) and associated management plans as per IFC PS (2012) and ADB SPS (2009) for a 900 MW peaking hydropower project in the Far-western and Mid-western regions of Nepal. Rutuja is the Project Manager and Social Specialist for the ESIA. Her key responsibilities have included: coordinating a range of environmental, social and ecological baseline studies for three seasons along with specific technical studies on cumulative impacts, downstream flow regime management, minimum ecological flow and GHG emissions as well as drafting and compilation of the ESIA-ESMP and associated management plans. Rutuja has also presented the ESIA to potential lenders (including the IFC and the ADB) in Kathmandu, Nepal in April 2016.

Environmental and Social Impact Assessment and Resettlement Framework for the Alimit Hydropower Complex, Philippines (2015-2016)

Client: Confidential

A confidential client consortium (Norway and Philippines) is proposing a 130 MW hydroelectric power project (HEPP) with an associated 250MW pumped storage (PS) facility in north of the Philippines. ERM was commissioned to prepare the local Environmental Impact Statement assessment according to Philippines regulation, as well as an international Environmental and Social Impact



Assessment to meet IFC performance standards and lender requirements. Rutuja was the Social Specialist for the project in charge of developing the social impact assessment, mitigation and associated management plans that include the Resettlement Framework, the Stakeholder Engagement Plan and the Indigenous Peoples Development Plan.

She also contributed to the understanding of cumulative impacts on social receptors linked to the hydro complex together with another storage project downstream of Alimit River.

Regulatory Environment Impact Assessment for the expansion of a chlor alkali facility, Orissa, India (2016-2017)

Client: Aditya Birla Chemicals

ERM is supporting ABG's chlor alkali facility in Ganjam Orissa to obtain an environmental clearance through the development of an EIA for the proposed expansion. Rutuja is the Functional Area Expert for Social Impacts and undertook the baseline studies as well as impact assessments focusing on fishing, in-migration and community health and safety.

Gap Assessment and ESIA Update for a textile manufacturing complex in Mekelle, Ethiopia (2015-2016)

Client: Swedfund and the DBL Group

Swedfund and H&M intend to fund the development of an integrated textile complex outside Mekelle city in Ethiopia that is proposed to be developed by the DBL Group, a leading garments manufacturer based in Bangladesh. ERM was commissioned to undertake a gap assessment of environmental, social and technical studies and thereafter update the existing documentation into an ESIA which met the requirements of international standards (notably IFC PS and WB EHS Guidelines). Rutuja is the lead social specialist for the project and also provided specific technical inputs on community dependence on water for a source vulnerability and hydrological study for the specific site.

Environmental and Social Impact Assessment of an FSRU for an onshore LNG Terminal, India (2014-2015)

Client: Confidential

ERM assisted a confidential oil & gas developer in the preparation of an Environmental and Social Impact Assessment report in line with the EIA Notification (2006) towards submission for Environmental Clearance. Rutuja led the Social Impact Assessment for the project that involved the identification of adverse and beneficial impacts on the local community and key stakeholders.

Environment and Social Risk Assessment for potentially chromium contaminated sites in the Hooghly district, West Bengal

Client: West Bengal Pollution Control Board (2013-2014)

ERM has been commissioned by the West Bengal Pollution Control Board to develop and plan remediation action plans for industrial hotspots with potential chromium contamination along the Delhi Road in Hooghly district. This project is funded by the World Bank. Rutuja led the social assessment which included undertaking a baseline and risk profile for 27 contaminated sites and developed a risk rating methodology based on multi-criteria analysis. Thereafter, a site-specific E&S assessment and management plan was undertaken on the final 9 sites.

ESIA and Rehabilitation Plan for a proposed coal block, Chattisgarh, India (2011-2012)

Client: BALCO

ERM was commissioned to develop an ESIA and associated management plans for an allocated Durgapur II Taraimar coal block on behalf of BALCO, a part of the Vedanta Group. The project involved updating an existing government-approved EIA to the requirements of the IFC Performance Standards. Rutuja led the social scoping of the ESIA, including determination of the requirement for a resettlement plan and an indigenous people's development plan.



Environmental and Social Impact Assessment of a 100 MW Wind Energy Project in Maharashtra, India (2011-2012)

Client: Panama Wind Energy Private Limited

ERM developed an ESIA and Environmental and Social Management Plan for a 100 MW Wind Energy Project in the eco-sensitive area of the Western Ghats as per the requirements of international lenders such as FMO and DEG. Rutuja was the Project Manager for the ESIA and led the Social Impact Assessment and Management Plan for the project.

Strategic Environmental and Social Assessment for National Dairy Development Board, Anand – 2010-2011

Client: National Dairy Development Board

ERM is undertaking a strategic environmental and social assessment of the proposed National Dairy Plan to be implemented by the NDDDB. In line with the Operational Policies of the World Bank, ERM has been commissioned to undertake a detailed survey of 8000 households across India and conduct stakeholder consultations with groups involved in the formal and informal dairying sector at the village, district and national level. As a core team member, Rutuja was in charge of coordinating socio-economic surveys for the states of Gujarat and Karnataka and undertaking stakeholder consultations to identify impacts from the proposed project components of the National Dairy Plan.

Social and Environmental Impact Assessment of a transmission line for the Allain Duhangan Hydro-electric project in Himachal Pradesh – 2008-2009

Client: International Finance Corporation

ERM India was commissioned by the IFC to undertake an impact assessment of the power transmission line of a hydro-electric power project funded by the IFC based in Manali. The transmission line was to through approximately 200 kms from Manali to Nalagarh, across rural communities and hamlets. As a key team member, Rutuja assessed the socio-economic and community risks in accordance with the IFC

Guidelines on the local communities who were to come within the 100 mt corridor of impact. The SIA also included a review of the procedures undertaken by the project proponents in acquiring right of way, managing community risks and community engagement in setting up the project.

Environmental and Social Impact Assessment of a proposed solar powered plant in Tamil Nadu, June 2009

Client: Moser Baer

ERM has undertaken an ESIA for a proposed Solar Photovoltaic Power Plant of 5 MW capacity in the Sivaganga district of Tamil Nadu. Rutuja led the social impact assessment which included discussions with impacted villages in the project's area of influence, stakeholder mapping and predicting the intensity of impacts on the predominantly rural community. The outcome of the SIA was a Social Management Plan and a framework to implement social management systems

Environmental and Social Impact Assessment and for the Coal Bed Methane Block in Birbhum, West Bengal, 2008-2009

Client: BP Energy

BP has been awarded a license to explore CBM for supplying domestic gas in the Birbhum District of West Bengal across three blocks. ERM was commissioned by BP to undertake a detailed Environmental and Social Impact Assessment to submit the same to the Ministry of Environment and Forests to get a clearance and commence operations. The ESIA involved a detailed baseline study of environmental and social indicators of three blocks in Birbhum, Mayureshwar I, Rampurhat I and Mohammad Bazaar. Rutuja was involved in the stakeholder engagement and primary social data collection as well as the identification of potential beneficial and adverse impacts from the upcoming BP operations and development of Framework Management Plans.

Sustainable Finance- Ongoing Performance Monitoring



Independent EHS and Social Performance Monitoring of the Nagpur Metro Rail Project, India
Client: KfW and NMRCL

KfW is a major lender to the Nagpur Metro Rail Project, presently under-construction in Nagpur, Maharashtra, India. The project has an existing ESIA-ESMP and Resettlement Plan which is being implemented through a General Consultants Consortium engaged by NMRCL. ERM is reviewing the EHS and Social Performance of the Project on a quarterly basis (thereafter semi-annually) on behalf of KfW. The objective is to identify key implementation concerns and challenges and propose corrective actions to align the project to the applicable standards. Rutuja is the Project Manager.

Independent Review and Quarterly Environmental and Social Monitoring of the resettlement, land acquisition and livelihood restoration associated with the development of an ultra-mega power project and coal mining project, Madhya Pradesh (2011-2014)
Client: US Exim Bank

The US Exim Bank commissioned ERM to undertake an independent review and environmental and social monitoring of an upcoming ultra-mega power plant and associated coal mines in Singrauli, Madhya Pradesh. Rutuja led the social monitoring in accordance to the Equator Principles and IFC Performance Standards focusing on resettlement completion, livelihood restoration and social impact management.

Sustainable Finance- ESMS Support E&S Management Systems Review for Hamkorbank, Uzbekistan (ongoing)
Client: FMO and Hamkorbank

ERM is undertaking an ESMS Review for Hamkorbank with a specific focus on its implementation for the textile and cotton sector value chain. The scope of the review focuses on Hamkorbank's lending activities in Uzbekistan. Rutuja is the lead Social Specialist for the project to

undertake onsite consultations and analysis of the ESMS as per the applicable standards.

Environmental and Social Management Systems for a leading private equity fund, India (2016-17)
Client: ICICI Venture

ICICI Venture is seeking multilateral investment and therefore commissioned ERM to assist them in developing an ESMS in line with CDC's requirements and the CDC Toolkit for Fund Managers (2015). Rutuja is the Project Manager for the assignment.

E&S Management Systems Policy Framework for a healthcare focused fund, India (2017)
Client: Somerset Capital

Somerset Capital is seeking investment from multilateral lenders for its healthcare focused fund for companies in India. In accordance to E&S requirements, Somerset commissioned ERM to develop a management systems framework in line with the Environmental and Social Policy Statement of the Overseas Private Investment Corporation (OPIC), February 2017. Rutuja was the Project Manager.

Human Rights Management Systems for a sustainability framework (2016)
Client: Aditya Birla Group

The ABG Group commissioned ERM to develop a sustainability framework across its pillars of responsible stewardship, stakeholder engagement and future proofing through policy statements, technical standards and guidance notes. Rutuja led the development of documentation for human rights which included a policy statement to cover ABG's group companies, subsidiaries and partners; technical standard to undertake a human rights due diligence and a guidance note for human rights impact assessment and management planning.

Environmental and Social Management Systems and Operating Procedures for a container terminal and logistics company, India (2016)
Client: Continental Warehousing Corporation



ERM was commissioned by CWC to prepare an ESMS for the company based on IFC PS and national laws, rules and regulations. The main operations of the company included Container Freight Stations, Multimodal Terminals, Warehousing, Inland Container Depot (Export-Import), and third party logistics. Rutuja was the Project Manager and led the development of the ESMS Handbook along with supporting assessment tools, management standards and operating procedures.

Sustainable Lending Policies and Procedures for India's largest private sector bank (2014-2016)

Client: Axis Bank

Axis Bank Limited intends to align its internal lending policies and procedures to international standards such as the Equator Principles, 2013. ERM was commissioned to assist Axis Bank to develop an internal manual, toolkit and a road map for implementation over a three-year time frame. Rutuja was the Project Manager for the assignment and led the development of Axis Bank's Sustainable Lending Policies and Procedures as well as its pilot implementation across five (5) projects within the company's lending portfolio.

Environmental and Social Management Systems for Medica Synergie Private Limited, West Bengal (2013)

Client: edica Synergie

ERM was commissioned by MSPL to develop a customized environmental and social management system (ESMS) for a healthcare entity with hospitals in West Bengal and Jharkhand. The ESMS was scoped on the basis of an ESG Due Diligence that was undertaken in line with IFC Performance Standards (2012) and GRIIS requirements. Rutuja was the Project Manager.

ESG Management Systems for Kotak Investment Advisors Limited (2015)

Client: Kotak

ERM developed a sector-agnostic Environmental and Social Management Systems for KIAL across their private equity funds of real estate, infrastructure etc. Rutuja was a team member to design and structure the policy document and the toolkit.

Social and Environmental Management Systems for a private equity fund, South Asia (2013)

Client: Motilal Oswal

A sector agnostic private equity fund with investment from the IFC intended to commission a SEMS document to align their investment procedures to IFC's requirements. In addition to the SEMS development, ERM also undertook capacity building and training for the fund's investment team. Rutuja was the Project Manager and led the social management systems development.

Environmental and Social Reputation Risk Assessment of a private-equity fund, Indonesia (2013)

Client: FMO

FMO is evaluating an opportunity to support and invest in a private equity fund based in Indonesia which will invest in energy, mining and plantation assets in South-east Asia. FMO has commissioned ERM to undertake a reputation risk assessment of the private equity fund and its portfolio of investments in Indonesia to support its investment decision. Rutuja is the Project Manager for the assignment.

Sustainable Finance- Training and Capacity Building

Sustainable Supply Chain for Tata Group of Companies, 2017

Client: Tata Sustainability Group

ERM developed and delivered content for a training program (across three sessions) on sustainable supply chain for Tata Group of Companies. The training program had a specific focus on extractives sector, the manufacturing sector and the services sector through distinct capacity building workshops. Rutuja was engaged as a social specialist for the



project and supported in content development and delivery of training for the extractives and manufacturing sector companies.

E&S Risk and Opportunity Management for commercial banks in Bangladesh, 2018

Client: FMO

The Central Bank of Bangladesh has put in place E&S Risk and Opportunity Management Guidelines for the banking sector in Bangladesh with the help of IFC and other lenders. ERM has been commissioned by the FMO to develop content and deliver 8 training workshops on the ESRM Guidelines in Dhaka between February and April 2018. Rutuja is the lead social specialist and one of the trainers for the project.

ESRM Training for Banks in Nepal, 2018

Client: IFC

The IFC is supporting Nepal Rashtriya Bank to develop ESRM Guidelines for the banking sector in Nepal. ERM has been commissioned to deliver training of trainer workshops on the draft guidelines to representatives across the head office and regional office of NRB in Kathmandu, Pokhara and Nepalgarj. Rutuja is the Project Manager.

Environmental and Social Due Diligence

Ongoing ESDD Projects

E&S Due Diligence of a power sector portfolio (renewables and conventional power), India –

Ongoing

Client: CDPO

CDPO is evaluating an investment opportunity into an independent power producer with conventional and renewable energy assets in India. The assessment framework considers applicable regulations and the Equator Principles, 2013. Rutuja is the lead social specialist to provide overall QA/QC support for the transaction and also led the ESDD for a combined cycle power plant part of the power portfolio.

E&S Compliance Audit for a pharmaceutical manufacturing company, Kazakhstan (2017)

Client: ADB and JSC Chimpharm

ADB is considering a corporate finance investment into JSC Chimpharm for expansion of their existing pharmaceutical manufacturing company in Shymkent, Kazakhstan. ERM was commissioned to undertake an E&S Compliance Audit and develop safeguards documentation for the project. Rutuja is the Project Manager and lead social specialist for the assignment.

E&S Compliance Audit for an agribusiness and greenhouses entity, Armenia (2017)

Client: ADB and Spayka LLC

ADB is considering a project finance investment into a proposed 50 ha vegetable greenhouse to be developed by Spayka LLC in Yerevan Municipality. ERM was commissioned to undertake an E&S Compliance Audit of Spayka LLC (including its procurement supply chain) as well as a due diligence for the specific greenhouse project. Rutuja is the lead social specialist for the assignment.

E&S Due Diligence for a Greenfield airport, North Goa (2017)

Client: Axis Bank

GMR is the Concessionaire to develop a Greenfield Airport for North Goa. Axis Bank commissioned ERM to undertake an ESDD to assess compliance of the project and suggest any key studies in accordance to their Sustainable Lending Policies and Procedures (based on IFC PS). Rutuja is the Project Manager and led the ESDD as the social specialist.

E&S Due Diligence of the Vizhinjam International Sea Port, Kerala, India (2016-2017)

Client: Adani Ports

Adani Ports (AVPPL) on behalf of Yes Bank Limited commissioned an E&S Due Diligence for the Vizhinjam Port in Kerala, India. The ESDD was required to assess compliance against IFC PS as well as provide a comprehensive risk assessment linked to biodiversity issues, National Green Tribunal litigation and the land acquisition process. Rutuja is the Project Manager and is leading the social assessment.



E&S Due Diligence for a portfolio of road projects in Andhra Pradesh (2017)

Client: Brookfield and Peak Infra

Brookfield and Peak Infra are evaluating the acquisition of two operational roads in Andhra Pradesh, notably the Simhapuri Expressway and the Rayalseema Expressway. As a part of the transaction, ERM was commissioned to undertake a risk-focused E&S DD as per JBIC's standard. Rutuja is the Project Manager and led the risk assessment and quantification process for the two roads.

Environmental, Social and Structural risk screening of an EPFI's RMG-sector portfolio, Bangladesh

Client: Confidential

A leading EPFI has commissioned ERM to undertake an environmental, social and structural assessment of 99 facilities within their ready-made-garments portfolio in Bangladesh. The assessment includes the development of a screening and risk assessment methodology based on IFC Performance Standards and Bangladesh national regulations for use by the EPFI's team to evaluate future risks. Rutuja is the Project Manager for the assignment and is leading the social review.

Completed ESDD Projects

Hydropower

- E&S Due Diligence of the Lower Likhu Hydropower Projects in Nepal for Dolma Impact Fund, 2016 – Project Manager;
- E&S Due Diligence of a portfolio of hydro and wind projects (Project Vaayu) for the CDC Group in 2015-2016 – Project Manager;
- Independent review of three hydropower assets for an infrastructure fund (Project Ambrosia) in the state of Sikkim, India – 2010-2011, Project Manager;
- E&S Due Diligence of four (4) hydropower projects (including Karcham Wangtoo) on behalf of a confidential financial investor – 2008-09.

Conventional Power and Renewable Energy

- E&S Due Diligence for a portfolio of wind and solar energy projects of Hero Futures on behalf of the APG Group, 2017, Project Manager;
- E&S Due Diligence of Azure Power's solar project portfolio for FMO in India, 2016-2017 – Project Manager;
- Independent Environmental and Social Review of waste to energy assets in Thailand and India for Royal Haskoning and FMO, 2013-2014 – Project Manager;
- Independent Review and Environmental and Social Monitoring of an ultra-mega power project, Maharashtra for Standard Chartered 2014-2016, Project Manager;
- E&S DD of ReNew Power's portfolio of projects for APG and Piramal SFG, 2017 – Project Manager;
- E&S Bid Screening for Actis for four solar parks in 2016, Project Manager.

Infrastructure

- E&S Risk Assessment and Quantification for bidding for the proposed Navi Mumbai International Airport, 2016 – Social Specialist;
- ESG Due Diligence for Krishnapatnam Port on behalf of APG and Piramal SFG – 2017 – Project Manager;
- E&S Gap Assessment for five (5) roads of Gammon Infra acquired by Brookfield in 2015-2016;
- E&S Due Diligence for the Hyderabad Metro Rail Project for EDC (2014-2015) – Project Manager and Social Specialist;
- E&S Due Diligence for the Jaipur Mahua Toll Road Project (2014-2015) – Project Manager;
 - Environmental and Social Due Diligence for a Water and Sanitation company for Olympus Capital, 2013-2014 – Project Manager;
 - Independent Review for an upcoming container port terminal at Ennore Port – 2009 – Project Manager.

Healthcare

- ESG Due Diligence for a portfolio of hospital

- projects across South, East and Central India for the Abraaj Group, 2015 – Project Manager;
- ESG Due Diligence for a portfolio of three hospitals in North East India for the Abraaj Group, 2016 – Project Manager;
- ESG Due Diligence for a diagnostics entity in South India, 2017 – Project Manager.
- Environmental and Social Due Diligence of a healthcare chain, Kolkata for Quadria Capital, 2013 – Project Manager.

Pharmaceuticals and Chemicals

- E&S Due Diligence for Neuland's API Manufacturing facilities in Hyderabad on behalf of ICICI Ventures, 2016-2017 – Project Manager;
- E&S Due Diligence of Natco Pharma's API and formulations portfolio on behalf of CX Partners, 2017 – Social Specialist;
- ESG Due Diligence of an agrochemicals entity in Kutch along with associated salt washing plants for ADV Partners, 2015-2016 – Project Manager;
- ESG and Social Due Diligence for a biotechnology manufacturing entity in Gujarat for Quadria Capital, 2015 – Project Manager
- Environmental and Social due diligence of a pharmaceutical company's portfolio in Jakarta, Indonesia for Quadria Capital, 2014 – Project Manager and Social Specialist.

Miscellaneous

- Environmental and Social Due Diligence of an integrated cement plant and associated limestone mines and jetty, Gujarat – 2014, Social Specialist;
- Independent Review and Monitoring of an aluminum refinery at Lanjigarh, Orissa – 2012 – Social Specialist;
- Independent EHS and Social Review of a garment manufacturing group, Chittagong on behalf of DEG – 2014;
- Independent Environment and Social Review of Akruti City Limited's proposed slum rehabilitation project, Mumbai 2011 for FMO – Project Manager;
- Independent EHS and Social Review of Aitken Spence Plc, Sri Lanka for DEG in 2012 – Project Manager and Social Specialist.
- E&S Monitoring for an integrated steel plant in

- Wardha for FMO – 2014 – Social Specialist;
- Environmental and Social Review of an Integrated Steel Plant in the Sindhudurg District, July 2008 – Project Manager.

Social Due Diligence and Labour Audits Labour, human rights and supply chain audits for mica mines and processing units -2016-2017

Client: Yamaguchi Mica

ERM was commissioned by Yamaguchi Mica to undertake a series of labour and human rights audit in accordance to the SA 8000 framework for their suppliers. The supply chain included mica mines and mica flake processing units in Bihar and Jharkhand. Rutuja was the project manager and lead auditor for the assessment.

Labour and SA 8000 audit of an under construction cement plant in the Congo 2015-2016

Client: PPC Cement

ERM was commissioned by PPC Limited to undertake a labour and SA 8000 assessment for the Songolofo Cement Project in the Cataractes district of the Democratic Republic of Congo. Rutuja was the lead social specialist for the labour assessment. The scope included a review of the Congolese and Chinese contractors and assessment of working conditions for the under construction cement facility vis-à-vis IFC Performance Standards, 2012 and SA 8000.

Labour and Supply Chain assessment of a fish processing plant in the Maldives - 2015

Client: DEG

ERM was commissioned by DEG to undertake an environmental and social due diligence for a fish processing plant located in the Hulhumale island of Maldives. Rutuja was the lead social specialist and undertook a review of the onsite labour, community engagement and supply chain practices with reference to the IFC Performance Standards, 2012.

Labour audit and social compliance of textile manufacturing and export facilities in Bangladesh -2012-2015

Client: Confidential

ERM was commissioned by an Equator Principles Financing Institution to undertake an environmental and social due diligence for a major garment manufacturing and export organization in Dhaka, Bangladesh. The assessment included seven facilities engaged in textile printing, dyeing, garment manufacture and spinning. Rutuja is the Project Manager for this assignment and assessed the existing social compliance of the facilities with respect to the IFC Performance Standards, SA 8000, Bangladesh Labour Law 2006 and H&M Code of Conduct.

Labour and Supply Chain assessment of an integrated pulp and paper manufacturing unit and timber plantation, Malaysia -2014

Client: Sabah Forest Industries

SFI commissioned ERM to undertake a detailed assessment of labour, working conditions and supply chain risks of its operations (plantations, timber processing and paper manufacturing) in accordance to applicable labour regulations and the IFC PS 2. Rutuja led the labour assessment and assisted SFI in developing a Corrective Action Plan to address gaps in order to facilitate an investment from the International Finance Corporation.

Labour Audit and EHS Compliance for a pharmaceutical manufacturer in Mysore 2013-2014

Client: Shire Plc

ERM was commissioned to undertake a supply chain audit of an active pharmaceutical ingredient manufacturing facility located in an industrial area of Mysore, Karnataka. The review was undertaken in accordance to the corporate requirements of Shire PLC and applicable Indian labour laws. Rutuja led the social and labour audit for the facility.

Labour Audit and EHS Compliance for a pharmaceutical manufacturer in Vizag – 2013-2014

Client: Shire Plc

ERM was commissioned to undertake a supply chain audit of an active pharmaceutical ingredient manufacturing facility located in a special economic zone in the city of Vizag, Andhra Pradesh. The review was undertaken in accordance to the corporate requirements of Shire PLC and applicable Indian labour laws. Rutuja led the social and labour audit for the API facility.

Social Due Diligence and Supply Chain Assessment of a beverage packaging manufacturing facility, Indonesia (2013)

Client: Namsindo Plas

ERM undertook an Environmental and Social Gap Assessment for ongoing operations of Namasindo Plas in Bandung and Surakarta, Indonesia. The audit also involved a risk assessment of the supply chain in accordance to the IFC Performance Standards. Rutuja led the social gap assessment for labour and working conditions as well as an assessment of the Namasindo's supply chain to cover raw material procurement.

Review of Human Resource and Labour Management Systems of a hydropower project, Himachal Pradesh (2012)

Client: NSL Renewable Power Private Limited

ERM was commissioned by NRPPL to undertake a gap assessment of corporate human resource and labour management policies as applicable to the Tidong I Hydroelectric Power Project in the Kinnaur district of Himachal Pradesh. Rutuja was the Project Manager of the assignment. The outcomes of the audit included a corrective action plan to provide recommendations to streamline HR and occupational health & safety in accordance to the IFC PS 2 on Labour and Working Conditions.

Labour Audit for an automobile fabrication unit in Pune, Maharashtra (2012)

Client: DC Designs



ERM was commissioned to undertake an environmental and social due diligence of an automobile fabrication unit located in Pune, India. The due diligence was undertaken to the requirements of the IFC Performance Standards and applicable regulations. Rutuja led the social review and helped to identify a corrective action plan to ensure compliance of the social management systems.

Social Due Diligence and Labour Compliance Assessment of a captive mine and manufacturing facility (2013-2014)

Client: Confidential

ERM has been commissioned to undertake an EHS and Social Due Diligence of a manufacturing facility and its captive mines in Orissa, India. Rutuja undertook the social risk assessment for two of the sites which included a compliance assessment against Indian labour laws.

Social Due Diligence for two thermal power plants and a captive coal mine in Madhya Pradesh and Chattisgarh (2012)

Client: Confidential

A confidential investor sought ERM's assistance in assessing labour, community, environment and health & safety risks of an upcoming independent power producer (IPP) who is developing two thermal power plants in MP and Chattisgarh and a captive coal mine. Rutuja led the social review for the two thermal power plants.

Social Risk and Impact Assessments

Retrospective Social Impact Assessment (SIA) for Sabah Forest Industries, Malaysia (2014)

Client: IFC-World Bank

ERM was commissioned to undertake a retrospective SIA, labour assessment and analysis of claims from the local community on SFI's forest concession and associated manufacturing facilities. As Social and Labour Specialist, Rutuja undertook the following

activities: (a) Independent review of labour and working conditions for the SFI concession and paper manufacturing operations; (b) Developing the socio-economic baseline report on the basis of desk-based review and data analysis; (c) Preparation of a framework to conduct SIA for forward-looking SFI activities; and (d) To identify labour and human rights impacts from the proposed project.

Development of a Social Investment Strategy for GGCL in Gujarat – (2007-2008)

Client: British Gas, India

As part of its corporate social responsibility the BG Group has commissioned ERM to develop a social investment strategy in line with its principles on sustainable development through the Gujarat Gas Company Limited in the southern districts of Bharuch and Surat. The social investment strategy identified adhered to the needs assessed of all of GGCL's urban and rural consumers including domestic, industrial and commercial along with other stakeholders so that BG has a positive impact and contribution on the social sector in the region. Rutuja was a team member leading field work and strategy development.

Independent Impact Assessment for BPCL's Community Supported Projects, January 2009

Client: Bharat Petroleum Corporation Limited

ERM is undertaking an independent impact assessment for BPCL's community supported projects in order to help the client to develop a sustainable approach to their corporate responsibility strategy. The impact assessment covers 10 long-term initiatives supported by BPCL across the south, east, west and north of India. The assessment and review intends to evaluate each of these CSPs on the basis of their community engagement and ownership strategies, delivery mechanism and sustainability. Rutuja was the Project Manager for the assignment.

Updation of Social Impact Assessment, February 2009

Client: Lafarge Umium Mining Private Limited(LUMPL)

LUMPL is a 100% subsidiary company of Lafarge Surma Cement Limited (LSC), Bangladesh, and is engaged in limestone mining and export operations for use in cement plant at Chattak, Bangladesh. ERM was commissioned by Lafarge to undertake a mid-term assessment of their ongoing operations in their project footprint area and identify potential environmental and social risks. As a team member Rutuja was involved in assessing the operational impacts of LUMPL on the social project footprint area within the Shella confederacy and update the Social Impact Assessment along with Updation of the relevant social management plans.

Social Impact Assessment for the Hon Chong Cement Plant Expansion, Vietnam, 2008
Client: Holcim Vietnam Ltd

Holcim Vietnam proposes to expand its existing operations in the Kien Giang Province. HVL aims to undertake a Social Impact Assessment (SIA) of their expansion Project in accordance with Holcim's corporate objectives and standards. ERM was commissioned to undertake the SIA as a corporate imperative of the Holcim Group. While Holcim have yet to develop corporate guidelines and set requirements for conducting an SIA, Holcim have recently conducted a number of SIA's for other projects, most notably in India and Indonesia. Accordingly a team comprising of ERM personnel from India and Vietnam undertook this SIA with the objectives of meeting the socio-economic impact assessment component of the Vietnamese EIA requirements; and initiating the public consultation and stakeholder engagement process. The SIA involved assessing the beneficial and adverse impacts of the proposed cement plant expansion on the communities living in the Kien Luong province.

Social Impact Assessment and assessment of land acquisition for an upcoming cement grinding unit, Nalagarh, Himachal Pradesh, 2008
Client: Ambuja Cements Limited

Anbuja Cements Limited is developing a grinding unit at Nalagarh in the northern Indian state of Himachal

Pradesh which requires an acquisition of around 50 hectares of land, impacting around 120 households in the Navagraon Panchayat. ACL commissioned ERM to undertake a social impact assessment of the potential social and livelihood impacts of the upcoming grinding unit on the project affected families as well as the villages in the project's area of influence. The socio-economic impact assessment was undertaken over a two-phased site visit which was based on detailed community consultations, discussions with the district authorities and a household survey of the project affected people to identify potential social impacts and highlight mitigation measures as well as community engagement strategies.

Socio-Economic Baseline Study and impact assessment of a mine exploration site in Madhya Pradesh – January to May 2007
Client: Confidential

A multinational mining company, with an exploration site in Madhya Pradesh, hired ERM for a project, which entailed the development of a detailed social baseline for the project, which is presently at the prospecting stage. The project involved an assessment of local community dependence on forest resources, which may be impacted by the project and issues to enhance the ongoing community relations interventions by the client. ERM was asked to conduct village appraisals, detailed stakeholder analysis and local institutional assessment to enable the project proponent to make informed decisions for the subsequent stages, including scoping for the impact assessment. Rutuja was part of the onsite stakeholder engagement and data collection for the project.

Social Impact Assessment and Stakeholder Analysis of a proposed pipeline from Rajasthan to Gujarat – September to December 2007
Client: Cairn Energy India Pvt. Ltd.

Cairn Energy India Pvt Ltd is developing a pipeline of 600 km from its oil fields in Barmer, Rajasthan to its offshore facility in Jamnagar, Gujarat. Cairn has identified ERM in the preparation of a social baseline and strategic impact assessment of the local



community within the corridor of impact of the proposed pipeline. ERM was commissioned to undertake a detailed assessment of the impacts of the proposed project to the local communities from where the pipeline traversed, as well as understand local economic and political dynamics which would affect the project.





The University of Leeds

DEGREE OF MASTER OF SCIENCE

It is hereby certified that

Rutuja Tendolkar

was admitted to the degree of Master of Science
with Merit
having followed a programme of advanced study in

Sustainability (Ecological Economics)

on the 24th of November 2010



VICE-CHANCELLOR

UNIVERSITY SECRETARY

2010/2011/2014





Srijana Bhattarai

Senior Consultant

Srijana is a senior consultant within ERM's Capital Project Support team in Bangkok. Her area of focus is resettlement and livelihood restoration planning, stakeholder engagement, gender equity and social inclusion and benefit sharing with an in-depth understanding of the international standards in particular IFC Performance Standards and ADB Safeguards.

Srijana has experience working in mega-scale hydropower projects, mining sector (cement) and solid waste management projects. She has worked with indigenous communities and communities with diverse ethnic groups. She was working in Nepal before moving to Bangkok.



Experience: Over 7 years' experience in social safeguards, resettlement, GESI, and livelihood restoration, benefit sharing and project management.

Email: srijana.bhattarai@erm.com

Education

- Masters in Public Administration, University of Connecticut, USA, 2007- 2009
- Bachelors in Economics, Salem College, USA, 2002- 2006
- Certificate in Land Acquisition, Resettlement and Social Sustainability, University of Groningen, the Netherlands, 2015

Languages

- Nepali, native speaker
- English, fluent
- Hindi, conversational

Fields of Competence

- Resettlement Planning
- Livelihood Restoration
- Stakeholder Engagement
- Social Impact Assessment
- Benefit Sharing
- IFC Standards/ADB Safeguards

Key Industry Sectors

- Hydropower
- Mining
- Waste Management



KEY PROJECTS

The Millennium Challenge Corporation and Government of Nepal: Project Preparation and Technical Supervision Services for Electricity Transmission Project: Transmission and Substation Activities; March 2018- Present. Stakeholder Engagement and Benefit Sharing.

Srijana is appointed as a stakeholder engagement and benefit sharing lead for the 300km (400kv) transmission line project in Nepal. She is also supporting the development of a Resettlement Action Plan, where approximately 3000 households are expected to be impacted.

Cumulative Impact Assessment for Tamor Basin, January 2019- Present. Resettlement, Benefit Sharing and Stakeholder Engagement for the CIA of Tamor River Basin, Nepal.

ERM has been appointed by the Department of Electricity Development, Government of Nepal to conduct a Cumulative Impact Assessment for the Tamor Basin and compliance monitoring of Kalich A Hydroelectric Project. This project is supported by a grant from the World Bank and executed by the Ministry of Energy of Nepal. Srijana is leading the Resettlement, Benefit Sharing and Stakeholder Engagement component for the project.

EGATI project; August 2018- September 2018; 2x660MW Ultra Super Critical (USC) Coal Fired Power Plant in Quang Tri Province, Vietnam.

ERM has been appointed to develop the Environmental and Social Impact Assessment, and Resettlement Action Plan for the 2x660MW Ultra Super Critical (USC) Coal Fired Power Plant in Quang Tri Province, Vietnam. Srijana developed the Stakeholder Engagement Plan for the Project.

Arun-3 Transmission Project: Transmission and Substation Activities for Arun-3 Hydropower Project; May 2017 –April 2018; Social Impact Assessment and Benefit Sharing for the transmission line project, Nepal.

Srijana assisted in resettlement planning, stakeholder engagement and leading the benefit sharing component for the Arun-3 Transmission Line Project.

Upper Karnali Hydropower Project (900MW); August 2012- March 2018; Resettlement and Benefit Sharing Plan for 900MW Upper Karnali Hydropower Project in Nepal.

The Office of the Investment Board Nepal negotiated a concession agreement with GMR, the private party developing the hydropower project in Western Nepal. Srijana was a part of the negotiations team to ensure inclusion of international standards on social safeguards and benefit sharing. Srijana was the social lead to ensure compliance with IFC PS as well as the concession agreement.

Cambodia Airport; August 2017 –September 2017; Environmental Impact Assessment for the Sihanouk Airport Extension, Cambodia.

ERM has been appointed to develop the Environmental and Social Impact Assessment for the runway extension of the Sihanouk airport. Srijana assisted the social lead in finalizing the social impact assessment and the stakeholder engagement plan.



Arun-3 Hydropower Project (900MW); August 2012- March 2018; Resettlement and Livelihood Benefit Sharing Plan for 900MW Arun-3 Hydropower Project in Nepal.

The Office of the Investment Board Nepal negotiated a concession agreement with SJVN, a subsidiary company of the Government of India, developing the hydropower project in Nepal. Srijana was a part of the negotiations team to ensure inclusion of international standards on social safeguards and benefit sharing. Srijana was the social lead to ensure compliance with ADB SPS as well as the concession agreement.

Benefit Sharing in Hydropower Projects; August 2017-April 2018.

Policy Entrepreneurs Inc. was appointed by IFC to conduct a study on Benefit Sharing practices in hydropower projects in Nepal. Srijana was the social lead assisting the study "Local Shares as a Benefit Sharing Mechanism for Hydropower Projects" to study the mechanism through which affected population can have equity participation in the project.

Hongshi Cement (6000 TPD); September 2017- April 2018; Social screening of the 6000 TPD mining plant in Nepal.

The office of the Investment Board Nepal and Hongshi Cement Pvt. Ltd. signed a project investment agreement to set up a mega cement factory in Nawalparasi, Nepal. Srijana conducted initial social screening and was a social lead to assess compliance with the agreement on social safeguards.

Huaxin Cement (3000 TPD); December 2017-April 2018; Social screening of the 3000 TPD mining and production sites in Nepal.

The office of the Investment Board Nepal and Huaxin Cement Narayani initialled a project investment agreement to set up a mega cement factory in Dhading, Nepal. Srijana worked as a social lead to conduct initial social screening for the project.

Integrated Solid Waste Management for Kathmandu Valley; August 2014- April 2018; Social due diligence for the ISWM project in Nepal.

The office of the Investment Board led the negotiations for the Integrated Solid Waste Management Project and initialled a contract with Nepwaste. Srijana worked as a social lead to conduct social impact assessment for the project.

Lower Likhu Hydropower Project (28.1MW); August 2017-date; Resettlement and Livelihood Restoration Plan for Lower Likhu Project in Nepal.

Saxat Ganga Hydropower and Construction Pvt. Ltd is developing a 28.1 MW run-of-the-river hydropower plant in Nepal. Srijana was the social development specialist for the project to advise on complimentary social baseline and assessment of project social and land acquisition related impacts against IFC Performance Standard (IFC PS 2012).

Suri Khola Hydropower Project (6.4MW); April 2017-date; Resettlement and Livelihood Restoration Plan for the Project in Nepal.

Suri Khola Hydropower Pvt. Ltd developing a 6.4 MW run-of-the-river hydropower plant in Nepal. Srijana was the social development specialist for the project to advise on complimentary social baseline and assessment of project social and land acquisition related impacts against IFC Performance Standard (IFC PS 2012) requirements.

West Seti Hydropower Project (700 MW); August 2013- March 2018; Initial social screening and review of resettlement and vulnerable community develop plan for the project in Nepal.

The Office of the Investment Board Nepal is in a process of negotiating a concession agreement with CTVE Investment Corporation (a subsidiary of China Three Gorges Corporation). Srijana was the social lead to conduct initial social screening for the project and review existing documents on land acquisition and resettlement.





University of Connecticut

Be it known that

Srijana Bhattachai

having satisfied the requirements for the Degree of
Master of Public Administration

in

The Graduate School

has been admitted to that degree with all the
related honors, privileges, and obligations. In recognition
we present the seal of the University and the signatures
as authorized by the Board of Trustees.



Given at Storrs, in the State of
Connecticut, on the Twenty-Fourth day of
August, Two Thousand and Nine.

Ann O'Neil
Dean, Graduate School



Michael Vayns
President of the University

M. Jodi Rell
President of the Board of Trustees



FORM TECH - 11 CURRICULUM VITAE (CV) FOR PROPOSED PROFESSIONAL PERSONNAL

1. Proposed Position : Archeologist / Cultural Expert
2. Name of Firm : Total Management Services Pvt. Ltd. (TMS)
3. Name of Personnel : Chandra Prasad TRIPATHEE
4. Date of Birth : 5 April 1948
5. Nationality : Nepalese
6. Education :
 - M.A. (in Nepalese History, Culture and Archaeology) Tribhuvan University, Kathmandu 1983
 - Post Graduate Diploma in Archaeology (Two years Course in Field Archaeology), Institute of Archaeology New Delhi 1989
 - Advanced Course on Management & Development Nepal Administrative Staff College 2003
 - Three month Training in Pre-Historic Research: Koln University: Germany 1991
7. Membership of Professional Associations:
 - Management Committee of Pashupati Multiple Campus, Chabahil, Kathmandu
8. Other Trainings :
 - Three month Training in Pre-Historic Research: Koln University: Germany 1991

Publications:

- "NEPALI PURATATTWOMA KEHI PACHHILLA UPALABDHIHARU" (Recent Achievements in Nepalese Archaeology)- 2061
- "SHRI 5 PRITHVINARAYAN SHAH DEKHI SHRI 5 GIRVANYUDDHA BIKRAM SHAHAKA PALA SAMMAKA BHARDARI SABHA (MANTRIPARISAD) HARU, (Council of Minsters from the time of Prithvinarayan Shah to GirvanayuddhaVijram Shah of Nepal), *Ancient Nepal, No 162, 2006*
- "TIRHUT RAJYA RA RAJDHANI SIMARAUNGARH" (Tirhut Kingdom and its Capital Simaraungarh) *Voice Of History, Vol, XIV, No.1,1999*, Central Department of History, T.U. Kathmandu
- "ARCHAEOLOGICAL EXCAVATION AT KHINGAR AND DZARKOT" *Ancient Nepal, No.136,1994*, Department of Archaeology, Kathmandu
- "PRACHIN TAMANG VASTI TIMALKO ITIHAS" (A History of Timal, The Ancient Tamang Settlement) *Ancient Nepal, No.91, 1986*, Department of Archaeology, Kathmandu
- "NEPALKA PRACHIN DURVAR" (Ancient Palaces of Nepal), *Nepali Sanskriti, Vol.1,No.3,1985*, Sanskriti:Samsthan, Kathmandu
- "TAMANG CHADPARVAHARU" (Tamang Festivals) *Nepali Sanskriti, Vol,II,No.1,1985*, Sanskriti:Samsthan, Kathmandu
- NEPAL SAMVATKO UTPATTI" (Origin of the Nepal Samvat) *Charumati, No.1,1985*, Pashupati Campus, Kathmandu
- "SHIVAKA NRITYA MURTIHARU" (Dancing Image of Shiva), *Madhuparka, 1982*, Gorkhapatra Corporation, Kathmandu
- "VISVO SAMPADA, HANUMANDHOKA RAJDARVAR" (Hanumandhoka Royal Palace, A World Heritage), *Unesco Bulletin, Vol. XII No. 2, 1980*, Ministry of Education and Culture, Kathmandu

9. Countries of Work Experience: Nepal.

- | | | | |
|---------------|------------|-----------|-----------|
| 10. Languages | : Speaking | Reading | Writing |
| Nepali | Excellent | Excellent | Excellent |
| English | Excellent | Excellent | Excellent |
| Hindi | Good | Good | Good |

- | | |
|-----------------------|----------------------------|
| 11. Employment Record | |
| From April 2007 | To Till date (81 months) |
| Employer | Heritage Service Pvt. Ltd. |
| Position Held | Advisor/ Archeologist |

- | | |
|-----------------|--|
| From March 2011 | : To March 2012 Intermittent (6 months months) |
| Employer | : Kathmandu University |
| Position Held | : Visiting Professor |

- | | |
|-----------|----------------------|
| From 2005 | : To 2007(25 months) |
|-----------|----------------------|



Consulting Services of Project Preparation and Technical Supervision Services for Electricity Transmission Project: Transmission and Substation Activities

Employer : Department of Archaeology, Government of Nepal
Position Held : Deputy Director General

From April 1996 : **To May 2005 (109 months)**
Employer : Department of Archaeology, Government of Nepal
Position Held : Chief Exploration Officer

From 1984 : **To 1996 (145 months)**
Employer : Department of Archaeology, Government of Nepal
Position Held : Research officer

From 1982 : **To till date**
Employer : Pashupat Multiple Campus
Position Held : Founder Professor/ Assistant Campus Chief

12. Detailed Tasks Assigned : As per the TOR.

13. Work Undertaken That Best Illustrates Capability To Handle The Tasks Assigned
Name of assignment or project: Consultant and Expert; **Year:** April 2007- **Till Date:**
Location: Nepal; **Client:** Various National and International Agencies; **Main project features:** Research, advisory work and report preparation on different archaeological and conservation issues; **Positions held:** Advisor/ Archaeologist

Activities performed:

- Advising Nepal Tourism Board (NTB) on Tourism Development and Conservation and Heritage Sites.
- Archaeological planning and Historical structure / feature study on:
 - Manuote santaneshwor temple study
 - Bannigadi archeological study
 - Establishment of museum on Far western region
 - Study on living god (kumari)
 - Historical study on Kathmandu and Bhaktapur (Newari Culture)
 - Research on 34 District for conservation of Culture.
 - Conservation of Archaeological Sites in Nepal

Name of assignment or project: Regulating Growth: Kathmandu Valley; **Year:** 2005-2007; **Location:** The Kathmandu Valley; **Client:** Department of Archaeology, Government of Nepal; **Main project features:** Analysis of the current situation, identification of major problems and issues, description of prospects and options to improve the situation and recommendation of policy action for rehabilitation, protection and wise use of the cultural heritage and monuments in the valley; **Positions held:** Deputy Director General; **Activities performed:** Coordinated the growth prospect with the densely scattered archaeological and monumental sites to preserve cultural heritage of the Valley. Formulated policy to accommodate future growth safeguarding the such sites and recommendation was made to the Government for implementation.

Name of assignment or project: Excavations and Research of different archaeological sites in the Kathmandu valley; **Year:** 1996-2005; **Location:** The Kathmandu Valley; **Client:** The Government of Nepal; **Main project features:** To find out the antiquity of ancient capital of the Lichchavi rulers of medieval Nepal; **Positions held:** Chief Exploration Officer; **Activities performed:** Conducted technical research and excavations works and managed the team of experts. Analysed the archaeological impact studies made by ISMEO at Patan Bhandarkhal garden, Patuko at Kwalakhu tole, Patan, and Bhandarkhal Garden at Pasupatinath world heritage sites.

Name of assignment or project: Research of different archaeological sites; **Year:** 1984-1996; **Location:** Various District of Nepal; **Client:** Department of Archaeology, Government of Nepal; **Main project features:** technical research and excavations works; **Positions held:** Research officer; **Activities performed:** Conducted technical research and excavations works and managed the team of experts. Analysed the archaeological impact studies; identification of major problems and issues; research works for rehabilitation, protection and wise use of the cultural heritage and monuments in the valley.

Expert's contact information: (e-mail: chandra.p.tripathee@gmail.com,

phone: 9851092633)

14. Reference:

Contact information

Name: Bhesh Narayan Dahal
Title: Director General
Phone: 9851092644
E-mail:

Name: Bishnu Raj Karki
Title: Ex. Joint Secretary
Phone: 9851196610



Consulting Services of Project Preparation and Technical Supervision Services for Electricity Transmission Project: Transmission and Substation Activities.

E-mail:

Name: Prayaga raj Bhattra
Title: Campus Chief, pashupati Multiple Campus
Phone: 9851217017
E-mail:

15. CERTIFICATION

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes me, my qualifications, and my experience. I understand that any willful misstatement described herein may lead to my disqualification or dismissal, if engaged.

I, the undersigned, hereby declare that I agree to participate with the Total Management Services Pvt. Ltd. (TMS) in the above-mentioned Request for Proposal. I further declare that I am able and willing to work:

1. for the period(s) foreseen in the specific Terms of Reference attached to the above referenced Request for Proposal for the position for which my CV has been included in the offer of the Consultant and
2. Within the implementation period of the specific contract.

Signature of Key professional Personnel

Name of the expert: Chandra Prasad Tripathee – Archeologist / Cultural Expert

Date: 10 February 2019
Day/Month/Year







TRIBHUVAN UNIVERSITY
Office of The Controller of Examinations
Kathmandu, Nepal
Transcript of Academic Records

C.NO. 428

S.NO. 30614

Name

CHANDRA PRASAD TRIPATHEE

Date of Birth 5TH APRIL 1948

Registered No. 5166-70

Entry date 2035 SUMMER Campus RIRTIKUL

Institute H.H.N. & S.S.C. SCI.

Level DEGREE

Major NEHCA

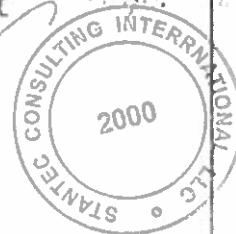
Credit Transfer, if any

Matriculation Level	Year	Inst/Univ	Exam	Division	Major	Campus	Reference
	2024	S.L.C. BOARD	S.L.C.	III	-	-	'3222' X'
Certificate Level	2030	T.U.	S.A.	III	-	PRIVATE	4236
Diploma Level	2033	T.U.	DIPLOMA	PASS	NEHCA	T.C.	546/031

Course No	Course Title	Cr hr	Int Asst	Sem	Total	Course No	Course Title	Cr hr	Int Asst	Sem	Total
2035 SUMMER						2036 SUMMER					
NEHCA						NEHCA					
551	POLI. HIST. OF ANCE & EARLY MEDIEVAL NEPAL	5	7.5	26.4	33.9	552	POLI. HIST. OF MEDIEVAL NEPAL	5	7.0	21.2	28.2
554	SOCIAL & CULT. ANTHRO. OF NEPAL	5	6.6	28.4	35.0	555	HISTORY OF RELIGIONS	5	8.2	22.4	30.6
559	HINDU & BUDDHIST CONCEPTS GRAPHY.	5	5.6	21.6	27.2	558	HINDU SOCIAL ORGANIZATION	5	7.1	22.4	29.5
560	FINE ARTS OF NEPAL	5	5.5	22.0	27.5	561	ARCHITECTURE OF NEPAL	5	7.2	23.2	30.4
		20			123.6			20			118.7



Deputy Registrar
No. 28, 2001.





INSTITUTE OF ARCHAEOLOGY

पुरातत्व संस्थान



श्री चंद्र प्रसाद त्रिपाठी को
उत्पन्न, अन्वेषण, प्रकाशन, स्मारकीय संरक्षण, रासायनिक परिरक्षण एवं संग्रहालय विधि में व्यावहारिक प्रशिक्षण तथा
सितम्बर 1989 में निर्धारित परीक्षा में निम्नलिखित विषयों में उत्तीर्ण होने के आधार पर

पुरातत्व का स्नातकोत्तर डिप्लोमा

प्रदान किया जाता है।

सैद्धान्तिक

प्रागैतिहासिक पुरातत्व, आर्केतिहासिक एवं प्रारम्भिक ऐतिहासिक पुरातत्व, कला एवं स्थापत्य, पुरातिथिशास्त्र एवं पुरासाहित्य,
उत्खनन, अन्वेषण, प्रकाशन, स्मारकों का संरक्षण एवं रासायनिक परिरक्षण के सिद्धान्त एवं संग्रहालय विधि, संग्रहालय तथा
पुरातत्व विषयक नियम।

प्रायोगिक

संरक्षण, रेखाचित्रण, छायाचित्रण, कोलाज बिल्ल, पुरातत्व प्रतिस्तिकरण, एवं वस्तु प्रतिरूप निर्माण।

निदेशक

पुरातत्व संस्थान

दिनांक 2 अप्रैल 1990 भारतीय पुरातत्व सर्वेक्षण
नई दिल्ली

महानिदेशक
भारतीय पुरातत्व सर्वेक्षण
नई दिल्ली

Shri Chandra Prasad Tripathi is hereby awarded

Post-graduate Diploma in Archaeology

by virtue of having undergone practical training in Excavation, Exploration, Publication, Preservation of Monuments, Chemical Preservation and Museum-methods, and in token of having passed the prescribed examinations in September 1989, in the following subjects :

THEORETICAL

Prehistoric Archaeology; Protohistoric and Early Historical Archaeology; Art and Architecture; Palaeography and Numismatics; Principles of Excavation, Exploration, Publication; Preservation of Monuments and Chemical Preservation; Museum-methods; and Antiquarian Laws.

PRACTICAL

Surveying; Drawing; Photography; Potter's-craft; Taking impression of inscriptions; and Preparation of casts.

निदेशक

Institute of Archaeology

The India Arch 1990 Archaeological Survey of India
Saka Samvat 13 Chaitra 1912 New Delhi

महानिदेशक

Archaeological Survey of India
New Delhi



Name CHANDRA PRASAD TRIPATHI Level DEGREE

S.No. 30614 C.No. 486
Reg. No. 5166-70

Course No	Course Title	Cr hr	Int Assg	Sem	Total	Course No	Course Title	Cr hr	Int Assg	Sem	Total
	<u>LO37 SUMMER</u>										
	<u>NEPCA</u>										
<u>S62</u>	<u>SOL. & ELD. HIST. OF ANCIENT NEPAL</u>	<u>5</u>	<u>6.8</u>	<u>24.0</u>	<u>30.8</u>		<u>THESIS (2040-6-14)</u>	<u>10</u>	<u>-</u>	<u>-</u>	<u>75.0</u>
<u>S67</u>	<u>FIELD ARCHAEOLOGY</u>	<u>5</u>	<u>6.4</u>	<u>20.4</u> <u>8.4</u>	<u>35.2</u>		<u>N.D.S.</u>	<u>10</u>	<u>-</u>	<u>-</u>	<u>89.3</u>
<u>SS7</u>	<u>NUMISMATICS OF NEP.</u>	<u>5</u>	<u>7.0</u>	<u>22.8</u>	<u>29.8</u>			<u>20</u>			<u>164.3</u>
<u>SS6</u>	<u>EPIGRAPHY OF NEPAL</u>	<u>5</u>	<u>8.0</u>	<u>25.4</u>	<u>34.4</u>						<u>89.3</u>
		<u>20</u>			<u>130.2</u>						



Dep. Registrar
Nov. 21, 2001

Dist. and

Total Marks 536.8 Total Credits 80 Percentage 67.1

Completed necessary courses for Certificate/Diploma/Degree level on 2040..SUMMER SEMESTER with Pass/Merit/Distinction.

Note:-

Classification	Pass	Merit	Distinction
Certificate	40%	60%	80%
Diploma	45%	65%	80%
Degree	50%	70%	80%

One credit hour equals ten marks.
20% of marks allotted to internal assessment. Marks encircled indicate failure.

6 OCT 1983



Checked by [Signature]
Date of Issue

[Signature]
Controller of Examinations



क्रमांक १३९५/९२

वि.सं. नं. ५१६६-७०

त्रिभुवन विश्वविद्यालय

Tribhuvan University



मानविकी र सामाजिक शास्त्र अध्ययन संस्थान

Institute of *Humanities and Social Sciences*

त्रिभुवन विश्वविद्यालय विनियमहरूद्वारा निर्धारित सबै आवश्यकताहरू पूरा गरी
चन्द्र प्रसाद त्रिपाठी

शैक्षिक वर्ष २०४०-२०४१ वि.सं. मा मानविकी र सामाजिकशास्त्राचार्य
(नेपाली इतिहास, संस्कृति र पुरातत्व) परीक्षा

विशिष्ट / उत्कृष्ट / सामान्य श्रेणीमा उत्तीर्ण भएको प्रमाणित गरिन्छ।

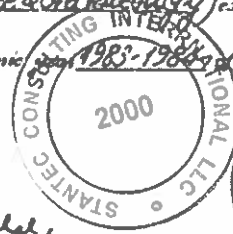
This is to certify that on the successful completion of all the requirements prescribed by the regulations of Tribhuvan University
Chandra Prasad Tripathi has been
declared to have passed the *Degree of Humanities and Social Sciences (Nepalese History, Culture & Archaeology)* examination
with *Distinction / Merit* in the Academic year 1983-1984 of 9.

मधु राय
Dean

Kathmandu, Nepal.

Date of Issue: 29 JUN 1985

Chandra Prasad Tripathi
Rector



Chandra Prasad Tripathi
Vice-Chancellor



CURRICULUM VITAE

RAMU SUBEDI, Domestic Benefit Sharing (BIKASH)

Date of Birth: 28 September 1968

Nationality: Nepali

Contact Address: /01-4241001(Office)/98510-34720

Email: ramusubedi@gmail.com

WORKING EXPERIENCE AND EXPERTISE

Ramu has over 25 years of experience of leading, managing and implementing development programmes in the field of environment and social assessment and safeguard, forestry/community based forestry, climate change, poverty and livelihoods. He has a good knowledge of development policy in the sector of environment, forestry and climate change. He has worked closely with the wide range of stakeholders such as government, development partners, policy makers, research institutes and academia, I/NGOs, private sector and local communities in different capacities.

ACADEMIC QUALIFICATIONS

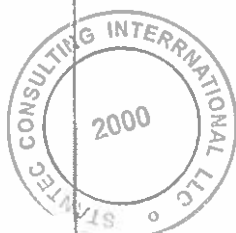
MSc in Climate Change from the University of Edinburgh, UK (2010)

Master in Humanities and Social Science from Tribhuban University (TU), Nepal (1999)

BSc Forestry from Institute of Forestry, Pokhara, TU, Nepal (1994)

EMPLOYMENT RECORD

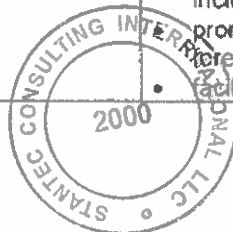
Position held	Project/Employer	Duration	Key Responsibilities
Chief Executive Officer/Environment and Social Safeguard Expert	Nepal Environmental and Scientific Services (NESS) (Pvt) Ltd Thapathali, Kathmandu	January 2016 to date	Lead and manage NESS under the strategic direction of the its Board of Directors; specific roles and responsibilities include: <ul style="list-style-type: none">• provide strategic leadership and management of NESS in achieving its vision, goals and targets;• develop firm's strategic plan and target and ensure that the targets and results are achieved;• develop networking and functional coordination with relevant stakeholders, donors and clients of the firm;• represent the organization in national and international forum/events in promoting marketing and visibility of the Company;• provide expert inputs expertise in the field of environment and social



			<ul style="list-style-type: none"> safeguard; provide technical inputs on environment and social impact assessment including EIA, IEE and ESIA of various projects including hydropower and transmission lines provide technical expertise and advise in the field of environment, social development, climate change, disasters risks reduction (DRR), community forestry and livelihoods; coordinate and manage environment and social impact assessment including EIA, IEE and ESIA of various projects; design and execute various studies and research; review various reports and ensure its quality; design projects and proposals in securing funding; and manage contracts and partnership with clients and stakeholders.
Team Leader	Multi Stakeholder Forestry Programme (MSFP), SDC Nepal Kathmandu	June 2011 to Jan 2016	<ul style="list-style-type: none"> lead and manage the project team and the programme and ensure that the objectives are achieved; provide strategic guidance to the programme team, partners (government, NGO, private sector) on programme related issues; coordinate with government ministries such as Ministry of Forests and Soil Conservation, Ministry of Population and Environment, National Planning Commission and other stakeholders at national level; contribute to national policy and strategy development process related to forestry, biodiversity, and climate change; manage the review of the programme, documentation of the achievements and learning, and sharing of the learning and achievement to wider audience; monitoring and reporting of the programme.
Deputy Programme Manager/Forestry Expert	Livelihoods and Forestry Programme (LFP)	Jan 2008 to May 2011	<ul style="list-style-type: none"> co-manage the programme with Programme Manager with providing strategic guidance and technical advisory support to the programme team and



	Kathmandu		<p>partners on programme planning, management, implementation and coordination;</p> <ul style="list-style-type: none"> • coordinate with government ministries such as Ministry of Forests and Soil Conservation, Ministry of Environment, Science and Technology, Ministry of Finance and other stakeholders at national level; • provide advice and technical inputs to programme partners on sustainable forest management, environment, livelihoods, climate change, and community based forestry process; • facilitate in designing and implementing various studies and capacity development training to project team and partners on forestry, livelihoods and climate change; • manage the review of the programme, documentation of the achievements and learning, and sharing of the learning and achievement to wider audience; • contribute to policy development process; • monitoring and reporting of the programme.
Hills Forestry Adviser	Livelihoods and Forestry Programme (LFP) Kathmandu	Feb 2006 to Jan 2008	<ul style="list-style-type: none"> • lead and coordinate the programme in Koshi and Dhaulagiri zone; • provide technical advisory support to the programme team and partners on sustainable forest management, biodiversity, social inclusion, and livelihoods diversification; • facilitate in designing and implementing various studies and research related to natural resource management, forestry, livelihoods and climate change; • engage in policy development process.
Deputy Hills Forestry Adviser	Livelihoods and Forestry Programme (LFP) Kathmandu	Feb 2003 to Jan 2006	<ul style="list-style-type: none"> • lead and coordinate Hills (Koshi and Dhaulagiri) component of the programme; • provide technical advisory support to the team and partners on sustainable forest management, biodiversity, social inclusion, and livelihoods diversification; • promote community based approach to forest management; • facilitate participatory action research on



			<p>community based forestry, biodiversity, and livelihoods activities with active involvement of local communities/community forestry members;</p> <ul style="list-style-type: none"> engage in policy development process.
Area Manager/Forestry Expert	<p>Livelihoods and Forestry Programme (LFP)</p> <p>Dhaulagiri Area (3 Districts)</p>	Aug 2001 to Jan 2003	<ul style="list-style-type: none"> Lead and manage the LFP Dhaulagiri team and programme; programme planning, budgeting, implementation, coordination, monitoring and reporting; facilitate in designing and implementing sustainable forest management, biodiversity, and livelihoods related activities in 3 districts with focus to poor and women; promote community based approach to forest management – community forestry.
District Manager/Forestry Expert	<p>Livelihoods and Forestry Programme (LFP)</p> <p>Baglung</p>	April 2001 to July 2002	<ul style="list-style-type: none"> lead and manage the LFP Baglung team and programme; programme planning, budgeting, implementation, coordination, monitoring and reporting; facilitate in designing and implementing community forestry, biodiversity, and livelihoods related activities in Baglung district with focus to poor and women; promote community based approach to forest management; provide advisory support to the team and partners on community based forestry, social inclusion and pro-poor livelihoods.
Community Forestry Adviser	<p>Nepal-UK Community Forestry Project (NUKCFP)</p> <p>Dhaulagiri Area</p> <p><i>(NUKCFP was a bilateral aid programme of Government of Nepal and DFID UK with objective to improve livelihoods of poor and women through natural resources.</i></p>	Aug 1999 to Jan 2001	<ul style="list-style-type: none"> provide technical advisory support to the Project team and partners (DFO NGO) in 3 districts of Dhaulagiri zone on community forestry and rural livelihoods; facilitate community based approach to forest management; facilitate preparation and implementation of various income generating activities to local communities with focus to poor and women; manage the review of the programme, documentation of the achievements and learning, and sharing of the learning and achievement to wider audience; programme monitoring and reporting.



	<i>This programme is implemented by Government and Non-government actors in 7 districts of Nepal)</i>		
Community Forestry Officer	Nepal-UK Community Forestry Project (NUKCFP) Dhankuta and Baglung.	Nov 1995 to July 1999	<ul style="list-style-type: none"> • provide technical support to the programme partners (DFOs, NGOs) and local communities on community forestry process, sustainable forest management and pro-poor livelihoods; • facilitate community forestry process – formation of community forestry groups, preparation of forest management plan, preparation of livelihoods plan, monitoring and reporting; • facilitate pilot participatory action research on community based forestry and livelihoods activities with active involvement of local communities/community forestry members; • facilitate capacity building and training to DFO and NGO staff and local communities on livelihoods, community approach to forest management, community forestry process.
Programme Officer/Field Officer	Institute of Integrated Development studies (IIDS) Nawalparasi and Kathmandu (An national NGO)	Aug 1994 to Oct 1995	<ul style="list-style-type: none"> • lead and manage the district team of Nawalparasi for the effective implantation of the programme; • planning, implementation, monitoring and reporting of the district programme; • facilitate the implementation of various studies, action research programmes on poverty reduction, social inclusion and empowerment; • facilitate in designing and implementing various income generating and skills development activities for local communities particularly to poor and women; • involve in various studies and social analysis of various projects; • support to develop proposals and fund raising.







DEGREE OF MASTER OF SCIENCE BY RESEARCH

By the Authority of the Senatus Academicus

Ramu Subedi

was admitted to the Degree of Master of Science by Research
in the College of Science and Engineering
in Climate Change
on the Twenty Eighth day of June
Two Thousand and Eleven.



Timothy M.M. O'Shea

Principal and Vice-Chancellor

[Signature]

Head of the College of Science
and Engineering

[Signature]

University Secretary

7430347





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S. No. 503/43

Registered No. 6069-86

त्रिभुवन विश्वविद्यालय

Tribhuvan University



कलाचार्य

मानविकी र सामाजिकशास्त्र

रामु सुवेदी

विक्रम सम्वत् २०५६ को

समाजशास्त्र

विषयको कलाचार्य परीक्षा

द्वितीय

श्रेणीमा उत्तीर्ण भई

स्नातकोत्तरापाधिका निमित्त योग्य ठहरिएकोले निजलाई यस उपाधिद्वारा विभूषित गरिएको छ ।

Master's Degree

In Humanities and Social Sciences

This is to certify that *Ramu Sabedi*
having passed **Master's Degree** examination in **Humanities and
Social Sciences** in *Sociology*
in *Second* division of the year *1999* this degree has been awarded on
him/her this day.

Kathmandu, Nepal.

Date: *Nov. 22, 2015*



G. P. Sharma
Vice-Chancellor

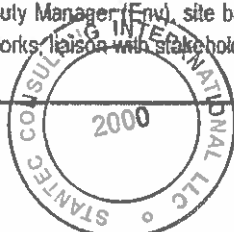


CURRICULUM VITAE (CV) FOR PROPOSED PROFESSIONAL PERSONNEL

1. Proposed Position : Environmental Expert/Coordinator
2. Name of Firm : Nepal Environmental and Scientific Services (NESS) P. Ltd
3. Name of personnel : Sallil Devkota
4. Date of Birth : 1968 / 04 /29
5. Nationality : Nepali
6. Education :
 - Masters in Environment Management , University of Denver, Colorado, USA, 1996
 - Bachelor in Civil Engineering, University of Mysore, India, 1992.
7. Membership of Professional Associations:
 - Member, Nepal Engineering Association
 - Member, Nepal Engineering Council (Reg. # 2957 'A' Civil)
 - Member, Society of Public Health Engineers-Nepal (SOPHEN)
8. Other Trainings :
 - Training on Environmental Impact Assessment. Organized by CAS-N, and Tribhuvan University, November 15-December 25, 2006
 - International Program on Management of Sustainability, Organized by Sustainable Challenge Foundation (SCF), Zeist, The Netherland, Duration: June 2006
 - Training Program on "Sustainable Community Management" Organized by Society for Sustainable Development (SSD), Kathmandu, Nepal, April 4-May 20, 2004.
 - Certificate Course in "Sustainable Environmental Management", University of California, Berkeley, USA, June-July 2001
 - Environmental Management System (EMS) Training Jointly Organized by Environment Canada/UNEP/UNCHS/CLEI/UNU/FIDIC/, Singapore, May 2001
 - "Lead Inspector's Training" conducted by the New York University, New York, USA, June-July 1993.
9. Countries of Work Experience: Nepal, USA, India
10. Languages:

	<u>Reading</u>	<u>Writing</u>	<u>Speaking</u>
Nepali	Excellent	Excellent	Excellent
English	Excellent	Excellent	Excellent
Hindi	Excellent	Fair	Excellent
11. Employment Record:
 - From June 2007 : Till Date
 - Employer : Nepal Environmental and Scientific Services (NESS) P. Ltd
 - Position Held : Environment Expert Expert/Managing Director

 - From January, 2004 : To April 2007
 - Employer : Melanchi Water Supply Development Board, Baneshwor
 - Position held : Team Leader, Resettlement, Social , and Public Relations Consulting Services
12. Detailed Tasks Assigned:
 - Deputy Manager (Env) site based, overall planning, guidance, ensure tasks as per environment checklist Q A/QC of works, liaison with stakeholders and client in environmental aspects.



13. Relevant Project Experience:

Name of assignment of project: Preparation of new hydropower sector EIA guidelines for Nepal meeting IFC standards

Year: Feb 2016- October 2017

Location: Nepal

Client: ICIMOD/IFC

Main project features: Preparation of new hydropower sector EIA guidelines for Nepal meeting IFC standards

Position held: Environmental management and institutional development expert.

Activities performed: Review of previous plan, policies and guidelines related to environment in Nepal. Worked closely with Ministry of energy, Department of Electricity Development, bilateral funding agencies, and relevant stakeholders in preparing the "EIA Guidelines for Hydropower Sector in Nepal".

Conducted stakeholders' consultation meeting, preparation of draft EIA guidelines and conduction of seminar for its dissemination and finalization of guideline, conduction of training to professional on the newly approved EIA guidelines.

Name of assignment of project: Initial Environmental Examination (IEE) for the 400 kV D/C Transmission Line System from 900 MW (98.6 KM) Upper Kamali HEP Power House Substation to Nepal India Border

Year: August 2015- February 2016

Location: Achham, Surkhet, and Kailali Districts

Client: Karnali Transmission Line Company P. Ltd

Main project features: Initial Environmental Examination (IEE) for the 400 kV D/C Transmission Line System from 900 MW (98.6 KM) Upper Kamali HEP Power House Substation to Nepal India Border, Achham, Dailekh, Surkhet, Bardiya and Kailali Districts

Position held: Environmental Engineer

Activities Performed: Involved in transmission line route selection, route survey, discussion with DPR team in planning for angle tower and RoW (along with resettlement and forest expert), responsible for Coordination and Management Arrangement and Liaison with Client; Finalization of Contents of Terms of Reference (ToR) for IEE study document for approval, Route selection for transmission line, obtaining consent on the selected route, data analysis of physical, biological & ecological, socio-economic & culture aspects of the projects, a tentative analysis of project, Identification and evaluation of predicted impacts and suggestion of mitigative measures, Develop EMAP and Monitoring plans, review of GoN and International policies, legislative provisions and guidelines relating to IEE and Prepare IEE Report as per EPA and EPR of GoN.

Name of assignment of project: Initial Environmental Examination of Rasuwagadhi to Chitima Hub Transmission Line Project (10 km, 132 kV Double Circuit up to Chitima Hub for Rasuwagadhi HEP), Nepal

Year: July 2014 - August 2015

Location: Rasuwa

Client: Rasuwagadhi HEP

Main project features: Environmental Impact Assessment Study

Position held: Environmental Expert

Activities Performed: Transmission line route survey, joint meeting and confirmation of route with DPR team, site survey from physical environmental aspects (geology, topography, access, site for project foot prints, tower locations, RoW), physical impact assessment, preparation of terms of reference and approval from ministry of energy, preparation of IEE report including detail mitigation measures and EMP. Coordination with biological and social and resettlement team for overall IEE report preparation.

Name of assignment or project: Environmental Impact Assessment of Upper Kamali Hydroelectric Project (900 MW)

Year : January 2012- August 2012

Location: Nepal

Client: Upper Kamali Hydroelectric Project (900 MW), GMR, India, through NESS

Main project features: Preparation of Environmental Impact Assessment (EIA) Report

Position Held: Environment Expert

Activities performed: Review of project DPR, involved in site survey along with other members, physical data collection at project site including project foot print, direct and indirect areas, baseline monitoring of air, water, soil noise, impact identification, prediction and preparation of scoping and Terms of Reference document, site survey for collection of physical



environmental parameters, preparation of EIA document and its approval from the Government of Nepal, Integration of components in EIA meeting IFC requirements.

Name of assignment or project: Kabeli Corridor 132kV Transmission Line Project, Transmission Line / substation Construction

Year: August , 2011 – December , 2011

Location: Nepal

Client: Nepal Electricity Authority

Main project features: Preparation of Resettlement Action Plan, Social Action Plan and VCDP for

Position held: Coordinator

Activities performed: Coordinated the social and resettlement team for field survey, calculations of forest losses, permanent and temporary losses, identification of project affected families, seriously project affected families survey, integration of field findings in preparation of Social Impact Assessment (SIA), Resettlement Action Plan, and VDCP meeting the GoN and the World Bank requirements.

Name of assignment or project: Preparation of Environmental Management Framework regarding Environmental and Social Safeguard Management to staff of UGDP recipient municipalities

Year: May, 2011 – August , 2011

Location: Nepal

Client: The World Bank

Main project features: Preparation of Environmental Management Framework and Training

Position held: Environment Specialist/Consultant

Activities performed: Field level environmental assessment of projects identified in 6 municipalities namely Baglung, Tansen, Lekhnath, Dhankuta, Mechinagar, Itahari by the engineering team, prepared EMP for each sub projects in each of the 6 municipalities. The EMP includes identification of impacts, mitigation measures, and cost associated with mitigation measures. The supervision and monitoring format, roles and responsibilities of staff for EMP implementation is also included in the document.

Name of assignment or project: Environmental Impact Assessment Study (EIA) of Upper Marsyangdi-2 , Transmission Line Project (400 kV/Double circuit line, 201 KM)Manang , Nepal

Year: December 2010- April 2011

Location: Manang/Lamjung, Nepal

Client: Himtal HEP, GMR, India through NESS

Main project features: transmission line route selection, topographic and cadastral survey, preparation of scoping and terms of reference report for EIA study

Position held: Environment Expert

Activities performed: Route survey of transmission line from Bus Bar at Syange to Nepal-India Border at Sunauli , route: Syange (Lamjung)-Tanahu- Bhratpur- Nawalparasi- Saimarpani/Sunauli, involvement in preparation of detail project report, data collection w.r.t physical, biological, socio-economic information for preparation of scoping and ToR reports.

Name of assignment or project: ADB RETA 6504, Regional Technical Assistance for Improving Connectivity and Destination Management of Cultural and Natural Resources in the South Asia Sub Region.

Year: August 2009 - November 2010

Location: Rupendehi, Nepal

Client: ADB RETA 6504 (Nepalconsult)

Main project features: Safeguard documents consistent with Government and ADB guidelines, Finalization of Environmental Impact Assessment (EIA), and Resettlement Action Plan (RAP) documents for Gautam Buddha Airport.

Position held: Environment and Resettlement Safeguard Specialist

Activities performed: Assist in finalizing the safeguard documents. Finalizing safeguard documents consistent with Government and ADB guidelines. This includes finalizing the Resettlement Plan of Bhairahawa Airport and Environmental Impact Assessment for Bhairahawa Airport



Name of assignment or project: Initial Environmental Examination Study (IEE) of Kabeli Corridor 132 kV transmission line project

Year: June 2009- October 2010

Location: Jhapa, Ilam, Panchthar of Mechi Zone and Terathum of Koshi Zone

Client: Nepal Electricity Authority, NEA, Kathmandu

Main project features: 132/33 kV sub-station at Sabitra Chowk of Laxhanpur VDC, 132 kV TL extension to north east through Chaju Khola at the foot hills of Chure and across Chure mountains into the valley of Mai Khola in the Mahabharat and Midlands. From Soyak, it bifurcates into two branches. The one extending north east is a short 6 km long arm terminating at Godak 132/33 kV substation (Setuwabesi, Godak VDC-3). The longer arm proceeds north-north-west from Soyak up to Amarpur 132/33 kV substation (Pinasi ghat, Amarpur VDC-9) in the northern part of midland zone.

Position held: Environment Expert

Activities Performed: Collection of physical data base of transmission line corridor, physical impact

Assessment of TL corridor, impact prediction and devising mitigation measures, preparation of Environmental Management Plan, preparation of IEE report as per GoN format, presentation at ministries.

Name of assignment or project: 1. Transmission line (220 kV, 12 KM) route selection, cadastral survey, and preparation of IEE report from Power House at Ragani VDC in Ramechhap District to Shaare VDC near Khimti

Year: March 2005 – January 2009

Location: Ramechhap and Sindhupalanchowk

Client: Green Venture (P) Ltd. through NESS

Main project features: Transmission line route survey, cadastral survey, preparation of IEE report

Position held: Environmental Expert

Activities performed: route survey of transmission line from Ragani VDC- Pokali VDC- Saipu VDC- Bijulikit VDC- Nagdaha VDC- Tilpung VDC- Khimti (identification of different routes include bee line, assessment of forest, private land, road crossing, other TL crossings), selection of route, performed cadastral survey of angle lower spots and RoW, review of the project design aspects and physical environment of the project areas; Assist team leader in the preparation of scoping and TOR; Conduct baseline surveys of the physical and chemical environment pertaining to the project; Integrate the sectoral report in the context of the project and predict environmental impact, propose mitigation measures, analyze the various project design alternatives; Write sectoral report for draft and Final EIA; Assist team leader in the preparation of draft and final EIA report; and Assist Team Leader in the public hearing at project sites. Involved in preparation of Environmental Management Plan for the project. Facilitated the client and obtaining necessary approvals from the government of Nepal.

Name of assignment or project: Environmental Impact Assessment (EIA) Study of Mahakali Irrigation Project Stage III

Year: July 2007- January, 2008 (Intermittent engagement)

Location: Kanchanpur and Kailali

Client: Department of Irrigation, Mahakali Irrigation Project, Nepal through NESS

Main project features: Environmental Impact Assessment

Position held: Environment Engineer

Activities performed: Overall study arrangements and quality control in general and review literature on physical environment of the area. Provide guideline for EIA study to other members of the study group, preparation of physical environment study plan for detailed EIA, carryout physical environmental baseline studies for EIA covering geology, land use, erosion, estimate physical environmental losses and predict impact on physical environmental aspects by the project, design mitigation actions and estimate costs required, prepare monitoring plan on physical aspects and give input for the environmental management plan related to physical aspect. Compile the EIA report from the study documents of the other EIA study group, conduct public hearing meetings, presented the EIA report to the review committee.

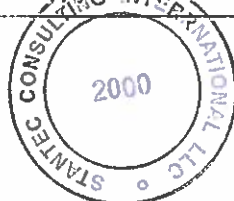
The project covers a net command area of 28255 ha of surface water irrigation and 5265 ha of ground water irrigation. The project falls under Far Western Development Region covering two districts namely Kailali and Kanchanpur of Mahakali zone.

Name of assignment or project: Melamchi Water Supply Project, Baneshwor, Kathmandu

Year: January 2004- April 2007

Location: Sindhupalanchowk, Kavre and Kathmandu Valley

Client: Melamchi Water Supply Development Board, Baneshwor, Nepal / A project funded by GON, ADB, JBIC, OPEC



Main project features: Execution of community support activities, land acquisition and rehabilitation activities

Position held: Team Leader

Activities performed: prepared Resettlement Action Plan (RAP) and community support programs to be launched in project affected VDC. Responsible to supervise the public relations staff, resettlement staff, grievance management staff, social uplift program staff of the public relations; Developed the Public Relation Strategy; Prepared a manning schedule, devise annual program and activities of public relation activities. Public relation related activities both in MV (sub project-1) and KV (sub project-2). After the project restructuring in 2008, and device PR programs and assigns work to Public Relations, Grievance Management and Resettlement staff of the project; Asian Development Bank (ADB); Coordinates and administers all public relations, resettlement, social uplift program activities of the MWSP; Prepared the Resettlement Action Plan (RAP) for MV and KV in coordination as per the policy of the Provided trainings on negotiation, mediation to the client and other consultants of the project; Updated Ethnic Minority Development Plan of MWSP; liaison between the district and the project in the formation of "Community Issues Resolving Team" for the effective management of community and social grievances;

Name of assignment or project: Preparation of Environmental Management Framework for School Building Construction

Year : From August 2003 to January 2004

Location : Kathmandu, Nepal

Client: Department of Education, Sanohimi, Bhaktapur, Nepal

Position held: Environment Consultant

Main project features :Preparation of environmental management framework to be used for school construction in Nepal

Activities Performed: Visit to school building in different zones of Nepal constructed under EFA/BPEP, literature review, interview with school teachers, education policy makers, environment expert, engineers, architects and prepared "Environmental Management for Construction of School Building in Nepal".

Name of assignment or project: Bagmati Area Sewerage Construction/Rehabilitation Project

Year: March 2002 – May 2002

Location: Kathmandu

Client: The Auditor General's Office for the Kingdom of Nepal

Main project features: External monitoring of Bagmati Area Sewerage Project, perform technical audit of Bagmati Area Sewerage Construction/Rehabilitation Project.

Position held: Environmental Engineer

Activities performed: Appointed to provide technical support for Auditor General's office for the monitoring and evaluation of Bagmati Area Sewerage Construction/Rehabilitation Project. This is a project that involves multiple stakeholders and diverse interest. Technical audit involves evaluation of ongoing engineering, environmental and social works. The requirement of 4C (Criteria, Condition, Causes, Consequences) is used for the evaluation of engineering, environmental, and social activities of the project.

Name of assignment or project: Training and Orientation about Healthy City Program to ward chairman and municipality staff of Kirtipur Municipality

Year: January 2002 – March 2002

Location: Kirtipur, Nepal

Client: WHO/Department of Urban Development and Building Construction

Main project features: Training on health, sanitation, concept of healthy city, environmental conservation

Position held: Trainer (Environment)

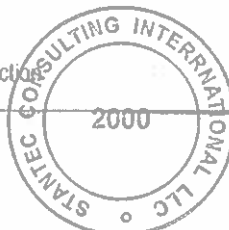
Activities performed: Developed training materials including framework for healthy city, preparation of healthy city action plan by the participants, discussion and finalization of Health City Action Plan (HCAP) for Kirtipur Municipality

Name of assignment or project: Training and Orientation about Healthy City Program to ward chairman and municipality staff of Banepa Municipality

Year: October 2001– December 2001

Location: Banepa

Client: WHO/Department of Urban Development and Building Construction



Main project features: Training on health, sanitation, concept of healthy city, environmental conservation

Position held: Trainer (Environment)

Activities performed: Developed training materials including framework for healthy city, preparation of healthy city action plan by the participants, discussion and finalization of Health City Action Plan (HCAP) for Banepa Municipality

Name of assignment or project: Environmental Monitoring of Generation and Transmission Line Components of Kali Gandaki 'A' HEP (144 MW), and 132 kV transmission line from power house to Jogi Kuti substation, Butwal and another TL at Powerhouse to Lekhnath Substation,

Year: March 1999 – Sept., 2001

Location: Syangja

Client: Kali Gandaki 'A' Hydroelectric Project, Syangja, Nepal / ADB and JBIC funded project

Main project features: Monitoring of community support programs launched by the project in project affected VDC, environmental monitoring of all the construction sites of construction contractor (compliance monitoring)

Position held: Environmental Monitoring Expert/Environmental Engineer

Activities performed: Responsible for monitoring of community support activities implemented in project affected VDCs, environmental and social monitoring of project construction sites namely powerhouse, dam site, tunnel, storage areas, camps etc. Implementation of community support programs in project affected VDCs of Kali Gandaki 'A' HEP. Responsible for compliance phase monitoring of power house, dam site constructions, transmission line constructions from power house to Butwal, and powerhouse to Lekhnath substations.

Name of assignment or project: Water and waste water testing, treatment at household and commercial entity.

Year: June 1998 To February 1999

Employer: Everpure (USA) and Everest Water (Nepal) JV, Baluwatar, Kathmandu.

Main project features: Study of underground aquifers, water quality testing, recommendation of suitable filters, awareness raising about clean drinking water, design of waste water treatment facilities for businesses and industries

Position held: Trainer (Environment)

Activities performed: Provided training in water supply and sanitation system and fittings, water and waste water treatment related technologies to engineers, and supervisors of company



The University of Northern Iowa

upon the nomination of

The Faculty of the University College

has admitted

Sali Benkuta

to the Degree of

Master of Environmental Policy and Management

with all the Rights, Honors and Privileges here and everywhere appertaining to that Degree.

In Witness Whereof, the seal of the University and the signatures of the proper officers are hereunto affixed.

Given in the City of Decorah, in the State of Colorado

on the eighth day of June, in the year of our Lord one thousand nine hundred and ninety-six.

Gay A. Burns
Chairman, Board of Trustees

[Signature]
Chancellor

Walter J. Zank
Provost

Pete Wenz
Dean, University College





Jayakrishna Vasam

Senior Consultant



Mr. Jayakrishna has over 13 years of professional experience in the GIS, Remote Sensing and GPS. He has a lot of experience in environmental sensitivity analysis, ecological sensitivity analysis, land suitability analysis, flood risk analysis, peak flood calculation, hydraulics calculation, digital elevation model, digital terrain model, contour generation from different sources, cut & fill volume calculations and Sustainability & Disaster Management. Remote Sensing: Geo-reference & geo-processing all kinds of Satellite Image data and processing satellite image using Remote sensing techniques & visual interpretation and analysis of all type of GIS applications. GPS: he has worked on numerous GPS Surveying projects like Static and RTK survey.

Summary of Qualifications:

- Create, translate and integrate GIS data layers and digitize new data using a variety of software for preparation of Base map, Land-use map, Physical Feature maps and other maps.
- Compile geographic data from a variety of sources including censuses, field observation, satellite imagery, aerial photographs, and existing maps.
- Worked out various analysis studies and prepared the maps for Site Suitability, Land-use Suitability and Ecological Sensitivity Analysis for Urban planning, Regional planning and Transportation planning projects.
- Worked out Flood risk analysis, Peak flood calculation, Hydraulics calculation and DEM preparation for Flood Risk Assessment Projects
- Prepared GIS maps for 150 ESA Phase-I and Phase-II sites
- Worked out more than 100 ELA projects with various clients like Religare, NSL Power, Green Infrastructure, Mudra, Cairn India and Orion Power.
- Provide technical expertise and support to in-house team as well as clients
- Assisting in the preparation of technical presentations and proposals when required
- Extraordinary proficiency in using geometrical methods, mapping techniques and arithmetic
- Strong communication skills with tremendous presentation abilities

Fields of Competence

- GIS and Remote Sensing
- Flood risk analysis, peak flood calculation, hydraulics calculation and DEM preparation

Education

- M.Tech in Civil Engg.(Geomatics Engineering) from Indian Institute of Technology Roorkee-India in 2006.
- B.Tech (Computer Science & Information Technology) from JNTU, Hyderabad-India in 2003.

Languages known

- English
- Hindi
- Telugu

Certification Programs / Training

- Professional certification course on Climate Change and Urban Environment from Center for Environmental Planning and Technology, Ahmedabad.

Honors and Awards

- Government of India scholarship for clearing Graduate Aptitude Test in Engineering (GATE-2004) in Computer Science and Information Technology (Aug 2004 - June 2006).
- Awarded certification on Sustainable System Integration Model, AECOM, March-2011.

Publications

- Published paper on "A model for determining social network interest profile based on summarize-mine framework" on International Conference TEICC 2012 at Bikaner, Rajasthan.
- Presented paper on "Tsunami early detection using GPS and GIS technology", on International Conference 2006, IIT Roorkee.



Jayakrishna Vasam

Senior Consultant



Employment Record

- October 2017 to Present: Senior Consultant with ERM India Ltd.
- March-2010 to Oct-2017: Senior GIS Specialist with AECOM India Pvt. Ltd. (Environment)
- June-2009 to Feb-2010: Assistant Professor with JNTU, Hyderabad.
- Dec-2006 to June-2009: Manager (GIS Analyst) with Reliance Industries Ltd, Transportation Infrastructure Business Group (TIBG).
- Jun-2004 to Jun-2006: Junior Research Associate (Civil Dept.) with IIT Roorkee.
- May-2003 to Jun-2004: Lecturer with Jyotishmathi Institute of Technology & Science, Karimnagar.

Key Project Experience

Conducting Social and Property Survey for Multi-purpose Projects in Uttarakhand.
Client: WAPCOS Ltd.

Key Role: Identified villages under the reservoir submergence area. Merging and Geo-referencing of Revenue Khasra maps for 135 villages and superimposition of Submergence Area on the villages Khasra Maps and extracted the Khasra numbers under submergence area.

Flood Risk Assessment study for 12 Solar plant sites.
Client: SunEdition Pvt Ltd.

Key Role: Preparation of methodology for Flood Risk Assessment and Hydrological Modelling for assessment of Rainfall runoff from the site, Flood Hazard Modelling and preparation of Flood Inundation Maps and suggestion of mitigation measures. Using GIS tools and techniques prepared DEM, Contour Map, Slope Map and Drainage map.

Assessment (EIA) for five Common Municipal Solid Waste Management Facility at villages Lingadheeranahalli, Doddabiddarakallu, Subbaranapalya, Chikkanagamangala and Kannahalli/ Seeghalli in Bengaluru.
Client: Karnataka Urban Infrastructure Development and Finance Corporation (KUIDFC)

Key Role: Preparation of Vicinity Map, Study Area (10 km radius) Map, Land-use map, Contour Map for the site and the vicinity, Baseline Environmental

Monitoring Location Mapping for Ambient air Quality, Noise, Water Quality, Traffic and Ecology.

Environmental and Social Impact Assessment of 630 MW (Unit II) Thermal Power Plant at Dhaka, Bangladesh as per the requirements of Equator Principles and IFC Performance Standards

Client: Orion Power Limited, Bangladesh
Key Role: Study and carried out the site behaviour of the project. Registration of satellite imageries and processing of the images in ERDAS Imagine software. Preparation of Landuse suitability, Landuse map, Slope map and Site sensitivity analysis. Preparation of Landuse technical report.

Environmental and Social Impact Assessment of 630 MW Thermal Power Plant at Dhaka, Bangladesh as per the requirements of Equator Principles and IFC Performance Standards

Client: Orion Power Limited, Bangladesh
Key Role: Study and carried out the site behaviour of the project. Registration of satellite imageries and processing of the images in ERDAS Imagine software. Preparation of Landuse suitability, Landuse map, Slope map and Site sensitivity analysis. Prepared technical Landuse report.

Environmental and Social Impact Assessment of 630 MW Thermal Power Plant at Khulna, Bangladesh as per the requirements of Equator Principles and IFC Performance Standards for Orion Power.

Client: Orion Power Limited, Bangladesh
Key Role: Study and carried out the site behaviour of the project. Registration of satellite imageries and processing of the images in ERDAS Imagine software. Preparation of Landuse suitability, Landuse map, Slope map and Site sensitivity analysis. Prepared technical Landuse report.

EIA study for Cairn Oil and Gas

Client: Cairn India Limited, India
Key Role: Initial study of the project site about 3500sqkm. Registration of satellite imageries and processing of the images in ERDAS Imagine software. Preparation of Landuse suitability, Landuse map, Slope map and Site sensitivity analysis. Preparation of Landuse technical report.

Environment and Social Impact Assessment for 220MW gas based thermal power plant in Ashuganj.



Jayakrishna Vasam

Senior Consultant



Dhaka as per requirements of IFC Performance Standards.

Client: United Ashuganj energy Limited Bangladesh.
Key Role: Prepared GIS based Land-use maps and physical features map for the project area using latest high resolution satellite imagery as well as other secondary data information. Superimposed EIA monitoring locations on the maps. Generated contour map from the surveyed spot height data. Prepared maps for Environmental monitoring and Ecological monitoring location maps for the project.

Conceptual Master Planning Consultancy Service & Services for obtaining SPCB/CRZ/MoEF Clearance for "Atlanta City" at Suvali, Surat

Client: Atlanta Tourism Ventures Limited, Surat, Gujarat

Key Role: Study and carried out the site behaviour, topography and baseline analysis. Prepared Costal Sensitivity analysis, environmental sensitivity analysis and Site suitability analysis. Carried out Water resource management studies for Basins and Cut and fill analysis for site development

Preparation of EIA study report for Phase-1 40.35 acre Residential, Nagpur

Client: KRS Realty Pvt. Ltd, Nagpur

Key role: Preparation of Land-use map, Ecological and sampling location map and Ecological and Environmental sensitivity analysis maps in GIS & generate contours from ASTER data and prepare drainage patterns and slope maps. Recommended proposed land use pattern for the low impact of environment.

Interim Consultancy for Mumbai Metro Line 3 (Bandra - Colaba- SEEPZ) - Muck Disposal

Client: Mumbai Metro Rail Corporation, Mumbai

Key Role: Identified six abandoned quarries for muck disposal. Surveyed all the site and collect the spot heights with 1m grid for the entire site area and generated the surfaces in ArcGIS software without disturbing to the local drainage pattern. Generated the volumes and cross section drawings for all the sites surfaces before and after muck disposals. Recommendations for low impact of the environment during the muck disposals.

ESIA for 186MW wind farm

Client: Bindu Vayu Urja Pvt. Ltd.

Key role: Preparation Land-use & Base map, Drainage, Road network and Ecological and environmental

sampling location maps using Remote sensing techniques and GIS softwares from various source of data. Generated the contours using ASTER and SRTM data. Preparation of EIA report and review.

ESIA for 20MW Solar RABO SAI

Client: SAI Sudhir Energy Ltd., AP

Key role: Preparation Land-use & Base map, Drainage, Road network and Ecological and environmental sampling location maps using Remote sensing techniques and GIS softwares from various source of data. Generated the contours using ASTER and SRTM data. Preparation of EIA report and review.

Preparation of Development Plan for Dighi Port Industrial Area in Maharashtra sub-region of DMIC

Client: DMICDC, Delhi

Key role: Carried out environmental sensitivity analysis, Land use suitability sensitivity analysis, developing land-use patterns, high quality of contour generation and preparation of base map. Satellite Image registration, geo-processing and raster analysis. Developed customization tools for calculating peak flood rainfall, Rainfall-runoff analyst, analyzed the terrain of Dighi port with GIS, and simulated the monthly average water flow with HEC-HMS model. This analysis was useful for the channel and water collection pool design of the next step.

Preparation of Development Plan for Nashik-Sinnar-Igatpuri Investment Region in Maharashtra sub-region of DMIC

Client: DMICDC, Delhi

Key role: Carried out environmental sensitivity analysis, Land use suitability sensitivity analysis, developing land-use patterns, high quality of contour generation, and preparation of Base map. Satellite Image registration and geo-processing. Developed customization tools for calculating peak flood rainfall, Rainfall-runoff analyst, analyzed the terrain of Sinnar with GIS, and simulated the monthly average water flow with HEC-HMS model. This analysis was useful for the channel and water collection pool design of the next step.

Hitachi Japan Recovery Visioning and Strategic Planning

Client: Hitachi, Japan

Key role: The site located on Iwate and Miyagi prefectures, Japan. Studied entire two prefectures and prepared earthquake triggered Tsunami affected areas



Jayakrishna Vasam

Senior Consultant



showing map using GIS analysis. Prepared Land-use, topography, slope and sensitivity analysis maps.

Chevron Thailand Shore Base Management plan for Invasive species

Client: Chevron Thailand Exploration and Production, Thailand

Key role: The CTSB site is about approximately 390 rai (36 ha) and is in Ban Bang San, Moo 3, Kai Sub-District, Tha Sala District, in Nakhon Si Thammarat, Thailand. Prepared Land-use map include all existing physical feature using high resolution satellite imageries. The key environment issues were GIS site analysis, calculating the suitable land for development, the ecological sensitive analysis and the important ecosystem type analysis.

Corporate Social Responsibility Service for the Ramsar Wetlands in Johor

Client: Khazanah Nasional Berhad, Malaysia

Key role: Ramsar Sites are about 103 sqkm in Malaysia are located on the coast of Southwest Johor: Sungai Pulai (Sg. Pulai), Tanjung Piai (Tg. Piai) and Pulau Kukup (P. Kukup). Identified Ramsar site and marked on GIS map. Prepared topography, slope, drainage, catchment areas and habitat maps in GIS. Created wetland zoning plan maps and update in the wetland management report.

Bukit Jonggol Asri- Environment planning

Client: Pt Bukit, Indonesia

Key role: Prepared topographic, slope, geology and habitat/ecology maps. Carried out the environmental sensitivity analysis and create site suitability maps for next step of design and strategy.

Environmental Sustainability Study For ASCENDAS Industrial Park

Client: ASCENDAS, Chennai

Key role: Carry out a sustainability study for the proposed Industrial park and residential development for around 1420 Acres of land located along Old Mahabalipuram Road (OMR) near Chennai. The key environment issues were GIS site analysis, environmental and ecological analysis, calculating site cut and fill volume analysis. Created drainage lines from contours data and prepared topography and slope analysis maps.

Hyderabad Aerotropolis Masterplan

Client: GMR, Hyderabad

Key role: Developed drainage stream line planning and flood inundation calculation for airport-related mixed use development in Andhra Pradesh. Preparation of GIS maps for various requirements of Aerotropolis master plan.

ABC City Masterplan

Client: Uppal Chadha, Noida

Key role: Managed environmental analysis, site suitability and sensitivity analysis, drainage stream line analysis and peak flood calculation for new town development in Greater Noida, Uttar Pradesh. Developed customization tools for calculating peak flood rainfall.

DPR for Port cum Maritime City at Okhamadhi

Client: GVK, Gujarat

Key role: Carried out environmental and ecological sensitivity analysis, developed Land-use information system and analysis and generated stream lines for drainage system and also generated site elevation model for new port and associated development at Okhamadhi, Gujarat.

IREQ Master Planning, Hospitality and Residency

Client: IREQ, Gurgaon

Key role: Carried out study area and done environmental and ecological sensitivity analysis and generated contours and geo-referenced satellite images with DGPS points. Clean and filtered all CAD drawings and converted in to GIS Platform for input of all analysis.

Concept Master Plan and conceptual Infrastructure Design for ERA Residential

Client: ERA Group, Gurgaon

Key role: Carried out study area and done environmental and ecological sensitivity analysis and generated contours using sub-meter grid site survey spot heights and geo-referenced satellite images with DGPS points. Clean and filtered all CAD drawings and converted in to GIS Platform for input of all analysis. Prepared the GIS and Landuse mapping technical report.

Perspective Transportation Plan for Navi Mumbai Special Economic Zone (NMSEZ)



Jayakrishna Vasam

Senior Consultant



Client: NMSEZ Development Co Pvt. Ltd. / CIDCO, Mumbai

Key role: Carried out study area mapping and zoning in GIS platform. Developed Land Parcel Information System in GIS platform using ArcGIS software from IKONOS Image, Revenue maps and Topographic Sheets. Satellite Images registration, geo-processing and raster analysis. Developed existing and proposed road, rail, and metro rail network for study area. Developed existing road, rail, and metro-rail and proposed Sweri - Worli Link updated in network. Developed database design, spatial data construction and maintenance, attribute data capture and Transport traffic forecasting analysis.

Integrated Transportation Plan for Navi Mumbai

Client: NMMC / MIDC / CIDCO, Mumbai

Key role: Carried out study area mapping and zoning in GIS platform. Developed existing and proposed road, rail, and metro-rail network for study area. Developed database design, spatial data construction and maintenance, attribute data capture and Transport traffic forecasting analysis done by using TransCAD GIS software.

Integrated Transportation Plan for EMMR

Client: NHAI / FWD / MMRDA / CIDCO / NMSEZ Development Co Pvt. Ltd, Mumbai

Key role: Carried out study area mapping and zoning in GIS platform. Developed existing and proposed road, rail, and metro-rail network for study area. Database design, spatial data construction and maintenance, attribute data capture and analysis and Transport traffic forecasting analysis done by using TransCAD software.

Sion - Panvel Expressway Phase-I (Kalamboli to BARC)

Client: MSRDC, Mumbai

Key role: Carried out study area mapping in GIS platform. Developed alternative alignment plan in GIS software. Developed database design, spatial data construction and maintenance, attribute data capture and analysis.

Sweri-Worli Sea Link

Client: MSRDC, Mumbai

Key role: Managed environmental analysis, site zoning in GIS platform. Developed existing road, rail, metro-

rail and proposed Sweri - Worli Link updated in network. Developed database design, spatial data construction and maintenance, attribute data capture and Transport traffic forecasting analysis.

Sion - Panvel Expressway Phase-II (BARC to Sion)

Client: MSRDC, Mumbai

Key role: Carried out study area mapping in GIS platform. Capture existing and proposed road networks and clean and filtered all CAD drawing files and converted into GIS for sensitivity and suitability analysis. Developed database design, spatial data construction and maintenance, attribute data capture and analysis. Done environmental analysis and checked out traffic carrying capacity in GIS software.

Chirle- Dushmi Expressway

Client: MSRDC, Mumbai

Key role: Carried out study area mapping in GIS platform. Capture existing and proposed road networks and clean and filtered all CAD drawing files and converted into GIS for sensitivity and suitability analysis. Developed database design, spatial data construction and maintenance, attribute data capture and analysis.

Metro-II (Charkop-Bandra-Mankhurd)

Client: MMRDA, Mumbai

Key role: Carried out study area mapping in GIS platform. Developed database design, spatial data construction and maintenance, attribute data capture and analysis. Satellite Image registration geo-processing and Raster analysis. Captured existing and proposed road networks and clean and filtered all CAD drawing files and converted into GIS for sensitivity and suitability analysis.

Western Freeway Sea Link (Haji Ali-Nariman Point)- Phase II-B

Client: MSRDC, Mumbai

Key role: Carried out study area mapping in GIS platform. Satellite Image registration geo-processing and Raster analysis. Developed database design, spatial data construction and maintenance, attribute data capture and analysis. Captured existing and proposed road networks and clean and filtered all CAD drawing files and converted into GIS for sensitivity and suitability analysis.



Jayakrishna Vasam

Senior Consultant



Mumbai Metro-THL (Trans Harbour Link)

Client: MMRDA, Mumbai

Key role: Registered satellite images and captured existing and proposed road, rail networks and clean and filtered all CAD drawing files and converted into GIS for sensitivity and suitability analysis. Developed database design, spatial data construction and maintenance, attribute data capture and analysis. Done environmental analysis and checked out traffic carrying capacity in GIS software. Study the tidal behavior for past 25 yrs and developed safety construction time frames in GIS software and calculated flood inundations.

Passenger Water Transport Across Mumbai Harbour

Client: MMRDC, Mumbai

Key role: Registered satellite images and captured existing and proposed road, rail networks, cleaned and filtered all CAD drawing files and converted into GIS for sensitivity and suitability analysis. Developed database design, spatial data construction and maintenance, attribute data capture and analysis. Study the tidal behavior and developed peak flood analysis in GIS software.

Vidya Vihar ROB

Client: MMRDA, Mumbai

Key role: Carried out study area mapping in GIS platform. Satellite Image registration geo- processing and Raster analysis. Developed database design, spatial data construction and maintenance, attribute data capture and analysis.

BKC - Sion - Panvel Highway Elevated Road

Client: MMRDA, Mumbai

Key role: Registered satellite images and captured existing and proposed road, rail networks, cleaned and filtered all CAD drawing files and converted into GIS for sensitivity and suitability analysis. Find out traffic forecasting in GIS using transportation tools.



Serial No.060508

Enrolment No. 043111

भारतीय प्रौद्योगिकी संस्थान रुड़की

(पूर्व रुड़की विश्वविद्यालय)

अभिपद की अनुशंसा पर

सिविल इंजीनियरी में प्रौद्योगिकी अधिस्नातक
की उपाधि

वासम जय कृष्णा

कों, जिन्होंने इस उपाधि की अर्जादि हेतु विनियम विहित अपेक्षाओं को सन् 2006 में सफलतापूर्वक पूरा कर लिया है, एतद्वारा प्रदान करता है।

10 अंकीय माफ़क्रम में इम्तन संचित कोटि अंक माध्य 7.87 है।

भारतीय गणराज्य के अन्तर्गत रुड़की में आब, दिनांक 11 नवम्बर 2006, संस्थान की मुद्रा अंकित यह उपाधि दी गई।



INDIAN INSTITUTE OF TECHNOLOGY ROORKEE (Formerly University of Roorkee)

Upon the recommendation of the Senale hereby confers the degree of

Master of Technology in Civil Engineering

on

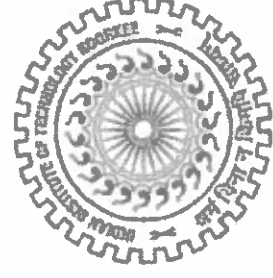
VASAM JAYA KRISHNA

who has successfully completed in the year 2006 the requirements prescribed under the regulations for the award of this degree
with a Cumulative Grade Point Average of 7.87 on a 10 point scale.

Given this day, the 11th of November 2006, under the seal of the Institute at Roorkee in the Republic of India.

निदेशक एवं अध्यक्ष, अभिपद
Director & Chairman, Senate

अध्यक्ष, अभिशासक परिषद्
Chairman, Board of Governors



FORM TECH-6: CURRICULUM VITAE (CV)

Position Title and No.	KN-03: GIS and Database Expert
Name of Firm	Total Management Services Pvt. Ltd.
Name of Expert	Pawan Kumar Ghimire
Date of Birth:	September 23, 1972
Citizenship	Nepalese

EDUCATION

- M.Phil. in Mountain Ecology and Human Adaptations, Department of Geography, Faculty of Social Sciences, University of Bergen, Norway, in 2003 – 2005 (M.Phil. Dissertation: *State of Land Abandonment - Impacts of Out Migration on Local Farming System A Case Study of upper Manang in the Central Himalayas, Nepal*. Supervisor: Prof. Tor H. Aase).
- Specialized study in Development Geography (online course), from University of Bergen, Norway, October-December 2002.
- MA in Geography (specialization in *Application of GIS on Natural Resource Management*), Central Department of Geography, Tribhuvan University, Kirtipur, Kathmandu, Nepal, in 1994

OTHER TRAINING

- GIS (Geographic Information System) ARC/INFO and ArcView from Central Department of Geography, T.U. in 1994 and 1997

Employment record relevant to the assignment:

Period	Employing Organization and Title / Position. Contact Information for References	Country	Summary of Activities Performed Relevant to the Assignment
January 2016 to till date Employment Type: part-time	Employer: Total Management Services Pvt. Ltd. (TMS) Position Held: DSS/Modeling Expert Reference: Prajal Shrestha - MD of TMS Tel No.: 9651021139 E-mail: info@tms.com.np		ADB-Grant: 0367-NEP ADB-Grant: 0367-NEP – Bagmati River Basin Improvement Project - Bagmati River Basin Decision Support System, Flood Forecasting and Early Warning System, Water Quality Monitoring System and Preparation of Bagmati River Basin Integrated Master Plan <ul style="list-style-type: none"> • Work closely with other members of the DSS and the FEWS to develop and setup of the Bagmati DSS and FEWS • Provide specific inputs on development of database management systems, Geographic Information System (GIS)-based modelling applications and simulation/optimization tools; • Contribute to the trainings provided to WECS and BRBO staff;
Year: Sept. 2015 to July 2016 Employment Type: part time	Employer: RBMP/ICIMOD Position Held: Team Leader/GIS Analyst Contact Address of Employer Name: Dr. Arun Bhakta Shrestha Tel No.: 977-1-5003311 Email: Arun.Shrestha@icimod.org	Nepal	Responsible for Modelling of Glacial lake outburst scenarios, flood propagation scenarios, inundation scenarios, flood velocity scenarios, and preparation of vulnerability maps of the area, Socio-economic Risk (Impact) and Vulnerability Assessment of Flood.



<p>Year: 2006 to March 2014</p> <p>Employment Type: Part time</p>	<p>Employer: Various Multi-national and Donor organizations (like SNV Nepal, WWF Nepal, ADB, NPBCL/Full Bright Consultancy, ICIMOD, ECARDS/UNDP)</p> <p>Position Held: Team Leader/GIS Expert/ Database Analyst/ Hazard Expert</p> <p>Contact Address of Employer Ref: Prof. Dr. Om Gurung, ODSA TU, 977-1-4331852, omgurung@odsatu.edu.np</p> <p>Ref: Mr. Bhawani S. Dangol, WWF Nepal, 977-1-4439508, bhawani.dangol@wwfnepal.org</p> <p>Ref: Mr. Min Bahadur KC, Full Bright, 977-1-4468749, min@fbc.com.np</p> <p>Ref: Dr. Arun Bhakta Shrestha, ICIMOD, 977-1-5003311, arun.shrestha@icimod.org</p> <p>Ref: Dr. P.S. Chapagain, ECARDS, 977-1-9541561737, ps.chapagain@gmail.com</p>	<p style="text-align: center;">Nepal</p> <p>During the period he was continuously involved in various water resources engineering, river basin, flood forecasting, watershed management, climate change projects. Moreover he has had a sound experience in the design and development of standard database as a team leader/ GIS and database analyst. During the period he has been involved in various projects, which was accomplished using the updated/ modern tools and technologies. Major projects undertaken during the period are as follows:</p> <ul style="list-style-type: none"> • May 2012 to March 2014: GIS database design, development, analysis to prepare Social Inclusion Atlas of Nepal (4 Volumes), Database Establishment and Capacity Development in Tackling Human Resources for Health (HRH) Crisis in Nepal • Jan 2012 – May 2012: Climate Risk Assessment and Integrated Watershed Management Plan of Khare-Suri Watershed of Dolakha District in Nepal • Dec 2010 – Jan 2011: GIS Analysis for RFA • Sept 2009 – July 2010: Glacial Lake Outburst Flood Modelling of Inja, Tsho Rolpa and Thulagi Lake • 2009: GIS Analysis and Mapping Work of Freshwater Program with Special focus on KRBM Program for WWF Nepal • 2008-09: Glacial Lake Outburst Flood Modelling of Lumu Chimi Lake/Gangxi Co Lake, Porqa/Bayote Kosi Basin • 2008: Baseline Survey of FASARA Program Districts of Western Nepal and Topographic and Bathymetric Survey of Tsho Rolpa Lake • 2007-08: Development of GIS Capacity at the Department of Education, Phase I & II
<p>Year: 1994 - 2003</p> <p>Employment Type: Part time</p>	<p>Employer: Various Multi-national organizations including Government Agencies (like Nepal Red Cross Society, ICIMOD, WWF Nepal, DHM, CGD TU etc.)</p> <p>Position Held: Team Leader/GIS Specialist</p> <p>Contact Address of Employer</p> <p>Ref: Mr. Bhawani S. Dangol, WWF Nepal, 977-1-4439508, bhawani.dangol@wwfnepal.org</p> <p>Ref: Basanta Shrestha, ICIMOD, 977-1-5003311</p> <p>Ref: Prof. Dr. Padma Chandra Poudel, CGD TU, 977-1-4330329, poudelpc@yahoo.com</p>	<p style="text-align: center;">Nepal</p> <p>During 1994 -2003 Mr. Ghimire involved in various water resources engineering, river basin management, river training works, socio-economy flood forecasting, watershed management, climate change projects. Moreover he has had a sound experience in the design and development of standard database as a team leader/ GIS and database analyst. During the period he has been involved in various projects, which was accomplished using the updated/ modern tools and technologies. Major projects undertaken during the period are as follows:</p> <ul style="list-style-type: none"> • 2001 to 2003: Project on Atlas and Geography of Nepal, GIS Database Design of Community Based Primary Health Care Project Area of Achham District, GIS database preparation of Kankai River, River Training Project and Flood Risk Mapping of the Khandi River • 1998 to 2000: Geomorphological Mapping of the Kyan River Basin, Flood Risk Mapping of the Bagmati River (Sundarjal to Khokhajor), Lakhandehi River and Tinau River, Geomorphological Study of the Kamala River Basin • February 1997 to December 1998: Royal Bardia National Park - Extension Area Project and Digital Database and Map Preparation of Royal Bardia National Park using GIS/GPS • 1994 to 1996: Preparation of Contour Line database in Nepal and Study of Small Market Centers and Their Potential Development, and Natural Hazard Mapping of Ilam, Baglung, and Kailali districts of Nepal

Membership in Professional Associations and Publications:

- Treasurer, Nepal University of Bergen Alumni Association (NeBRAA)
- Member, Nepal Geographical Society, Kathmandu, Nepal.
- Member, Nepal GIS Society, Kathmandu, Nepal.

LANGUAGE SKILLS



Speaking
Excellent
Excellent
Good

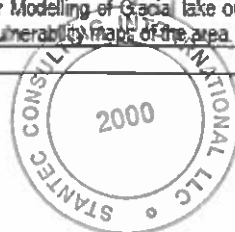
Reading
Excellent
Excellent
Good

Writing
Excellent
Excellent
Good

ADEQUACY FOR THE ASSIGNMENT :

Detailed Tasks Assigned Reference to Prior Work/Assignments that Best Illustrates Capability to Handle the Assigned Tasks

on Consultant's Team of Experts	
<ul style="list-style-type: none"> • 	<p>Project Name or Assignment: ADB-Grant 0367-NEP – Bagmati River Basin Improvement Project; Year: January 2016 – till date (10 months intermittent input over the 30 months period); Location: Singadurbar, Nepal; Client: WECS/HPCIDBC</p> <p>Main Project Features: Bagmati River Basin Decision Support System, Flood Forecasting and Early Warning System, Water Quality Monitoring System and Preparation of Bagmati River Basin Integrated Master Plan</p> <p>Position: Decision Support System (DSS) Modelling Expert</p> <p>Activities Performed:</p> <ul style="list-style-type: none"> • Work closely with other members of the DSS and the FEWS to develop and setup of the Bagmati DSS and FEWS • Provide specific inputs on development of database management systems, Geographic Information System (GIS)-based modelling applications and simulation/optimization tools; • Contribute to the trainings provided to WECS and BRBO staff; and • Assist the Team Leader in timely delivery of all outputs and preparation of reports. <p>Name of assignment or project: Glacial Lake Outburst Flood Modelling of Nagma Pokhari and Lower Barun Lake; Year: 2015 Sept – 2016 June (5 months); Location: Nepal; Client: RBMP/ICIMOD, Lalitpur, Nepal; Main Project Features: Glacial Lake Outburst Flood Modelling of Nagma Pokhari and Lower Barun Lake; Position Held: Team Leader/GIS Analyst; Activities Performed: Responsible for Modelling of Glacial lake outburst scenarios, flood propagation scenarios, inundation scenarios, flood velocity scenarios, preparation of vulnerability maps of the area, and Socio-economic Risk (Impact) and Vulnerability Assessment of Flood.</p> <p>Name of assignment or project: Various GIS related projects under the various International/National Firms; Year: Feb 2013 to March 2014; Location: Nepal; Client: SIRF SNV Nepal and ODSA TU Kathmandu/ Save the Children Nepal/ WWF Nepal Program and Department of Soil Conservation and Watershed Management, Kathmandu/ and ECARDS/UNDP; Main Project Features: Preparation of Social Inclusion Atlas of Nepal (4 Volumes) Database Establishment and Capacity Development; Position Held: Team Leader/ GIS Expert/ Hazard Expert; Activities performed: Responsible for Preparation of Social Inclusion Atlas of Nepal (4 Volumes) Database Establishment and Capacity Development in Tackling Human Resources for Health (HRH) Crisis in Nepal. Responsible for Vulnerable areas to <i>Climate Change and Hazard Mapping of Indrawati Basin</i>.</p> <p>Name of assignment or project: Building Climate Resilience of Watersheds in Mountain Eco-Regions, TA-7883 NEP; Year: April 2012 to January 2013 (4 months); Location: Hilly region, Nepal; Client: Department of Soil Conservation and Watershed Management; Main Project Features: GIS database preparation, modeling, and analysis; Positions Held: GIS Experts; Activities Performed: Prepare detailed maps and generate information for identification and prioritization of watersheds by using available GIS and management information systems from DSCWM, Forest Resource Assessment, Water and Energy Commission Secretariat, National Planning Commission, and others; Finalize the delineation of the watershed boundaries in the two sample watersheds; Prepare GIS maps; Coordinate with other agencies; Conduct analysis on information for watershed planning using bio-physical and socio-economic information; and Prepare detailed maps for the 2 sample watersheds, GIS maps for the watersheds selected for the Project, and a detailed procedure for data-input and information generation to be used during Project implementation.</p>
	<p>Name of assignment or project: Kathmandu Khufekhari Hetauda Tunnel Highway Projects; Year: July 2012 to Dec 2012 (4 months); Location: Hilly region, Nepal; Client: NPBC/Full Bright Consultancy Pvt. Ltd.; Main Project Features: Detail feasibility study and design of Kathmandu Khufekhari Hetauda Tunnel Highway, Adjoining Area Development Study; Positions Held: GIS Specialist/Geographer; Activities Performed: Data management and analysis of geology, hydrology, engineering, socio-economic, and environment etc. GIS analysis of alternative routes, landuse analysis of different routes, Hydrological analysis, Landuse plan and zonation for adjoining area development.</p>
	<p>Name of assignment or project: Climate Risk Assessment and Integrated Watershed Management Plan of Khare-Suri Watershed of Dolakha District in Nepal; Year: Jan 2012 – May 2012; Location: Nepal; Client: ECARDS, Dolakha.; Main Project Features: Implementation of Community Based Climate Risk Management initiatives on NAPA thematic sectors at community and local administration levels in Dolakha District in Nepal; Position Held: GIS/Hazard Expert; Activities Performed: Analysis of the information related to the geological and geomorphological aspect, hazard assessment and analysis and production of several maps. Preparation of different HVR maps using satellite imagery and GIS analysis compiled to a one proposed land use plan map.</p>
	<p>Name of assignment or project: GIS Analysis and Mapping of Gandaki River Basin for RFA Work; Year: Dec 2010 to Jan 2011; Location: Hilly Region, Nepal; Client: WWF Nepal Program; Main Project Features: GIS analysis and Mapping; Positions held: GIS Specialist; Activities performed: GIS database development and analysis with several maps at watershed and catchment level of Gandaki River basin.</p>
	<p>Name of assignment or project: Glacial Lake Outburst Flood Modelling of Imja, Tsho Rolpa and Thulagi Lake; Year: Sept 2009 – July 2010; Location: Mountain region, Nepal; Client: IWM/ICIMOD, Lalitpur, Nepal; Main Project Features: Glacial Lake Outburst Flood Modelling of Imja, Tsho Rolpa and Thulagi Lake, Hazard, Risk and Vulnerability assessment along the river bank upto 100 km downstream; Position Held: Team Leader/GIS Analyst; Activities Performed: Responsible for Modelling of Glacial lake outburst scenarios, flood propagation scenarios, inundation scenarios, flood velocity scenarios, and preparation of vulnerability maps of the area.</p>



Name of assignment or project: Topographic and Bathymetric Survey of Imja Glacier Lake; Year: 2008 (4 months); Location: Imja Lake, Mountain region, Nepal; Client: WWF Nepal Program, Baitwar, Kathmandu; Main Project Features: GIS Analysis and Mapping Work of Freshwater Program with Special focus on KRBM Program. Topographic and Bathymetric Survey of Imja Glacier Lake; Position Held: Team Leader/GIS Specialist; Activities Performed: Responsible for GIS Analysis at catchment level of Koshi River basin. And also responsible for water depth survey of the lake, assessment of the lake volume and the storage-elevation relationship, preparation of the Bathymetric and Topographic maps using GIS.

Name of assignment or project: Glacial Lake Outburst Flood Modelling of Lumu Chimi Lake/Gangxi Co Lake, Poqun/Bozte Kosi Basin. Year: 2008-09 (6 months); Location: China and Nepal; Client: IWH/ICIMOD, Lalitpur, Nepal; Main Project Features: Modeling of Glacial Lake Outburst Flood of Lumu Chimi Lake/Gangxi Co Lake, Hazard, Risk and Vulnerability assessment along the river bank; Position Held: Team Leader/GIS Analyst; Activities Performed: Responsible for Modelling of Glacial lake outburst scenarios, flood propagation scenarios, inundation scenarios, flood velocity scenarios, and preparation of vulnerability maps of the area.

Name of assignment or project: Baseline Survey of PASARA Program, Year: 2008 (2 months); Location: Hill Regions of Western Nepal; Client: GTZ Kathmandu; Main Project Features: Baseline Survey of the PASARA program districts in Mid-Western Development Region; Position Held: Database Manager; Activities Performed: Responsible for survey tools development, supervision of field survey, database design and management, and analysis.

Name of assignment or project: Topographic and Bathymetric Survey of Tsho Rolpa Lake; Year: 2008 (3 months); Location: Mountain region, Nepal; Client: Department of Hydrology and Meteorology, GoN Kathmandu; Main Project Features: Topographic and Bathymetric Survey of Tsho Rolpa Lake; Position Held: Team Leader/GIS Analyst; Activities Performed: Responsible for water depth analysis of the lake, assessment of the lake volume and the storage-elevation relationship, preparation of the Bathymetric and Topographic map using GIS.

Name of assignment or project: Development of GIS Capacity at the Department of Education, Phase I & II; Year: 2007-08 (4 months); Location: Nepal; Client: Department of Education, GoN, Bhaktapur; Main Project Features: Development of Flash database entry in GIS System, GIS analysis, mapping and manual preparation of database entry and analysis, GIS training; Position Held: GIS Specialist; Activities Performed: Responsible for Supervision of GIS database Preparation, Database design and management, Linking EMIS to GIS system, GIS analysis and Education Service Mapping, Analysis of capacity gaps, Preparation of GIS Manual and transferring the knowledge (GIS training) to the selected DOE staffs.

Name of assignment or project: For Nepal Family Health Program, USAID, Sanepa, Nepal; Year: 2007 to 2008; Location: Nepal; Client: Nepal Family Health Program, USAID, Sanepa, Nepal; Main Project Features: GIS database development of the program districts of NFHP, GIS mapping of different indicators and analysis, GIS training; Position Held: Team Leader/ GIS Specialist; Activities Performed: Responsible for Supervision of GIS database Preparation, Map Design, and GIS analysis in the field of Health Service Planning, GIS training to NFHP staffs.

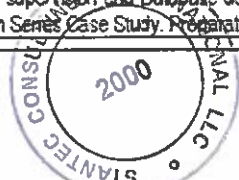
Name of assignment or project: Flash Flood Modeling of Jhiku Khola Catchment; Year: 2007 (2 months); Location: Kavrepalanchok District; Client: WHEM/ICIMOD, Lalitpur, Nepal; Main Project Features: Flash Flood Modeling of Jhiku Khola Catchment using HEC GeoHMS and HEC HMS software; Position Held: Team Leader; Activities Performed: Responsible for Performing hydrological modelling of the Jhiku Khola watershed using HEC GeoHMS and HEC HMS models. Conducting event based model for flash flood events. Preparing training manual and conducting regional level (Hindu Kush Himalayan) training on application of the Model.

Name of assignment or project: Detailed Planning Report of Land Pooling Scheme Package-I to Package-V Outer Ring Road Development Project; Year: 2006 (5 months); Location: Nepal; Client: Outer Ring Road Development Project; Main Project Features: Detailed Planning Report Preparation; Position Held: GIS Experts; Activities Performed: Responsible for preparation GIS map and report of Hansiddhi to Lubhu section of Outer Ring Road Development Project.

Name of assignment or project: Development of Geographic Information System (GIS) Database from the Existing District Water Use Inventory Studies; Year: 2006 (4 months); Location: Hill and Terai regions, Nepal; Client: Water and Energy Commission Secretariat; Main Project Features: GIS database development, mapping and analysis; Position Held: GIS Experts; Activities Performed: Responsible for GIS database preparing, analysis, field survey and mapping. The works also include the on the job-training to other team members in the new developments and practices in GIS applications and related software. Preparation and map and report.

Name of assignment or project: Various GIS related Projects under the DOU/DHM; Year: Jan 2001 to July 2003; Location: Nepal; Client: Geographic Information Systems & Integrated Development Center/ Nepal Red Cross Society/ Department of Irrigation/ Department of Hydrology and Metrology/ Tourism for Rural Poverty Alleviation Program; Main Project Features: Project on Atlas and Geography of Nepal, GIS Database Design of Community Based Primary Health Care Project Area of Achham District, GIS database preparation of Kankal and Labakanya River, River Training Project and Flood Risk Mapping of the Khandu River/ GIS data development of Dolpa, Taplejung, Rupsandehi and Chitwan; Position Held: GIS Specialist; Activities Performed: Responsible for Project supervision and GIS Database Preparation, GIS mapping and analysis, Field Survey with GPS of the Study area, GIS training to project staffs.

Name of assignment or project: For International Centre for Integrated Mountain Development (ICIMOD); Year: Jan 2000 to Nov 2000; Location: Nepal; Client: International Centre for Integrated Mountain Development; Main Project Features: Field Data Collection and Database design for KTM Valley Application Series Case Study; Position Held: Team Leader/Geographer; Activities Performed: Responsible for Team supervision and Database design and management of the Study area for "Field Data Collection and Database design for KTM Valley Application Series Case Study. Preparation and finalization of report.



Name of assignment or project: Various GIS related projects under the Department of Hydrology and Metrology (DHM); Year: Apr 1998 to July 2000; Location: Nepal; Client: Department of Hydrology and Metrology; Main Project Features: Geomorphological Mapping of the Kyan River Basin, Flood Risk Mapping of the Bagmati River (Sundarjal to Khokhajor), Lakhadehi River and Tinau River, Geomorphological Study of the Kamala River Basin, and Geomorphological Mapping of the Main River Basin; Position Held: GIS Consultant; Activities Performed: Responsible for GIS database preparing, GIS analysis, field survey for biodiversity and socio-economic assessment, GPS survey and mapping of area in between ACAP and RCNP. Also responsible for Project supervision, GIS mapping and analysis of the Study area. GIS mapping of flood risk zone of the Study area. Geomorphological and GIS mapping of the Study area

Name of assignment or project: Royal Bardia National Park - Extension Area Project and Digital Database and Map Preparation of Royal Bardia National Park using GIS/GPS; Year: February 1997 to December 1998; Location: Nepal; Client: WWF Nepal Program, Kathmandu, Nepal; Main Project Features: Digital Database and Map Preparation of Royal Bardia National Park using GIS/GPS; Position Held: GIS Specialist/ Consultant; Activities Performed: Responsible for GIS database preparing, analysis, field survey for biodiversity and socio-economic assessment, GPS survey and mapping of RBNP Extension Area.

Name of assignment or project: Various Projects such as Preparation of Contour Line database in Nepal and Study of Small Market Centers and Their Potential Development, and Natural Hazard Mapping of Ilam, Baglung, and Kailali districts of Nepal; Year: Feb 1994 to Dec 1996; Location: Nepal; Client: Central Department of Geography; Main Project Features: GIS database Development; Landslide and flood risk and hazard mapping; Position Held: GIS Assistant / Research Assistant; Activities Performed: For Natural Hazard Mapping, was Responsible for preparing GIS database from topographical map of respective districts at the scale of 1:25,000. Responsible for digitization of contour lines from the topographical map for transforming contour lines from the toposheets of 1:63,360 scale). For the Study of Small Market Centers and Their Potential Development, was responsible to collect the data

EXPERT'S CONTACT INFORMATION : (E-mail: pawan.ghimire@gmail.com; Tel No.: 977-1-5544465; 9851123135

CERTIFICATION :

I, the undersigned, certify to the best of my knowledge and belief that-

- (i) this CV correctly describes my qualifications and my experience
- (ii) I am not a current employee of the Executing or the Implementing Agency
- (iii) In the absence of medical incapacity, I will undertake this assignment for the duration and in terms of the inputs specified for me in Form TECH 6 provided team mobilization takes place within the validity of this proposal
- (iv) I was not part of the team who wrote the terms of reference for this consulting services assignment
- (v) I am not currently debarred by a multilateral development bank
- (vi) I certify that I have been informed by the firm that is including my CV in the Proposal for the "Bagmati River Basin Decision Support System, Flood Forecasting and Early Warning System, Water Quality Monitoring System and Preparation of Bagmati River Basin Integrated Master Plan". I confirm that I will be available to carry out the assignment for which my CV has been submitted in accordance with the implementation arrangements and schedule set out in the proposal.

I understand that any willful misstatement described herein may lead to disqualification or dismissal, if engaged.


[Signature of expert or authorized representative of the firm]
Full name of authorized representative:

Date: 22nd February 2015
Day/Month/Year







TRIBHUVAN UNIVERSITY
UNIVERSITY CAMPUS
Central Department of Geography
Kirtipur, Kathmandu, Nepal.

TO WHOM IT MAY CONCERN

*This is to certify that Mr./ Ms. Pawan Kumar Ghimire.....
has successfully completed a year long course on Geographical
Information System (..... 1994..... to 1995.....)
and has used it meaningfully as an analytical tool in his / her
M. A. thesis writing.*

Mangal S. Manandhar

Mangal S. Manandhar, Ph.D.
Professor and Head



Date : 30 Oct, 1998



Transcript of Record

University of Bergen

Name: Ghimire, Pawan Kumar

Date of birth: 1972-09-23

Master Programme in Mountain Ecology and Human adaptations

The student has completed the following examinations at University of Bergen:

Course		Semester	Points	Mark
GEO335	Specialized study in development geography 1, Myths and Narratives in Development and Environment	2002 autumn	10	2.4
GEO300	Writing work shop and draft project proposal	2003 autumn	5	Recognized
GEO302	Theory of science for human geographers	2003 autumn	10	A
GEO336	Ecology, People and Institutions in Development	2003 autumn	10	B
GEO303	Individual term paper	2004 spring	15	Recognized
GEO307	Qualitative Methodology in Human Geography	2004 spring	10	C
GEO306	Social scientific methodology	2005 spring	10	Passed
GEO350	Master thesis	2005 spring	60	B
	State of Land Abandonment. Impacts of out Migration on Local Farming system (A Case Study of upper Manang in the Central Himalayas, Nepal)			

Total: 130,0

16 June 2005

Brith Ar Saeh

signature



Transcript



University of Bergen

Pawan Kumar Ghimire
GPO - 8975
EPC - 1868
Kathmandu
NEPAL

Name: **Ghimire, Pawan Kumar**

Date of birth: 1972-09-23

Has completed the following examinations at the University of Bergen:

Course	Semester	Credits	Mark
Geography Social Sciences:			
GEO335 Specialized study in development geography 1	2002 autumn	3,3	2,4
Myths and narratives in development and environments			

1 Norwegian credit is equivalent to 3 ECTS-credits.

24 January, 2003

Elin Augustin
signature



S. No.

4504

Registered No.

44721-90

त्रिभुवन विश्वविद्यालय

Tribhuvan University



कलाचार्य

मानविकी र सामाजिकशास्त्र

पवनकुमार घिमिरे विक्रम सम्बत् २०५१ को

भूगोल विषयको कलाचार्य परीक्षा प्रथम श्रेणीमा उत्तीर्ण भई
स्नातकोत्तरोपाधिका निमित्त योग्य ठहरिएकोले निजलाई यस उपाधिद्वारा विभूषित गरिएको छ ।

Master's Degree

In Humanities and Social Sciences

This is to certify that *Pawan Kumar Ghimire*
having passed **Master's Degree** examination in **Humanities and
Social Sciences** in *Geography*
in *First* division of the year *1994* this degree has been awarded on
him/her this day.

Kathmandu, Nepal.

Date:

Nov. 23, 1999



Vice-Chancellor





TRIBHUVAN UNIVERSITY
OFFICE OF THE CONTROLLER OF EXAMINATIONS
KATHMANDU, NEPAL
ACADEMIC TRANSCRIPT

051

Issue number

Name of the student PAWAN KUMAR GHIMIRE Faculty: Humanities & Social Sciences

Registered number 44721-90 Campus: KIRTIPUR

Course Duration: 2 Academic Years Examination: Master's Degree in Geography

Subjects appeared in the examination	Full Marks	Pass Marks	Examination attended year and Roll No.	Examination attended year and Roll No.	Examination attended year and Roll No.	Examination attended year and Roll No.	Examination attended year and Roll No.	Remarks
			1218-93	5632-94				
			Marks secured	Marks secured	Marks secured	Marks secured	Marks secured	
1st Yr. Examination								
I Physical Geography	100	40	—	59				
II Cartography, Aerial /Photography, / Surveying and Excursion	100	40	79					
III Research Technique and Quantitative Geography	100	40	45					
IV Optional (any one) <i>Aty. & pol. Geo.</i>	100	40	72					
Total	400	160		255				
2nd Yr. Examination								
V Geography of Nepal:	100	40						
a) Physical, Economic, Social and Regional	40	16		28				
b) Seminar on Geographic problems of Nepal	60	24		52				
VI Settlement and Population Geography	100	40		65				
VII Regional Geography of Latin America or Anglo America or West Europe or East Europe of East Europe including USSR or S.E. Asia or South Asia or East Asia or West Asia or Africa	100	40		67				
VIII Optional (any one)	100	40						
or Dissertation	100	40		23				(V.D.055-5-12)
National Development Service	100	40						
Total	500	200		305				
Grand Total	900	360		560				

Written by *[Signature]*
Checked by *[Signature]*

28 OCT 1998

Total Marks secured 560.0
Percentage 70.0
Passed Division FIRST
Passed examination of 2059 (1999)

Controller of Examinations

Date of issue

Grading system of marks secured in the examination:

Distinction 75-80 percent and above in the aggregate.

First Division 65-75 percent and above in the aggregate.

Second Division 50 percent and above in the aggregate.

To pass the examination at least 40 percent of the marks must be secured in the Internal and External examinations as well as in the theory and practical examinations of each paper separately.





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CURRICULUM VITAE (CV) FOR PROPOSED PROFESSIONAL PERSONNEL

1. Proposed Position : National Legal Regulatory Specialist
2. Name of Firm : Nepal Environmental and Scientific Services (NESS) P. Ltd
3. Name of personnel : Bimal Subedi
4. Date of Birth : 26th September, 1956
5. Nationality : Nepali
6. Education :
 - LL.M (Master of Laws) in Business Laws, Bharati Vidyapeeth New Law College, Pune INDIA, 2004
 - B.L. (Bachelor in Law), Tribhuvan University, Nepal Law Campus, Kathmandu, Nepal. 1993
7. Membership of Professional Associations:
 - Holding Pleader License from Supreme Court, 1991
 - Holding Advocate License from Supreme Court Bar Association, 2050 /1994
 - Member of Kathmandu District Court Bar Association, till 2008
 - Council Member of Kathmandu District Court Bar Association, 2001
 - Member of Supreme Court Association, 2009
 - Worked as a Member of various committee of Nepal Bar Association
 - Ex. Family, Election, Publicity, Human Rights, etc
8. Other Trainings :
 - EIA trainings conducted by Institute of Applied Sciences-Nepal, Thaaathali, April-May 2017
 - Negotiation Skills, Society for Sustainable Development, Lalitpur, March 1998
9. Countries of Work Experience: Nepal
10. Languages:

	<u>Reading</u>	<u>Writing</u>	<u>Speaking</u>
Nepali	Excellent	Excellent	Excellent
English	Excellent	Excellent	Excellent
Hindi	Excellent	Fair	Excellent
11. Employment Record:
 - From April 1999 : To date (Intermittent)
 - Employer : Nepal Environmental and Scientific Services (P) Ltd.
 - Position Held : Legal and Policy Expert

 - From June 2000 : To date
 - Employer : Lex Jurist
 - Position Held : Advocate

 - From April 1993 : March 1999
 - Employer : Mukund Regmi and Associates
 - Position Held : Advocate



12. Detailed Tasks Assigned:

- Assess and document provisions of Nepal's policies and laws on environment, forests, conservations, land acquisitions and resettlement related to the transmission lines sector; assess the norms and standards on environment and social safeguards of international finance institutions, analysis of gaps and suggests mitigating measures to be taken as per the policies and laws.

13. Relevant Project Experience:

Name of assignment of project: Environmental Impact Assessment (EIA) Study for Eastern Canal System of Sikta Irrigation Project

Year: Jan. 2017 –October 2017

Location: Banke Districts

Client: Sikta Irrigation Project

Main project features: EIA Study

Position held: Legal and Policy Expert

Activities Performed: Responsible for the review of environmental legislations and policies and other sectoral policies related to environment and others relevant to the project. Preparation of legal and policy review documents required for the project implementation and operation with recommendations for the compliance to the existing policies and legislations to smoothen the project implementation and operation. Assisted the team in resettlement and rehabilitation part write up and other write up in legal chapter, and explanation of legal connotations in EIA report.

Name of assignment or project: Initial Environmental Examination (IEE) for the 400 kV D/C Transmission Line System from 900 MW Upper Kamali HEP Power House Substation to Nepal India Border

Year: August 2015- December 2015

Location: Achham, Surkhet Kailali Districts

Client: Kamali Transmission Line Company P. Ltd through consultant: Nepal Environmental and Scientific Services (NESS) P Ltd

Position held: Legal and Policy Expert

Main project features: Initial Environmental Examination (IEE) Study

Activities Performed: Responsible for the review of environmental legislations and policies and other sectoral policies related to environment and others relevant to the project. Review of legal rights of land owners, non title holders, review of land acquisition in TL corridor (permanent for tower and lands under RoW), policies regarding CFUGs, Guthi and other lands. Provided legal and policy related suggestions to the developers and assisted the IEE team of NESS in drafting legal part of IEE, assisted in preparing resettlement and rehabilitation matrix, formation of Grievance redress mechanisms, drafting public consultation and disclosure planning, prepared all the proceeding and records in a systematic fashion in IEE report.

Name of assignment of project: Environmental Impact Assessment Study of Budhigandaki Hydroelectric Project (BGHEP) 1200 MW

Year: Nov. 2014- Oct 2016

Location: Dhading and Gorkha Districts

Client: Budhi Gandaki Hydroelectric Development Committee (BGHEPDC) through NESS

Main project features: Storage project with an installed capacity of 1200MW generating 3 383 GWh of annual energy. The key project structures are: i) Double curvature arch dam of height 283m from the foundation level, ii) reservoir area occupying nearly 63km² of land along Budhi Gandaki and Anshu Khola across 13 VDCs of Gorkha District and 14 VDCs of Dhading District, iii) surface powerhouse at the toe of the Dam at the left bank and iv) short headrace tunnel and penstock tunnels linking powerhouse with the intake in the reservoir

Position held: Legal Expert

Activities Performed: Involved in literature review of all the legal documents related to hydropower development in Nepal, review of India-Nepal treaty, Land Acquisition Act (1977), review of land acquisition and resettlement policy of GoN (2015), Environmental Protection Act (1996)/ Regulations (1997), review of Labor Act (1992) and other policies and Acts, assisted in providing legal services for tenant right, guthi right, non title holders, dealt in issues related to land, downstream water use, ILO 159, issues of forest clearance, preparation of land entitlement matrix, provided legal advices to the consulting team and project proponent. Assisted in preparing legal write up in Environmental Impact Assessment report of the project.

Name of assignment of project: 1. Environmental Impact Assessment Study of Sanjen Khola Hydroelectric Project 78 MW, 2. Feasibility study of 132 kV transmission line study from P/H of SKHEP to Chyamdon

Year: Nov. 2012- May 2013

Location: Rasuwa District

Client: Salasungi Power Limited through Nepal Environmental and Scientific Services (NESS) P Ltd



Main project features: Run of the river scheme with a peaking reservoir, tunnel, underground desander, surge tank, and surface powerhouse with support facilities such as construction camps, spoil disposal, internal access roads, transmission lines etc.

Position held: Legal Expert

Activities Performed: Involved in providing legal review for EIA study of the project and also for transmission line for SKHEP powerhouse site to Chyamdon. Prepared details of land required for the project in generation and transmission line part separately

Name of assignment or project: Environmental, Social and Geological Survey for Nationwide Master Plan Study on Storage Type Hydroelectric Power Development in Nepal, Rolpa, Arghakhanchi, Pyuthan, Jajarkot, Okhaldhunga/Kothang, Ramechhap, Syangja, Gulmi, Sindhuli, and Sindhupalchowk Districts,

Year: June 2012-November, 2012

Location: Nepal

Client: J-Power (Japan)

Position held: Legal and Policy Expert

Activities Performed: Responsible for the review of environmental legislations and policies and other sectoral policies related to environment and others relevant to the project. Preparation of legal and policy review documents required for the project implementation and operation with recommendations for the compliance to the existing policies and legislations to smoothen the project implementation and operation. Prepared entitlement matrix for land acquisition and rehabilitation, list of plan, policies, Acts, regulations, directives, standards applicable for the planning and construction of storage type hydropower projects in Nepal.

Name of assignment of project: Initial Environmental Examination (IEE) study of Ghorahi-Dui Khali Rolpa Road (Sahid Lok Marga) 107.5 km)

Name of assignment or project: Environmental Impact Assessment of 900 MW Upper Karnali Hydroelectric Project

Year: March 2012- September 2012

Location: Nepal

Client: Upper Karnali Hydropower Company (P.) Ltd.

Main project features: Run of the river scheme with a peaking reservoir, tunnel, underground desander, surge tank, and surface powerhouse with support facilities such as construction camps, spoil disposal, internal access roads etc.

Positions held: Legal and Policy Expert

Activities Performed: Responsible for the review of environmental legislations and policies and other sectoral policies related to environment and others relevant to the project. Preparation of legal and policy review documents required for the project implementation and operation with recommendations for the compliance to the existing policies and legislations to smoothen the project implementation and operation.

Name of assignment or project: Environmental Impact Assessment of 600 MW Upper Marsyangdi II Hydroelectric Project

Year: Dec 2011- Feb 2012;

Location: Nepal

Client: Himtal Hydropower Company (P.) Ltd.

Main project features: Run of the river scheme with a peaking reservoir, tunnel, surge tank, and underground powerhouse with support facilities such as construction camps, spoil disposal, internal access roads etc.

Positions held: Legal and Policy Expert

Activities Performed: Responsible for the review of environmental legislations and policies and other sectoral policies related to environment and others relevant to the project. Preparation of legal and policy review documents required for the project implementation and operation with recommendations for the compliance to the existing policies and legislations to smoothen the project implementation and operation.

Name of assignment or project: Kabeli Corridor 132kV Transmission Line Project, Transmission Line / substation Construction

Year: August, 2011 – October, 2011

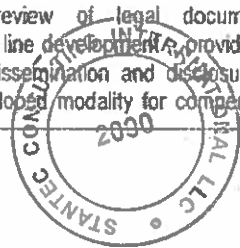
Location: Nepal

Client: Nepal Electricity Authority through NESS

Main project features: Preparation of Resettlement Action Plan, Social Action Plan and VCDP for Kabeli Corridor TL Project

Position held: Legal Expert

Activities performed: Review of project documents, review of legal documents of the project, Act /Rules/Regulations/Guidelines/Standards/Directives in transmission line development, provided training to the NESS study team on public dialogue and interviews, prepared information dissemination and disclosure framework for the project, Prepared entitlement matrix for project affected households, developed modality for compensation payment for buildings,



crops, fruits, vegetables which needs to be acquired which are along the TL alignment, assisted the team in review and write up of legal aspects in the report. Provided advisory services to the NEA engineering team on likely legal complication, approach for resolving it. The report was prepared meeting the World Bank and GoN Requirements.

Name of assignment of project: Initial Environmental Examination (IEE) Study of Jayramghat Bridge Project (Hilepani-Diktol Road)

Year: May 2010 to July 2011

Location: Khotang Districts

Client: Kalika Construction, Hulas Steel Industries

Main project features: IEE Study of Jayramghat Bridge

Position held: Legal Expert

Activities Performed: Review of Act, Regulations, Guidelines, and Directives of Government of Nepal related to environment.

Name of assignment of project: Revival of Ambient Air Quality Monitoring Stations of Kathmandu Valley

Year: September, 2010 - February, 2011

Location: Kathmandu

Client: Ministry Environment

Main project features: Revival of permanent air quality monitoring stations in Kathmandu valley under KVAQMS program

Position held: Legal Expert

Activities Performed: Review of Act, Regulations, Guidelines, and Directives of Government of Nepal related to environment.

Name of assignment of project: Environmental Impact Assessment (EIA) Study of Hetauda By – Pass Road; Year: April, 2010: To Feb, 2011

Location: Makawanpur District

Client: Foreign Cooperation and Quality Standards Division, Ministry of Physical Planning and Works, Government of Nepal, Singhadarbar, Kathmandu, Nepal

Main project features: Environmental Impact Assessment (EIA) Study of Hetauda By – Pass Road

Position held: Legal Expert

Activities Performed: Responsible for the review of environmental legislations and policies and other sectoral policies related to environment and others relevant to the project. Preparation of legal and policy review documents required for the project implementation and operation with recommendations for the compliance to the existing policies and legislations to smoothen the project implementation and operation.

Name of assignment of project: Environmental Monitoring and Analysis along Kathmandu-Bhaktapur Road Extension Project

Year: March 2010 to April 2010

Location: Kathmandu and Bhaktapur Districts

Client: Department of Roads, Planning and Design Branch, Geo-environment and Social Unit

Main project features: Study of Environmental Monitoring and Analysis along Kathmandu-Bhaktapur Road;

Position held: Legal Expert

Activities Performed: Review of environmental standards of GoN.

Name of assignment of project: Environmental Impact Assessment Study of Kaligandaki Upper Hydropower Project (KGUHPP)

Year: December 2009-April 2010

Location: Myagdi and Mustang Districts

Client: Trade Link Global Pvt. Ltd

Main project features: Run of the river scheme with a diversion dam, tunnel, surge tank, and powerhouse with support facilities such as construction camps, spoil disposal, internal access roads

Position held: Legal and Policy Expert

Activities Performed: Responsible for the review of environmental legislations and policies and other sectoral policies related to environment and others relevant to the project. Preparation of legal and policy review documents required for the project implementation and operation with recommendations for the compliance to the existing policies and legislations to smoothen the project implementation and operation.

Name of assignment of project: 13th, 14th, 15th and 16th Monitoring and Assessment for Water, Waste water, Noise and Air Quality for Middle Marsyangdi Hydroelectric Project Area

Year: Nov., 2007-Dec., 2008



Location: Lamjung District

Client: Middle Marsyangdi Hydroelectric Project/NEA

Main project features: Monitoring and Assessment for Water, Waste water, Noise and Air Quality for Middle Marsyangdi Hydroelectric Project Area

Position held: Legal Expert

Activities Performed: Responsible for the review of environmental legislations and policies and other sectoral policies related to environment and others relevant to the project. Preparation of legal and policy review documents required for the project implementation and operation with recommendations for the compliance to the existing policies and legislations to smoothen the project implementation and operation.

Name of assignment of project: Environmental Impact Assessment of Waste Resource Management center, Biratnagar Dharan Corridor

Year: Feb., 2004 ~ Feb., 2005

Location: Hetauda, Makawanpur District

Client: Waste Resource Management center, Biratnagar

Main project features: Environmental Impact Assessment Study of Waste Resource Management center, Biratnagar Dharan Corridor

Position held: Legal and Policy Expert

Activities Performed: Responsible for the review of environmental legislations and policies and other sectoral policies related to environment and others relevant to the project. Preparation of legal and policy review documents required for the project implementation and operation with recommendations for the compliance to the existing policies and legislations to smoothen the project implementation and operation.

Name of assignment or project: Supplementary Environmental Impact Assessment Survey of Upgrading Feasibility Study on the Development of Kulekhani III Hydropower Project

Year: Feb 2000-Nov, 2002

Location: Nepal

Client: JICA Study Team

Main project features: A 42 MW cascade project of Kulekhani with a diversion weir, tunnel, small reservoir, and powerhouse

Positions held: Legal Expert

Activities Performed: Responsible for the review of environmental legislations and policies and other sectoral policies related to environment and others relevant to the project. Preparation of legal and policy review documents required for the project implementation and operation with recommendations for the compliance to the existing policies and legislations to smoothen the project implementation and operation.

Name of assignment of project: Environmental Impact Assessment of Drainage, Sewerage and Wastewater Treatment Plant, Hetauda Industrial District, Hetauda

Year: April 1999 – March 2002

Location: Hetauda, Makawanpur District

Client: Hetauda Industrial District

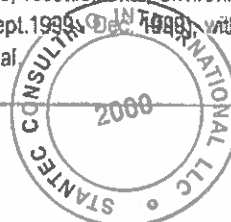
Main project features: Environmental Impact Assessment Study of Drainage, Sewerage and Wastewater Treatment Plant

Position held: Legal and Policy Expert

Activities Performed: Responsible for the review of environmental legislations and policies and other sectoral policies related to environment and others relevant to the project. Preparation of legal and policy review documents required for the project implementation and operation with recommendations for the compliance to the existing policies and legislations to smoothen the project implementation and operation.

Other Experience

- Staff Lawyer/Advocate with Sr. Advocate Mukund Regmi -1993-1999
- Partner Lawyer/Advocate with Sr. Advocate Basant Ram Bhandari - 2000-2007
- Legal expert, Study Report on DDC environmental administration strengthening, Strengthening of Environmental Administration and Management at the local level in Nepal, (SEAM – N) Project Office, GPO Box: 13, Pashupati Marg, Ward No. 13, Dharan (June – August 2007), with Nepal Environmental and Scientific Services [NESS] (P) Ltd, Thapathali, Kathmandu, Nepal.
- EIA Molamchi Water Supply project, "Preparation of Social Legislation for MWSP". As a Legal Expert reviewed various laws, Acts and regulations relating to Water Resources, resettlements, environment, social upliftment program and NGO participation proposed for the execution of MWSP (Sept.1999-Dec.1999) with with Nepal Environmental and Scientific Services [NESS] (P) Ltd. Thapathali, Kathmandu, Nepal



- Currently handle LEGAL ACCESS & CONCERN Anamnagar, A private Law Firm.
- Worked as a Section Officer at Appeal Court, Biratnagar - 1993
- Worked as a Founder president of Anamnagar Youth Club, KTM. - 1995
- Have worked as an Election Officer in various companies and institution like Nepal Life Insurance Company Ltd.
- Worked as an Active Member of various committee of Nepal Bar Association, every year.
- Worked as a consultant and supervised the area of legal issues of different business nature of National/Multinational companies. ex - Ashaman Nepal/ Bajju Industrial Area/ Everest Art Paper /Arto Namuna/CGEGC/ KTC /Sat. Telecom/Travel Net/Standard Chartered Bank/NIC Bank/Exim Nepal/Dhulikhel Mountain Resort/ RNAC/ Nepal Airways/MNBC etc.



FORM TECH – 11 CURRICULUM VITAE (CV) FOR PROPOSED PROFESSIONAL PERSONNEL

1. **Proposed Position** : Communications /Outreach Specialist
2. **Name of Firm** : Total Management Services Pvt. Ltd. (TMS)
3. **Name of Personnel** : Mangala Karanjit
4. **Date of Birth** : 8th August 1952
5. **Nationality** : Nepali
6. **Education** :
 - Master's Degree in Social Sciences (specialization in Folk Culture & Gender), Tribhuvan University (TU), Nepal, 1992,
 - Bachelor Degree in Arts (Economics and Literature), Ratna Rajya Laxmi Girls College, TU, Nepal, 1979
7. **Professional Trainings:**
 - 15 days Authentic Women Leadership Trainings inclusive of Coaching and Mentoring organized by Born Global Norway/Beyond Beijing Committee Nepal [3 days intensive TOTs held in May 2012, October 2012, April 2013, July 2014, October 2015] and further certifies and recognized as Master I Trainer of Authentic Leadership Training and conducted trainings to the sprouts, Women Members of First Constituent Assembly, Elected Women Representatives of Local Elections and various women organizations.
 - 1 week TOT on Indigenous Women & Decision Making, Asia Indigenous Peoples Pact Foundation/ NIWF, Pokhara, Nepal, (5-11 Sept. 2007)
 - 1 week Regional TOT on Gender Mainstreaming in Integrated Water Resource Management (IWRM), Gender & Water Alliance/Institute of Rural Management Anand (IRMA) Gujarat, India and further certifies & recognized Trainer for Regional TOT under the GWA, the Hague. (2-7 Feb. 2004)
 - 10 days TOT on Capacity Development of Indigenous Nationalities [women] in Nepal, organized GoN National Foundation for Upliftment of Indigenous Nationalities, [Nov. 2003]
 - 5 weeks Tailored made Community Organizing and Organizational Development for Consumer Education and Participation along with field study of village, water districts, provincial and Metro Manila WSS under LUWA, the Philippines. Field study covers the District and Provincial WSS of Penang and Kuala Lumpur. Also observed the KL Water Authority's communication and customer relations strategies and Singapore WS System inclusive of strategic tools for social and public relations for system ownership generation and participation of stakeholders, the consumers. [May-June 1994]
 - 1 months intensive Introductory course on Development Management and Communication Planning along with Thai Urban Water Supply Systems inland/coastal in Bangkok and community water systems as practical field study organized Trainer for Regional Training of Trainer, DTCP/UNDP/University of Life, Manila, 1993.
 - Community Development/ Organization of Income Generating Projects in Small Communities, Golda Meir MCTC/ Haifa University, Israel, (1992, 3 months)
- Other Trainings:**
 - 3 days Result Based Management [RBM], Reporting, the Leger Foundation, Canada, November 2011
 - 2 weeks training on Constituent Assembly to draw a people's constitution [mock] organized by National Coalition Against Racial Discrimination [NCARD] May 2008
 - 4 days certificate of Achievement – Private Sector Participation in Water and Wastewater Services, the Institute of Public-private Partnerships, UK, 2003
 - 3 weeks Project Management and Evaluation Course, USAID Nepal, April 1993
8. **Membership of Professional Associations :**
 - International Federation of Business & Professional Women
 - Federation of BPW Nepal
 - Nepal Council of World Affairs
 - Beyond Beijing Committee Nepal
 - Himalayan Human Rights
 - Nepalbhasa Misa Khala
 - SUNGAYA Vocational Training Centre for Mentally Retarded Women
 - Newa Nugaa [Newa Heart],
 - Nepalbhasa Parisad
9. **Countries of Work Experience: Nepal**
10. **Languages** :

	Speaking	Reading	Writing
Nepalbhasa [mother tongue]	Excellent	Excellent	Excellent
Nepali	Excellent	Excellent	Excellent



English	Good	Good	Good
11. Employment Record			
From February 2016	:	To August 2018	
Employer	:	Lahameyer International, Germany JV NIRAS, Denmark in association with Total Management Services	
Position Held	:	Public Communication Specialist	
From November 2010	:	To May 2014	
Employer	:	Total Management Services Pvt. Ltd	
Position Held	:	Public Participation and Communication expert	
From September 2007	:	To till date	
Employer	:	Business & Professional Women (BPW), Nepal	
Position Held	:	Executive Board Member/Spokes Person	
From Sept. 2003	:	To August 2007	
Employer	:	Melamchi Water Supply Development Board (MWSDB)	
Position Held	:	Division Chief, Information & Public Relations Division	
From August 2002	:	To August 2003	
Employer	:	Jalshrot Vikash Sanstha (host of Global Water Partners/Nepal Water Partners - GWP/NWP)	
Position Held	:	Regional Council Member of GWP, South Asia and Country Coordinator of WWN Nepal	
From 1999	:	To 2003	
Employer	:	Nippon Koi/ TAEC Consult/Management Consultants for Melamchi WS Project	
Position Held	:	Public Relational/Communication Expert	
From July 1991	:	To 1999	
Employer	:	UNDP/NEP 91/028 Pilot Project for Consumer Education and Community Participation for Urban WS Service Improvement Project/NWSC	
Position Held	:	Mass Communication / Social Development Specialist	
From July 1987	:	To 1991	
Employer	:	1. UNDP/NEP 90/009 Feasibility Study Outside KV Sources for Greater KV Projects with B&Ps UK 2. UNDP/NEP 88/004 Service Improvement Project for 12 Municipalities outside KV worked with B&Ps, UK 3. Feasibility Study of Melamchi WS Project worked with SMEC Australia	
Position Held	:	Senior Administrative Officer Counterpart	
From July 1975	:	To 1987	
Employer	:	Nepal Water Supply Development Board/Corporation (Urban WSS Service Provider)	
Position Held	:	Senior Administrative Officer	

12. Detailed Assigned As Per TOR **Tasks** **13. Work Undertaken That Best Illustrates Capability To Handle The Tasks Assigned**

Name of Assignment or Project: Irrigation Master Plan Preparation Through Integrated River Basin Planning ADB Grant 0299-NEP; Year: February 2016 - August 2018 (28 Months); Location: Kathmandu; Client: DOI/WRPPF - ADB; Main Project Features: Irrigation Master Plan [IMP] Preparation Through Integrated River Basin Planning; **Position Held:** Public Communication Specialist, **Activities Performed:**

- Work with the TL, DTL and Mol/Dol, DWIDP officials to determine the best means of disseminating the findings of the inventory at a national and local level and determining the institutions/agencies/persons to which it should be sent;
- Assist in summarizing the conclusions of the analysis of the inventory and the new IMP and disseminating the results to key stakeholders;
- Take lead role in preparing the consultation workshops, assist in deciding the participants, venue and content of documentation to be provided;



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- Manage the workshops and assist in the facilitation efforts; assist in preparing and disseminating documentation on the workshop decisions and conclusions;
- Consult with the DOI/DWIDP on the best means of disseminating the updated IMP and its findings, including form of presentation and the institutions/agencies and persons to which it will be sent.
- Prepare a communication strategy on IMP preparation providing details of communication methods and time frames;
- Supervise the production, packaging and dissemination of the final IMP Preparation and ensure that the data are stored in a secure and accessible manner;
- Prepare press releases time to time during the preparation of IMP, and
- Assist the team leader in all aspects of project preparation.

Name of Assignment or Project: Kathmandu Valley Water Services Sector Development: Project – Capacity Building and Public Private Partnership Support Team for Kathmandu Upatyaka Khanepani Limited [KUKL] - Loan 2059-NEP; Year: November 2010 to May 2014; Location: Kathmandu; Client: KUKL / JV Berlinwasser International [BWI] – Ranhill – Gauff; **Main Project Features:** Initial management and capacity building of KUKL including overall management, Operate the water and wastewater facilities within the Service area. Carry out personnel as well as financial/inventory management and assist to ensure that all obligations of KUKL under its license and lease to provide water and wastewater services including low income community supports mechanisms; **Position Held:** Public Relations and Media Advisor; **Activities Performed:** Responsible for develop and implement a public relations strategy and plan for effective dissemination of information to all stakeholders including consumers, key stakeholders and general public. Responsible for all promotional campaign and dialogue with the civil society, NGO's and other stakeholders of the Company. Advise on effective use of media and conduct media interaction and also be responsible for updating and maintaining an informative, interactive and optimal website of the Company. Worked closely with multidisciplinary multinational consultant team of Berlinwasser International Germany/BMC & Ranhill WS Malaysia/Gauff Ingenieure and TMS Nepal.

Name of Assignment or Project: Building of earthquake affected houses Year: September 2015 – July 2016; Location: Nepal; Client: BPW Nepal; **Position Held:** Secretary General; **Main Project Features:** Use of expertise local people and reuse of local materials and local labour through community mobilization and community awareness **Activities Performed:** Coordinated with members of BPW International to help at a sisterhood level to have roof for the sisters affected by earthquake and trauma. Build 48 house of indigenous Puluwar community at Chhagdol, Kathmandu District and a house for a couple with blindness in Nuwakot. The project has been awarded First Place Award for Power to Make Different through Action by 29th Congress of BPW International, Egypt 2017.

Name of Assignment or Project: Empowerment of Women through quality water supply, it was a follow up activity of the 2nd International Women & Water Conference, 1998 held in Nepal, jointly coordinated by BPW Nepal, INHURED Nepal and Women & Water USA. Year: September 2000 – October 2007; Location: Nepal; Client: BPW Nepal; **Position Held:** Coordinator and Spokes Person; **Main Project Features:** Use of expertise of international Graduate Student in testing, reporting and building community awareness for domestic water quality in rural Nepal and enhance their participation to ensure quality of water at community level. **Activities Performed:** Coordinate water projects/issues and Massachusetts Institute of Technology, USA for multinational graduate students to research and educate on safe water in rural Nepal. Provided water quality testing support to DWSS and Central Laboratory of NWSC since 2000 for 3 years. Then BPW Nepal linked MIT/USA to ENPHO Nepal to reach further disadvantaged community through professional private sector involvement.

Name of Assignment or Project: ADB funded Second Small Towns Water Supply and Sanitation Sector Project, Project Management Consultant; Year: 48 months spread over 5 years starting February 2010 – 2014; Location: Nepal [Kathmandu and Project sites in 24 small towns]; Client: Department of WSS [GoN], Small Towns Water Supply and Sanitation Sector Project; **Position Held:** Social Development and Safeguard Specialist; **Main Project Features:** Second Small Town WSSSP is the continuation of ADB grant 1755 NEP SF to provided water and sanitation services to 12 new small towns and feasibility study of 12 emerging small towns. The silent features of SSTWSSSP are Output Based Aid [OBA], cost sharing/recovery/public participation, GESI, and transparency/accountability. **Activities Performed:** The project is to manage and capacitate consumers committees. Responsible for develop and implement GESI, guidelines of project implementation and public relations plan for the stakeholders [consumers, key stakeholders, line agencies and Town Development Fund [TDF], ADB and general public. Responsible for all promotional dialogue with the municipalities, civil society, NGO's and other stakeholders of the Project. Designed and prepared materials for Guidelines for Project Implementation and GESI Policy and Plan of Action. Designed and produced promotional materials for dissemination. Designed detail survey questionnaires for the HH surveys and conducted survey works. Advise on effective use of media and conduct media interaction and also responsible for maintaining/updating an informative, interactive and optimal website. Worked closely with multidisciplinary teams: TAEC-ICON JV Nepal, TDF, ADB and the Project Director SSTWSSSP.



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Name of Assignment or Project: Asian Development Bank funded Melamchi Water Supply Development Board (MWSDB), **Year:** Sept. 2003 – August 2007; **Location:** Kathmandu Valley and Sindhupalchowk District/Melamchi Valley, Nepal; **Client:** MWSDB; **Main Project Features:** Preparation of project documents, **Position Held:** Chief, Communication/Public Relations, Resettlement and Social Division, **Activities Performed:** Social Upliftment Program (SUP) having 5 diversified [Education, Health, Rural Electrification, Buffer Zone Development and Income Generation & Community Development] people benefiting programs designed participatory way and implemented for first phase component, Income Generation, Local people Development in water supply and sanitation works; rural electrification, MWSP Gender strategy development and implemented including social inclusion aspect to every cross cutting sector and internalized in all aspect of consultation, formation of various level committees, compensations etc.; Stakeholder involvement strategy designed for the mobilization of community and stakeholder involvement in Social, environmental and information dissemination activities of the MWSP, Land acquisition, compensation and resettlement policy developed and consulted with donor and government line agencies; SUP redesigned incorporating stakeholders' needs, demands and aspirations inclusive of men, women and girls/children [considering people with disabilities]; An Integrated Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) completed as per GoN guidelines, Contributed Sociological inputs to Integrated EIA and EIA made by NORAD, Series of Community consultations for EIAs are conducted. During the period Public Relations and Information Division has had to bear all social/PRs activities/ responsibility; Contributed in designing consensus building strategy for public relations issues and public relations staff and community members are trained in grievances placing mechanism, follow-ups and grievances handling approach and dissemination of information to stakeholders at field level; Criteria for Levy fixation for Project affected VDCs, tariff fixation and appointment issues of private operation for Kathmandu Valley water supply system and consulted with various type and level of stakeholders, Human Rights activists and Staff unions with various political schoolings; Facing press media, negotiating with demand groups, effort to unlock numerous padlocking of Project Offices, staff assaulting and vandalisms, project property/vehicles burning and road blocking and blocking the donor's mobility are common and regular activities to engage on; Designed Training Packages, modules, Manuals and conducted trainings/ workshops for project staff on team building, consensus building and grievance handling skill to social, environmental and public relations staff; Coordinated the training programs conducted for the Environment and Social Development staff on monitoring of environmental and social aspects including gender and social inclusion, skills in PRs, Conflict Resolution and Public speaking and reporting procedures and modules; Establishment of Grievances response and Conflict management mechanism with full participation of stakeholders in 2003 from Project affected areas at 3 level - Local Consultative Groups (LCG) in all 9 wards of 14 VDCs, one each in 14 VDC level and one umbrella committee comprising of 14 VDCs at MV level named Melamchi Consultative Group; Contributed necessary inputs to the Optimizing water use in the project as MWSP social scientist/sociologist, Establish different types of rapport building inter-personal to mass communications activities like free health camps, children's competitions, programs for youths promotions, demonstrations, exhibitions, celebration of world events like earth day, water day, environment days etc along with local festivals like Teej; Reviewed community development components' restructuring of MWSP management and bridging management of consulting services; Facilitated workshops/seminars in promoting public/private/partnerships (P³). Worked closely with multinational and multidisciplinary consultant team with Nippon Koei, Japan and TAEC, Nepal.

Name of Assignment or Project: Jalshrot Vikash Sanstha (JVS), host of Global Water Partners/Nepal Water Partners - GWP/NWP; **Year:** August 2002 – August 2003; **Location:** Nepal; **Client:** JVS; **Position Held:** Regional Council Member of GWP South Asian and Country Coordinator Women & Water Network; **Activities Performed:** Contributed regional council meetings in policy outlook and implementing strategy at area water partner's level/local level with full participation of women at various cross cutting level. Lunched series of advocacy, training/workshops targeting women water professionals and other level women for social mobilization for need of water conservation and adaptation of Integrated Water Resource Management (IWRM) concept in Nepal. Gender mainstreaming and educating womenfolk in water & sanitation sector issue and conduct IEC programs focused to women with close coordination with Gender and Water Alliance (GWA) as Gender Ambassador. Worked closely with multidisciplinary and multinational team from Global Water Partner, GWA the Hague, Netherland and Nepal.

Name of Assignment or Project: Project Management Consultants under ADB funded Melamchi WS Project, **Year:** July 1999 – July 2003; **Location:** Nepal; **Client:** GoN MWSDB; **Main Project Features:** Design of functional structure for MWSP and development of conceptual frame work (inception) including NGO involvement Policy, GESI strategy/action plan, resettlement policy guidelines and SUP implementation policy and implementation strategy developed for 14 project affected VDCs, working together with an international consultants; **Position Held:** Public Relations/Communication Officer, **Activities Performed:** Community Development in water supply and sanitation works, NGO's stakeholder dialogue and involvement in WS program, mobilization of stakeholder in Social, environmental and information dissemination activities; Land acquisition, compensation and resettlement policy developed and consulted with GoN line agencies and processed for approval, developed Levy fixation criteria, tariff fixation and appointment issues of private operator for Kathmandu Water Supply System and consulted with various type and level of stakeholders, Human right activists and staff unions; Facing press media, negotiating with demand groups, effort to unlock numerous padlocking staff assaulting and vandalisms, project property/vehicles burning and road blocking and blocking the donor's mobility are common and regular activities to engage on, Establishment of Conflict management mechanism with full participation of stakeholders all 9 wards of 14 VDCs, one each in 14 VDC level and one



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umbrella committee comprising of 14 VDCs at Melamchi Valley level named Melamchi Consultative Group; Contributed necessary inputs to the Optimizing Water Use Project as MWSP social scientist/sociologist; Reviewed development components/ restructuring of MWSP management/ and bridging management of consulting services; Facilitated workshops/ trainings/seminars in partnerships promoting public/private/ activities. Worked Closely with multinational and multidisciplinary consultant teams and the Nippon Koei, Japan and TAEC Consultant, Nepal.

Name of Assignment or Project: UNDP funded pilot project for Consumer Education and Community Participation for Urban Water Supply Service Improvement Project in Nepal; **Year:** January 1992 – June 1999; **Location:** Nepal; **Client:** Nepal Water Supply Corporation (NWSC); **Main Project Features:** Identify grievances of stakeholders the service provider (NWSC) and receiver the customers/consumers of piped water; design and develop the Information Communication Educational and Awareness (ICEA) materials and contents; Media Lunch (TV, Radio and Print), Media Briefings (Press meeting); organize Video conference; Launch ICEA and in-house institutional improvement programs in Central Office and branch offices in Kathmandu valley; **Position Held:** Mass Communications/ Social Development Specialist/Training Development Specialist; **Activities Performed:** Developed complaints/ grievance processing mechanisms through communication strategy for which complaint receiving processing and reporting to the customer and to the top management by establishing customer relations units in each branches and at central office level; Furnished technical units like leakage, metering, meter reading and distribution sections with fully staffed and improved tools/equipment and mobility to respond public reports on leakage, breakage of pipes by illegal actions, direct pumping/vandalisms and no water complaints received in customer relations units; Established Customer Relations Units under CCEP Project to provide on the job training; Massive appeal to customers/ general public to inform water wastes, leakage and illegal activities to stop misuse of water; Regular reporting to customer through press/electronic mass media and interactive "face to face" programs; Developed and launched self-billing system, reading water meters by customer and pay tariff at nearest collections convenient points for customer's that promoted and involved customer in WSS system operation/improvement activities; Organizing ward level with women participation to launch ICEA program on right and duty based issues; Conduct open interaction with top management of NWSC and the consumer at open public places like roads junctions/crossings; Conduct water supply and sanitation program to women through women literacy programs and collaboration with other women organizations and local people; School Programs for high school student like debates on water issues, creative writing completions on water and sewerage issues; Community development program - clearing of water and sewage system, repair of platforms/public tap stands, security initiative of stand posts, stoppage of illegal activities (direct pumping, meter braking, vandalisms and no payment of tariff) through organizations initiatives for which information sharing is vital tools for them; Design and develop the night run collection of water from stone spouts in Sundhara and Alkohiti of Patan and Ramhiti and Kapurdhara of Kathmandu etc. to benefit water scared consumers.

Name of Assignment or Project: Asian Development Bank funded Feasibility Study of Melamchi Water Supply Project; **Year:** 1989 – 1992; **Location:** in and out of KV; **Client:** MWSP; **Main Project Features:** Prepare feasibility study report of the project; **Position Held:** Counterpart Sr. Administrative Officer worked together with SMEC, Australia; **Activities Performed:** Carryout necessary field visit and preparation of various report on feasibility study of water supply project. Worked closely with multinational and multidisciplinary consultant team from SMEC Australia and Nepal Consult P. Ltd.

Name of Assignment or Project: UNDP/NEP 88/004, Service Improvement and Management Support Project, **Year:** 1988 – 1989; **Location:** 12 Municipalities out of KV; **Client:** NWSC; **Main Project Features:** Preparation of service improvement and Management Support activities report for 12 Municipalities; **Position Held:** Administrative Officer counterpart staff assigned by NWSC with Binnie & Partners UK (worked together with international consultants); **Activities Performed:** Prepared service Improvement and Management Support for 12 Municipalities' water and waste water improvement system of Nepal.

Name of Assignment or Project: World Bank/IBRD funded Urban Water Supply and Sewerage Development Projects; **Year:** 1975 – 1987; **Location:** Kathmandu and Pokhara Valley; **Client:** NWSC; **Main Project Features:** Design, procure, construct and supervision of water supply and sewerage system; **Position Held:** Sr. Administrative Officer, counterpart staff with the Consultants, the Engineering Science Inc. USA (worked together with international consultants); **Activities Performed:** Provided supervision of project management and support to prepare reports for WSS projects and documentation.

14. Reference:

Contact information

Name: Mr. Prajod Lal Shrestha
Title: Managing Director of TMS
Phone: 01-4439182
E-mail: info@tms.com.np

Name: Mrs. Ambica Shrestha
Title: President, Federation of Business & Professional Women (BPW) Nepal
Phone: 9851021311
E-mail: ambica@dwarikas.com /fbpwn@mail.com.np



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Name: Mrs. Anjana Shakya
Title: President, Himalayan Rights Monitors [HimRights]
Phone: 9851073540
E-mail: himrights@wlink.com.np

Expert's Contact Information: E-mail: nananewai@yahoo.com

Tel No.: 9841309638

15. CERTIFICATION

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes me, my qualifications, and my experience. I understand that any willful misstatement described herein may lead to my disqualification or dismissal, if engaged.

I, the undersigned, hereby declare that I agree to participate with the **Total Management Services Pvt. Ltd. (TMS)** in the above-mentioned Request for Proposal. I further declare that I am able and willing to work:

1. for the period(s) foreseen in the specific Terms of Reference attached to the above referenced Request for Proposal for the position for which my CV has been included in the offer of the Consultant and
2. Within the implementation period of the specific contract.

.....
Signature of Key professional Personnel
Name of the expert: Ms. Mangala Karanjit - Communications /Outreach Specialist

Date: 10 February 2019
Day/Month/Year



S. No. ... 10/28 ...

Registered No. 159.-69..

त्रिभुवन विश्वविद्यालय

Tribhuvan University



कलाचार्य

मानविकी र सामाजिकशास्त्र

मंगला कारंजीत विक्रम सम्वत् २०४१ को नैवारी
विषयको कलाचार्य परीक्षा द्वितीय श्रेणीमा उत्तीर्ण भई
स्नातकोत्तरोपाधिको निमित्त योग्य ठहरिएकोले निजलाई यस उपाधिद्वारा विभूषित गरिएको छ ।

Master's Degree

In Humanities and Social Sciences

This is to certify that Mangala Karanjit
having passed Master's Degree examination in Humanities and
Social Sciences in Newari in Second division
of the year 1986.., this degree has been awarded on him/her this day.

Kathmandu, Nepal
Date 7 MAR 1994



Vedh Mathura
Vice-Chancellor



Sumati Bhatia

Technical Director

Sumati Bhatia has 20 years of professional experience in the field of planning, environmental and social infrastructure impact assessments (including E&S safeguards). She is presently a Technical Director with ERM India Pvt Ltd, and has previously been associated with ERM India Pvt Ltd, IL&FS Clusters and IL&FS Environmental Infrastructure Solutions Ltd. As an external consultant has had a long professional relationship with all three firms.

She has extensive experience in project planning, programme design, policy work, working with and managing multi-disciplinary teams for large and small infrastructure projects, regional planning and sustainable development projects. She has wide experience in carrying out reviews, Social & Environmental Impact Assessments and resettlement and rehabilitation work. Her project experience has covered diverse sectors such as mining, urban public and regional transportation, roads, slum development, urban and regional planning, resettlement and rehabilitation, agri-infrastructure and agri-supply chains, water and sanitation, waste management etc. In addition to the Indian policy and regulatory provisions for the sectors of her experience, she is also familiar with safeguard policies of IFC, the World Bank and ADB and has worked on several projects with these reference frameworks.

In the course of her work, she has interacted and worked with a variety of stakeholders- institutional- central, state and local governments, educational, training and technical institutions, private sector, and structured and facilitated participatory sessions for consultations and technical training on several subjects of her specialisation.

She has been external faculty at the Department of Urban Design in the School of Planning and Architecture, New Delhi for 7 years.

Experience: 20 years' experience in various sectors.	Delhi
March 2019 till date Technical Director ERM India Pvt Ltd.	2011 External Consultant Indicus Analytics
July 2009 to March 2019 External Consultant (Sr. Advisor) ERM India Pvt Ltd.	2005 to 2012 External Consultant (on retainer) IL&FS Clusters
Feb 2017 to March 2019 External Consultant (Sr. Advisor) IL&FS Environmental Infrastructure Solutions Ltd	July 2006 to March 2007 Independent consultant Urban planning, infrastructure planning and development management
April 2009 to March 2019 External Consultant (Sr. Advisor) IL&FS Clusters	November 2005 to June 2006 Urban Planning and Infrastructure IL&FS Ecosmart, New Delhi
Feb 2018 to Jan 2019 External Consultant (Sr. Advisor) EDS Global	January 2001 to October 2005 Consultant ERM India Private Limited
Jan 2005 to Dec 2012 External Faculty Department of Urban Design and Department of Conservation; School of Planning and Architecture, New	April 1999 to December 2000 External Consultant ERM India Private Limited



Jun 1999-Dec 2000

Consultant

I H S-India (Institute for Housing and Urban Development Studies)

Email: sumati.bhatia@erm.com

Education

- *Master's degree in Urban Design from School of Planning and Architecture, New Delhi (1999)*
- *Bachelor's degree in Planning from School of Planning and Architecture, New Delhi (1996)*

Languages

- English
- Hindi

Fields of Competence

- Social Impact Assessments
- Resettlement & Rehabilitation
- Monitoring and Evaluation
- Community relations and stakeholder engagement
- Poverty analysis, social analysis and livelihoods studies
- Training and Capacity Building
- Sector reforms and policy studies

Key Industry Sectors

The key sectors of his work include:

- Oil and Gas and energy
- Mining
- Infrastructure (Roads, Power, Industry, Water and Sanitation etc.)
- Local Government and sector reforms
- Natural Resource Management
- Agriculture

Key Projects

Social Inclusion Study to develop monitoring Indicators for the Himachal Pradesh Forests for Prosperity Project with ERM India Pvt Ltd

Client: The World Bank

A short study commissioned by the World Bank to assess the status of social inclusion in forestry (community forest management, forest dependence, arrangements for NTFP, including NTFP value chains), with a special focus of women's roles, in the Satluj river basin of Himachal Pradesh, where a larger project is being developed by the Himachal Pradesh Forest Department and the World Bank. Tech Advisor providing inputs for overall structuring of the study, field work and data analysis (based on field survey covering 5 districts, 300 households, and several stakeholder consultations).

Social and environmental assessment of fleet change (Electric Buses and BS IV standard buses) for a Public Transport Corporation in Tamil Nadu, India.

Client: KfW

Sumati is in the position of senior advisor for social impact assessment in the transport section, and assessment of emissions model review and comparison.

External Reviewer advising CAO on participatory and remedial social impact assessment and issues related to community engagement in a large energy sector project in India

Client: Confidential

Sumati has been contracted to review the process and gaps with reference to the complaints, advising on stakeholder engagement, social impact assessment and management measures with recommendations for a management strategy and inputs for conflict resolution.

Assessment of potential socio-economic impacts of mine closure in a chromite mine in Sukinda in Odisha with ERM India Pvt Ltd

Client: Tata Steel Ltd

Technical Lead on the assessment of potential socio-economic impacts of mine closure in the region around the mine. The assessment included a review of dependence of the local communities, vulnerabilities from mine closure and loss of employment (direct and indirect), as also CSR initiatives. In the context of scenarios of mine closure related impacts, an outline advance management strategy



to address/reduce and manage potential negative impacts was also included.

Regional development strategy and operationalising the Kaladan Multi-modal Transit Transport Corridor from Sittwe Myanmar to Mizoram - Phase I, India with IL&FS Clusters

Client: Ministry of External Affairs, Govt. of India

Overall lead and Sr Planner responsible for structuring the status assessment and baseline of existing and planned infrastructure, local development status of regions along the proposed transport corridor, with the aim of developing a long, medium and short term strategies for phased operationalising of the Corridor components aligned with local demand and supply, for socio-economic development of the region. Led and coordinated multi speciality team of maritime infrastructure, trade transport, experts and liaised with concerned departments in Myanmar and India.

Concept Paper: Cluster mining in an Iron Ore Belt

Client: Confidential

Technical Lead working with a small core team of sector specialists (air quality, surface & ground water and hydrology, biodiversity, social and community aspects) on outlining the implications of Cluster mining (sustainable development perspective)- both positive and negative and how best to manage/mitigate negative impacts in the region.

Integrated Development of Recognition of Forest Rights (RoFR) Lands in Tripura

with IL&FS Clusters

Client: Govt of Tripura

Sr Planner responsible for providing technical support on development of regional strategy for overall development through a combination of farm based and non-farm interventions, provision of physical infrastructure and enabling access to basic services, thereby enabling communities to effectively utilize the lands vested with them under the ROFR Act to transform their lives. This used the state's databases spatial GIS –based data and other statistical information to develop regional strategies for the chosen pilot areas.

Resettlement Action Plan and LRP development for a 900 MW hydro-electric power project, Nepal

with ERM India Pvt Ltd

Client: Confidential

A major infrastructure developer has engaged ERM to prepare a RAP and LRP in line with local regulations of Nepal, ADB's Safeguards Policy Statement and the IFC Performance Standards (2012) for a 900 MW run-of-the river hydroelectric power project in the Far-western and Mid-western regions of Nepal. The project involves physical displacement of approximately 56 households and economic displacement of at least 269 households. Sumati is the Technical Advisor on the project with oversight of all key components.

Local Benefit Sharing Strategy and Plan for a 900 MW hydro-electric power project, Nepal

with ERM India Pvt Ltd

Client: Confidential

Sumati is the Technical Lead on the project covering 12 VDCs in the project impacted area.

Operationalising the Sustainable Development Framework (partial) for a mineral resource corridor in Keonjhar, Odisha

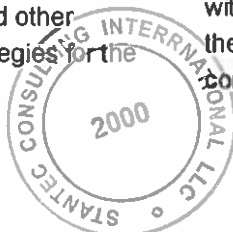
Client: The World Bank, Government of Odisha

Team Lead and Technical Specialist in planning, Sustainable Development working with a multi speciality team and two other consulting firms to develop a Road map for the pilot as proof-of-concept

Simandou Iron ore (an integrated mining and infrastructure development project in Guinea, West Africa) with ERM India Pvt Ltd

Client: Rio Tinto Iron Ore (SIMFER)

Senior Technical Lead on the project, responsible for technical management of a multi-disciplinary team advising on land access for the integrated project. Also, coordination with other partner teams working on associated aspects on the project. Key areas of responsibility included an IFC compliant and approved Framework, processes and



planning, strategic inputs and overall management of team on the technical aspects.

Working with the engineering teams on the client side and EPC contractor for the project, for the port, rail, road and camps infrastructure and mine for optimization and process alignment in the pre-engineering phase.

Sustainable Development Framework in the Mining Sector (non-fuel, non-coal sector) with ERM India Pvt Ltd
Client: Ministry of Mines, Government of India

The project involved the conception and development of an implementation framework for application of principles of 'sustainable development', in the non-coal, non-fuel, mining sector in India.

Focus mining clusters included Orissa, Goa, Karnataka, Rajasthan, Gujarat, Himachal Pradesh and the North East states.

One of a 2 member team leading the project, responsible for project structuring, stakeholder consultations, with additional advisory support on strategic planning, and mine closure, institutional arrangements for SDF roll-out.

Retrospective Social Impact Assessment for Converted areas, Sabah Forest Industries, Malaysia with ERM India Pvt Ltd
Client: BILT

Sr Technical Advisor for the social impact assessment and mitigation and management framework development for a ~300,000 ha plantation for the pulp and paper industry. The assessment and mitigation was retrospective assessment, based on the application of IFC performance standards. A remedial action plan was also developed to address the assessed gaps.

Framework ESIA-ESMP for Urban Infrastructure projects
with ERM India Pvt Ltd
Client: UNIDO-GEF grant finance consideration

Part of 2 member team responsible for review of urban infrastructure projects submitted by 5 Indian cities (Smart Cities), for consideration of UNIDO-GEF funding for urban

infrastructure. Preparation of framework ESIA-ESMP based on the pilots and for future projects for finance.

Preparation of Revised PURA Guidelines on PPP format for the Ministry of Rural Development, GoI with IL&FS Clusters
Client: Asian Development Bank

As PPP specialist (infrastructure planning), part of two-member advisory team that worked on the scheme guidelines redraft for a scheme of the Ministry of Rural Development for Provision of Urban Services in Rural Areas (PURA), to be rolled out across several village clusters, in the country.

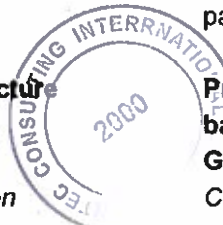
Preparation of Pilot Project in Khamnor, Rajasthan, based on the Revised PURA Guidelines on PPP format with IL&FS Clusters
Client: Ministry of Rural Development, GoI

Responsible for coordinating the pilot project, structured into a PPP concession agreement (13 yrs) with MoRD: this includes integrated infrastructure development of a cluster of 6 Gram Panchayats, covering aspects like piped drinking water supply, sewerage and sanitation, waste management, drainage, roads and streets, health and education, housing, employable skills training (dairy and fodder development, rose and aromatics cultivation, etc), enterprise development, spatial planning etc. Each aspect is structured into a discrete but integrated project to be executed in a 3-yr time frame and to be operated and maintained for a 10 yr period .

The project design includes innovative strategies for technology, implementation, financing and community partnerships for implementation and O & M.

Preparation of Pilot Project in Sanganer, Rajasthan based on Concept Note on the Revised PURA Guidelines on PPP format with IL&FS Clusters
Client: Ministry of Rural Development, GoI

Advisor: infrastructure, Regional/Rural planning, community partnership, capacity building and institutional structuring)
Advisory support for project design that includes integrated infrastructure development of a cluster of 6 Gram



Panchayats on a PPP format of implementation on specific aspects : infrastructure planning, community participation and institutional structuring, capacity building, impact assessment and overall project structuring.

Project Preparation for development of Kollam Growth Pole, in Kerala- one of four pilot project supported by the National Commission on Enterprises with IL&FS Clusters

The second of four pilots in the country, the aim of the exercise is to prepare a detailed programme for the development of Kollam town region as a Growth Pole, incorporating the development of the existing traditional industry clusters to standards of higher performance, given their export orientation and creating alternative employment opportunities, by promoting community-led tourism. An additional objective of the exercise is to draw people away from saturated industry sectors like marine and inland fisheries, and non-performing sectors like Coir-products, to sectors with greater future potential, and lower negative impact to the environment.

Project Preparation for development of Sikandra Growth Pole, in Dausa dist of Rajasthan- one of four pilot project supported by the National Commission on Enterprises (Chaired by Dr Arjun Sengupta) with IL&FS Clusters

Client: the Govt of Rajasthan

As Project Manager; Regional planning and development infrastructure expert. One of four pilots in the country, the aim of the exercise is to prepare a detailed programme for the development of Sikandra region as a Growth Pole, incorporating the development of the existing enterprise clusters to standards of higher performance, attracting large external investments into the area, resulting in the creation of 50,000 additional jobs: among others, stone carving, carpet making, rural tourism, leather work, dairying etc.. All this through appropriate regional development and strategic investments (on the PPP model) into infrastructure development, market linkages for overall economic development.

Agri-business Infrastructure Development Programme of the ADB (AIDP) Phase II- Focus states Maharashtra and Bihar with IL&FS Clusters

Client: ADB

Efficient systems, infrastructure support and financing mechanisms along the entire (selected) value chains on a pilot basis, in the states of Maharashtra and Bihar. Responsible for advisory support on structuring, infrastructure planning, institutional structuring, capacity building and social and environmental impact assessment

Scoping Study of potato and sweet potato from a commodity diversification perspective in B&MGF's focus states- Bihar, UP, Odisha with IL&FS Clusters

Client: CIP, Peru for Bill & Melinda Gates Foundation

Sumati was the Team Leader responsible for Study design and project management of a rapid assessment across 9 producing clusters in the three focus states

For a confidential diamond mining project in Madhya Pradesh, India

with ERM India Pvt Ltd

Client: Confidential

Senior Advisor in the development of their resettlement and land acquisition policy framework.

She also led the exercise of estimating and valuing the community's potential Settlement of Forest Rights (NTFP).

Environmental and Social Impact Assessment, for a Proposed Plant, Baroda, Gujarat

with ERM India Pvt Ltd

Client: Confidential

Sr Technical Advisor for the impact assessment studies, for the development of a mitigation and management framework per National and IFC standards.

Road map for applying Sustainable Development principles for Iron ore mining on in Goa

with ERM India Pvt Ltd

Client: the Goa Mineral Ore Exporters Association (GMOEA)



Technical lead responsible for scoping coordinating and conducting the assessments with a multi-disciplinary team. Gap assessment and strategic action plan for key themes; developing a predictive constraint-based forecasting model for ore extraction volumes in the short and medium term.

Road map for Essel Group-(ABG) with ERM India Pvt Ltd

Essel Mining Limited intends to develop a sustainability framework for their iron ore and coal mining operations across India. EMIL requested ERM to support in a sustainability gap assessment and development of a road map to enable to company to bring out a sustainability report.

Remedial Action Plan for Contaminated Industrial Sites- Hoogly, West Bengal, India with ERM India Pvt Ltd

Client: West Bengal Pollution Control Board, funded by the World Bank and Ministry of Environment and Forests, Govt

Sr. Planner - Responsible for the Environmental and Social Impact assessment and Management Plan for the Remediation implementation for all 12 sites including site planning inputs for design optimisation of remediation actions.

Remedial Action Plan for Contaminated Industrial Sites- Group of sites in Deva Road, and Rania (Lucknow and Kanpur respectively) Uttar Pradesh, India with ERM India Pvt Ltd

Client: the State Pollution Control Boards, part-funded by the Ministry of Environment and Forests, Govt

Sr. Planner- Responsible for the Environmental and Social Impact assessment and Management Plan for the Remediation implementation for all sites located in mixed use and industrial areas of the respective municipalities - including site planning inputs for design optimisation of remediation actions.

Environmental Impact Assessment, Mitigation and Management Strategy for Loktak Lake, Manipur, India with ERM India Pvt Ltd

Client: ICEF (Indo-Canadian Environment Facility)

The assignment included an Environmental Impact Assessment (EIA) study as well as the formulation of an Environmental Management Plan detailing out the best option for mitigating the impacts induced by the hydraulic structures on Loktak lake ecosystem and the local communities- in Manipur. Sumati was part of a three-member team carrying out the impact assessment and mitigation plan preparation: her focus was on issues pertaining to the communities and issues of land ownership and the impacts of flooding and inundation on multiple sectors.

Identification of Opportunities for Enhancing Development, through Partnerships and Investment, in areas along the Project Highway stretches of the RIDCOR Mega Highways Project across Rajasthan with IL&FS Ecosmart

Client: RIDCOR (a company set up by Govt of Rajasthan and IL&FS)

As Team Lead, Project Manager Rapid assessment of the development status and identify key issues and problems in the areas along the stretches of highway under this project. Based on this assessment, identify opportunities and mechanisms for partnerships and/or investment, to secure the most beneficial impact in the area. The exercise cuts across all sectors of basic infrastructure- physical and social, covering both urban and rural areas (12 districts along 1000 km of state roads under the Mega Highways Project of RIDCOR.).

Sumati, was responsible for undertaking the assessments for development opportunities has closely interacted with several levels of government functionaries, across a number of departments, and tiers of government.

Consulting services support for development of RIDCOR-IETS "Joy-of Learning" Project Plan for Rajasthan with IL&FS Ecosmart

Client: RIDCOR and IETS

This project is a parallel effort to the RIDCOR project (mentioned above), to make concerted efforts in supporting the education sector, in the areas along the RIDCOR Mega



Highways Project stretches. RIDCOR and IL&FS Education and Technology Services (IETS) propose to undertake a project to support physical and educational infrastructure in 200 schools located along the Mega Highways Project road stretches.

Sumati was responsible for the design of the exercise, commissioning and managing the surveys- carried out for 500 schools, and development of the project, based on the findings.

Social Assessment of the Allain Duhangan Hydel Power Project in Himachal Pradesh with ERM India Pvt Ltd

Client: Rajasthan Spinning and Weaving Mills Pvt Ltd

RSWM was seeking partial financing from the International Finance Corporation (IFC) for the project. To fulfill the requirements of IFC's Environmental and Social Review of the project, detailed information on environmental and social impact assessment of the project, along with seven specialised studies and a reconnaissance survey for the proposed transmission line corridor had to be carried out, prior to IFC's approval on financing the project. Sumati was closely involved with the detailed RAP preparation, recommending institutional and monitoring mechanisms and developing a detailed Public Consultation and Disclosure Plan for the entire project period. Sumati was later involved with the Public consultation and Disclosure meetings at various project sites. She then undertook a Training Needs Assessment for the project staff to implement the Management Plan, followed by the preparation of a capacity building plan and training exercises.

Rapid Environmental Impact Study (Phase I &II) of Maitreya Project, Bodhgaya, Bihar with ERM India Pvt Ltd

Client: Maitreya Project International

Sumati Responsible for conceptualization, methodology, reconnaissance survey, environmental health monitoring and assessment, meeting officers of various departments, meeting local community and protest groups, and collection of baseline data for later conducting an impact assessment of proposed world's tallest statue of Lord Buddha for Maitreya Project at Bodhgaya. A specific focus of attention was providing guidance on the land acquisition options and

processes and potential compensation strategies that would need to be adopted for the project.

Independent Review of the Environmental and socio-economic Impacts of the Rural Transport Improvement Project in Bangladesh with ERM India Pvt Ltd

Client: Local Government Engineering Department, Bangladesh

Sumati was part of a small independent mission to review the environmental and socio-economic impact related studies for the rural transport improvement project (RTIP II). Project stretches and villages in several regions in the north, west central and southern part of the country were covered as part of the review. Sumati specifically focused on social impact assessment, the resettlement action plan, impact mitigation, institutional structuring, training and capacity building.

Review and updation of the Resettlement and Rehabilitation Action Plan for the construction of Oil and Gas Facilities for Sakhalin II, Russia with ERM India Pvt Ltd

Client: Sakhalin Energy Investment Company Ltd. SEIC

Sumati was part of a small team responsible for reviewing, restructuring and updating the RAP for the project. Her specific area of focus was impact assessment, institutional structuring, training and capacity building and monitoring and evaluation systems.

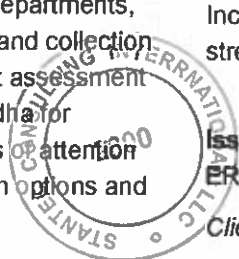
Social Assessment of the Madhya Pradesh State Road Infrastructure Project with ERM India Pvt Ltd

Client: PWD Department, Government of Madhya Pradesh

PCC for the PWD as part of the MP Project Co-ordinating Consultancy Services (in consortium with Sverdrup Civil Inc.). Sumati was part of the team for the Betul-Chhindwara stretch of this project.

Issues Paper on the Urban Environment in India with ERM India Pvt Ltd

Client: Swedish International Development Agency



The project was a study commissioned to bring out the issues pertaining to urban environment and its management in the country along with the innovative approaches taken by some agencies to sort problems effectively in this sector. This project covered sectors like poverty alleviation, slum improvement, supply and management of basic services, methodologies for effective finance and delivery of infrastructure, funding arrangements, micro-finance, community participation and overall sustainable practices in the area of urban environment management.

Sumati worked with a multi disciplinary team, providing urban planning and environment related inputs and was in the position of Project Manager for the assignment.

Review of a Slum Improvement Project "Promoting Linkages for Urban Sustainable Development with ERM India Pvt Ltd

Client: CARE India

The project, then covering four large slum areas in Delhi, was experimenting with an innovative task-force approach utilising CARE India experience to engender greater and broader based participation in project planning, design and implementation, from slum-dwellers.

Sumati was involved in a short program review to re-look at the functioning of the 'linkage-building' methodologies to achieve local development, especially in the area of infrastructure development. The scope of work involved examining the success of partnerships with the government service delivery agencies, at all levels, and exploring other possible areas of work to be incorporated.

Participatory Slum Improvement Project in Nagpur

Client: GTZ

A joint programme of the German Technical Cooperation with the Nagpur Municipal Corporation aimed at infrastructure improvement and upgradation for the slum areas of Nagpur.

Sumati worked as an urban design and planning consultant covering aspects of participatory urban space design and community level social infrastructure assessment, for two pilot areas.

This also included a process-documentation for the two pilot areas which helped critique and redefine the project

approach to the other slum areas in the city, under the programme at large.

Initial Due Diligence for the Siting Aspects of the Maitreya Project with ERM India Pvt Ltd

Client: Maitreya Project International

The study largely addressed issues pertaining to the status of land, implications of issues associated with land, its possession, short and long term planning, and development as a tourist destination. It also included potential impacts of the project in socio-economic and physical development terms including pointers from earlier studies as well as some broad indications from the current context were used to flag issues pertaining to potential impacts and indicate the possible involvement of various stakeholder groups. A broad regional picture was drawn up essentially for discussions with the state government and government service provision and planning agencies. The report finally presented the outline of site level and development planning pointers to secure the project's long term interests in the context of tourism planning and potential large scale development in the area.

Sumati was the Project Manager for this exercise and was involved in the project from the stage of conceptualisation to development of the final recommendations.

Documentation of various water supply and sanitation projects by UNICEF in three districts of Rajasthan with ERM India Pvt Ltd

Client: UNICEF Jaipur

The purpose of the documentation of the projects underway was to share the experiences of the pilot project with various stakeholders, potential funding agencies and the government agencies, to take up the project in other districts.

Consulting Services for India: SIDBI III – Environmental Credit Line- Cleaner Production with ERM India Pvt Ltd

Client: KfW, Germany, Small Industries Development Board of India

The project objectives were towards helping SIDBI to establish an "Environmental Credit Line" - targeting



borrowers involved with "Cleaner Production Technologies". Sumati was working on the aspect of communication strategy development for marketing support of the new credit line. This part of the assignment focuses on supporting SIDBI to actively promote their financing opportunities for Small Scale Industries (SSI) and Medium Scale Industries (MSI) planning to apply "Cleaner Production" for better environmental performance and international trade. The industry sectors covered are Leather tanning, Textile wet processing, Metal finishing, Electroplating, and Foundries.

Andhra Pradesh Urban Services for the Poor-II

Client: DFID

A participatory poverty assessment and alleviation project involving institutional strengthening, capacity building, urban infrastructure supply and upgradation.

Sumati's responsibilities included assistance and inputs towards the aspect of Capacity Building, Community Participation in planning and design and Institutional Development for improved urban management and planning. These inputs were for the first phase of the project.

Consultancy Services for Study and Development of Hospital Waste Management Plan and its Implementation Support with ERM India Pvt Ltd

Client: Uttar Pradesh Health Systems Development Project, GoUP.

Sumati was part of the team involved with outlining the study, waste collection from different departments and wards of sample hospitals, their segregation, quantification, categorization, projection for horizon years. Formulating a waste management plan detailing the methods of collection, storage, transportation, treatment and disposal based on the projected waste quantities.

She was responsible for carrying out training needs assessment for capacity building efforts formulation of the training strategy, modules and imparting trainings at various decentralized locations to all levels of staff.

Sumati later conducted a number of the Training Programmes designed to cover all four levels of staff at the identified facilities, across the state of UP.

Sample Studies on Urban/Municipal Wastes in the Selected Cities in India to Assess the Potential for Waste to Energy with ERM India Pvt Ltd

Client: National Bio-Energy Board, Ministry of Non Conventional Energy Sources.

Sumati was responsible for review the existing solid waste management system, transport fleet capacities, weights and number of trips, organisational structure of SWM staff, financial outlays on SWM, ward level quantification of waste including its physical categorisation, chemical analysis of the waste; review of land use and the disposal of bio-medical waste for Gaya, Ranchi and Aligarh, including monitoring of subsequent sampling over a four month period.

The towns under scope of the assignment were Aligarh, Amritsar, Jalandhar, Gaya, Ranchi and Cuttack. The assignment aims at preparing a National Master Plan for development of waste-to-energy projects in urban, municipal and industrial sectors in the country.

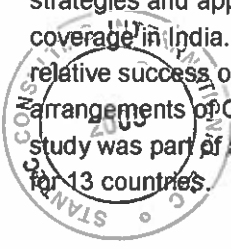
Advisory Support for Delhi Municipal Solid Waste Project (4 sites) with IL&FS Ecosmart

Part of internal team contributing at assessment stage for the design and implementation of scientific SWM services for treatment and disposal of about 6000 tonnes of solid waste in the city of Delhi. A focus areas was the treatment and disposal of construction and demolition (C&D) waste. The Delhi model envisaged the involvement of private sector firms in service delivery.

Global assessment of selected countries on policy and performance to meet the MDGs on Drinking Water – India case study with ERM India Pvt Ltd

Client: Department for International Development Govt. of UK

Sumati anchored this short and intensive study of current strategies and approaches for extended drinking water coverage in India. This included a critical evaluation of the relative success of programmes and service delivery arrangements of GoI to achieve full coverage. This case study was part of a Global study commissioned by DFID UK for 13 countries.



Review of the State-level Sector Assessment, Policy and Implementation Planning Documents, for the Rajiv Gandhi Drinking Water Mission (RGDWM) GoI- Covering 17 states with ERM India Pvt Ltd

Client: Water and Sanitation Programme South Asia (WSP-SA)

Sumati was part of a small team appointed to review and advise on the state-wise sector assessments leading up to policy formation and implementation planning to achieve national planning targets (for drinking water supply and sanitation provision) being carried out by the state governments. She was also responsible for project management.



Selina Pradhan

Environmental Regulatory Specialist



Ms. Pradhan is an Environmental Regulatory Specialist within ERM based in Charlotte Office, North Carolina. She has been working in the industry since 2011 and specializes in Federal Energy Regulatory Commission (FERC) pipeline projects and Electric Transmission projects. She has experience with environmental permitting, environmental report writing (NEPA documents) and QA/QC of documents as a document specialist.

Ms. Pradhan is experienced in all Federal, State and Local permitting for both FERC projects and Electric Transmission projects, along with pipeline construction compliance. She has been involved in various environmental field surveys and conducted storm water and erosion control inspections.

She is also experienced with Clean Water Act (CWA) Section 316(b) regulations and has performed field-based impingement mortality study in accordance with the 2014 Final Rule for Cooling water intake structures (CWIS). She also has experience with water quality sampling and analysis, prairie restoration and environmental site assessments.

Fields of Competence

- FERC Pipelines and Facilities
- Transmission Line Project
- Federal, State, Local Permitting
 - FERC, CWA, FAA and NPDES
- Pipeline Construction Compliance
- Field Surveys and Sampling
- ArcGIS mapping and Technologies
- GPS Trimble Unit

Education

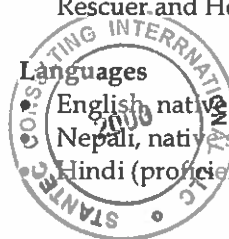
- B.S., Environmental Science, Minnesota State University, Minnesota, 2010
- Minor in Geography
- GIS Certification

Training

- FERC seminar, June, 2018
- Southern Gas Association Technical Conference on Environmental Permitting and Construction, 2017
- USACOE Nationwide Permit Webinar, 2017
- VA Inspector for Erosion and Sediment Control, 2016
- Environmental Compliance for Pipeline Construction, 2016
- Clean Water Act Section 316(b) Compliance Webinar, 2015
- Wetlands Delineation Training, 2012
- Watershed Management Training Certificate, EPA
- Confined Space & Equipment Training
- First Aid, cardiopulmonary resuscitation (CPR), Rescuer and Healthcare Provider)

Languages

English, native speaker
Nepali, native speaker
Hindi (proficient)



Key Projects

Electricity Transmission Project (MCC's Nepal Compact), April 2019 to present. EIA report coordinator responsible for preparing the EIA report per Nepal's regulation, addressing client's data requests and comments, and reviewing the overall EIA report. Other responsibilities include, leading project status calls, preparing meeting minutes, action items and project schedule; and acting as a liaison between project team members and local/international clients.

Upper Arun Hydroelectric Project, September 2019 to present. EIA report coordinator responsible for preparing the EIA report per Nepal's regulation, addressing client's data requests and comments, and reviewing the overall EIA report.

Duke Energy, Permanent Water Supply Project, August 2017 to Dec 2019, provided permanent water solutions to the North Carolina coal ash plant neighbors: Project management support responsible for the development of complied project plan, project schedules for major deliverables, monthly status reports to the Implementation Executive Governance Committee (IEGC), Potable Water Project Executive Steering Team and state agency (NCDEQ), along with development of various action plans for the project.

Farnsworth Group, Yates Lateral Project and Newnan Tap Project, April 2018 to Dec 2019, natural gas pipeline projects (20 miles each) in Georgia: Project manager responsible for managing environmental field surveys; preparing federal, state and local permit application; and environmental construction and inspection management.

TransCanada/NiSource Columbia Gas Transmission, WB XPress Project, 2014 to 2018, interstate natural gas pipeline project in Virginia and West Virginia: Project team member responsible for writing FERC Environmental Resource Reports, lead for preparing USACE Joint Permit Application for Nationwide Permit for Norfolk District, stream activity and hydrostatic permit applications for West Virginia, and several floodplain permit applications. Prepared Environmental Management and Construction Plans (EM&CP), and lead on document preparation and submission.

Celanese Acetate, LLC., July 2016 to Aug 2017, CWA Section 316(b) Impingement Sampling Plan in Narrow, Virginia: Team lead responsible for conducting impingement study of fish and shellfish at the CWIS, coordinating and managing sampling effort in the field, and preparing Impingement Mortality Study Report.

Dominion Virginia Power, Skiffes Creek 500 kV Transmission Line Project, 2014 to 2018, 500 kV of new,

Greenfield, high-voltage transmission line near Colonial Williamsburg and Jamestown Island in Virginia: Team lead responsible for preparing the Federal Aviation Administration's (FAA) Notice of Proposed Construction or Alteration permit application and coordinating with the FAA regarding the permit application.

Columbia Gas Transmission, Line WB2VA Integrity Project, 2014 to 2018, Modification to 17 Compressor Stations in West Virginia and Virginia: Project team member responsible for writing FERC Environmental Resource Reports, preparing USACE Joint Permit Application for Nationwide Permit for Norfolk and Pittsburgh Districts, preparing Environmental Management and Construction Plan (EM&CP), construction compliance bi-weekly FERC reports and lead on document preparation and submission.

Shaw Industries Group, Inc., June 2015 to August 2016, CWA Section 316(b) Impingement Sampling Plan in Columbia, South Carolina: Team lead responsible for conducting impingement study of fish and shellfish at the CWIS, and coordinating and managing sampling effort in the field.

Columbia Gas Transmission, Hanover Replacement Project, March 2015 to October 2015, 6.5 miles of 8-inch gas pipeline in Pennsylvania: Project team member responsible for assisting with the FERC Environmental Compliance Program, preparing construction compliance weekly FERC reports and ensuring compliance during construction and restoration activities.

Columbia Gas Transmission (NiSource, Inc.), Giles County Project, September 2015 to October, 2018, 12.8 miles of 8-inch gas pipeline in Virginia: Project team member responsible for post-construction wetlands and waterbody monitoring, vegetation monitoring and report writing.

Dominion Resources, Atlantic Coast Pipeline, 2014 to 2016, approximately 600 miles interstate natural gas pipeline project in North Carolina, Virginia, and West Virginia: Project team member responsible for assisting with wetland and waterbody field surveys, QA/QC field data and project team support.

NiSource Columbia Gas Transmission, Smithfield III Expansion Project, 2012 to 2013, Expansion of four natural gas compressor stations in Pennsylvania and West Virginia: Project team member responsible for assisting with agency consultation letters and document formatting and preparation.

American Electric Power, Tazewell Area 138 kilovolt (kV) Improvement Project, 2013 to 2014, 8.3 miles of new 138 kV transmission line and approximately 28 miles of re-build 138 kV transmission line, one new switchyard and the expansion of three existing substations in Virginia and West

Virginia: Project team member responsible for writing environmental reports and preparing environmental constraint report for the State Corporation Commission (SCC) Application and Virginia Department of Environmental Quality (DEQ) Supplement.

Williams and Boardwalk Pipeline Partners, LP, Bluegrass Pipeline Project, 2013 to 2014, 380 miles of new 24-inch-diameter pipeline and 121 miles of 20-inch-diameter natural gas liquids pipeline in West Virginia, Ohio, and Kentucky: Project team member responsible for assisting with wetland and waterbody field surveys and reviewing wetland and waterbody data forms.

Dominion Virginia Power, Brunswick 500 kV Project, 2012 to 2013, 20 miles of 500 kV transmission line in Brunswick and Greensville County, Virginia: Project team member responsible for writing environmental routing report, generating landowner mailing database, graphic preparation, and report formatting.

Dominion Virginia Power, Cannon Branch to Cloverhill Project, 2012 to 2013, 2.2-mile 230 kV Transmission Line in Virginia: Project team member responsible for preparing FAA's Notice of Proposed Construction or Alteration permit application and coordinating graphic preparation.

Williams Gas Pipeline (Laurel Mountain Midstream), Post Construction Monitoring Project, 2011- to 2012, several natural gas pipeline construction projects in Pennsylvania: Project team member responsible for conducting post construction field surveys, inspection of erosion and sediment control devices, recording daily precipitation data, and coordinating environmental surveys.

Northwest Pipeline, GP, Piceance Lateral Project, 2012, 150 miles of pipeline across Colorado and Wyoming: Project team member responsible for conducting post-construction vegetation survey and inspecting erosion and sediment control devices.

Dominion North Carolina Power, Shawboro to Aydlett Tap 230 kV Transmission Line Project, 2011 to 2013, 11 miles of 230 kV transmission line, in Currituck County North Carolina: Project team member responsible for preparing FAA tower construction permit application, generating landowner mailing database, document preparation, and formatting of the environmental routing report.





Minnesota State University



Minnesota State University, Mankato
upon the recommendation of the faculty
has conferred upon

Selma Pradhan

the degree of
Bachelor of Science

Cum Laude

Given at Mankato, Minnesota, this twenty-third Day of July, 2010.



Robert D. ...

C. Scott Weiss, Chair, Board of Trustees
Minnesota State Colleges & Universities



Richard ...

President



Minnesota State University
State University



Minnesota State University, Markato
upon the recommendation of the faculty
has conferred upon

Selina Pradhan

a Certificate in

Geographic Information Science

Given at Markato, Minnesota, this twentieth third day of July, 2010.



Robert D. ...

W. Scott Thiss, Chair, Board of Trustees
Minnesota State Colleges & Universities

Richard ...

President



David Nicholson, B. App. Sc. (EAM) & EMPA

Technical Director - Biodiversity

David Nicholson is a Technical Director and Lead consultant for ERM's Biodiversity practice for Asia Pacific. David has over 20 years of experience in the environment sector including environmental impact assessment, biodiversity assessment and management, forest management, water resources and public sector policy and economics. David is experienced with the application of the Equator Principles, IFC Performance Standard 6 Biodiversity Conservation and Sustainable Management of Living Natural Resources, Asian Development Bank Safeguard Policy Statement and the World Bank Environment and Social Framework. He has developed practical solutions for clients when managing threatened species, critical habitats and developing biodiversity offset strategies.



Experience: 10 years' consulting experience in power, oil and gas, extractives, urban development, forestry and agriculture.

15 years' experience in the public sector.

Email: David.Nicholson@erm.com

LinkedIn:
<https://www.linkedin.com/in/ermdavidnicholson>

Education

- Bachelor of Applied Science (Environmental Assessment and Management) 1992: University of Newcastle - Water Resource Management; Plant Systematics and Ecology
- Executive Masters in Public Administration (With Merit) 2007: Australian and New Zealand School of Government - International Politics and Development; Government and Business Ethics; and Financial Management

Languages

- English, native speaker
- Thai, basic

Fields of Competence

- Environmental Impact Assessment
- Strategic biodiversity assessment
- Sustainable natural resource management
- Industry and Government sector engagement
- Public policy and innovative regulation
- Biodiversity offset markets
- Sustainable land use planning

Key Industry Sectors

- Public sector
- Mining
- Forestry
- Infrastructure
- Energy
- Urban development



Key Competencies

Biodiversity Impact Assessments

Undertaken assessments under IFC PS6 and Asian Development Bank SPS, including undertaking and supporting field survey, data assessment. Undertaken spatial assessments of natural, modified and critical habitats. Applied the mitigation hierarchy in the development of avoidance and mitigation approaches to areas of high biodiversity values. Prepared offset strategies to achieve no-net-loss or net gain offset goals.

Due Diligence Assessments

Undertaken due diligence assessments under IFC PS6 for mining, port developments and oil and gas facilities. These assessments have been undertaken to check compliance of ESIA's against the PS provisions. Audits have occurred in Lao PDR, Vietnam, Bangladesh, Philippines and India.

Ecosystem Services

Involvement in ecosystem services assessments under the provisions of IFC PS6 for various ESIA's. Lead the development of guidance materials for ERM in developing approaches for ecosystem services. This included marketing materials, guidance documents and presentation to a range of public sector clients, the mining and property sectors.

Biodiversity Policies and Strategies

Development of corporate biodiversity and ecosystem services policies and strategies according to international standards, such as IPEICA and ICMM standards. Incorporated biodiversity into internal environmental and social management standards and guidelines.

Environmental Impact Assessment

Involvement in providing strategic advice on environmental impact assessments and coordinating input on a range of EIA topics. Working with mining, hydroelectric and oil and gas sector clients on EIA, with a focus on biodiversity assessment. Knowledge of the application of the Equator Principles for EIA and IFC PS6.

Participated in EIAs in Thailand, Lao PDR, Indonesia, Vietnam, Singapore, Bangladesh, Nepal, India, Australia, Myanmar and Malaysia.

Biodiversity offsets

Involvement with international biodiversity offset programs, including providing strategic advice to the Business and Biodiversity Offset Program – a joint program run by the United Nations Development Program and the International Finance Corporation.

Applied biodiversity offset metrics for projects in Lao PDR, Vietnam, Indonesia, Myanmar and Australia.

Auditing and compliance

Designed and implemented auditing processes for threatened species, water and soil management in production forests. This included developing rigorous assessment methods to check and record compliance.

Leading fieldwork to audit production forests, including leading a successful prosecution in the NSW Land and Environment Court of a major land management agency. Provided expert advice in Court proceedings.

Water Resource Management

Developed guidance materials on the assessment and management of acid sulfate soils. This included work on identifying best management practices, liaising with industry, public consultation

This work included facilitating research, guiding development of best management practices and implementation. This work has standardized drainage standards for natural surface roads and riparian buffer widths in production forests.



Key Projects

Upper Arun Hydro Power Project, Nepal Electricity Authority (Nepal) 2019

David has been leading the assessment of biodiversity and ecosystem service values for the Upper Arun Hydro Power Project (UAHPP). David has coordinated field surveys with NESS (sub-contractor), including surveys on flora and fauna as well as specialist fish and avifauna. The assessment is being undertaken according to Nepalese requirements and World Bank ESF. The project is in progress.

Pokko Hydroelectric Project, PT PLN (Indonesia) 2019

David has been leading the assessment of biodiversity for the Pokko hydroelectric project in Sulawesi, Indonesia. This project has involved undertaking biodiversity baseline assessments, assessment of impacts and development a Biodiversity Management Plan for the Project. The Project is to be funded by the World Bank. The assessment has been undertaken according to the requirements of Indonesia and the World Bank ESF. The project is currently in progress.

Sarulla Operations Limited (SOL) Biodiversity Offset Management Plan (Indonesia) 2019

David has been leading the assessment of biodiversity offsets for SOL for their operations in Sumatra, Indonesia. The assessment included identifying and assessing preferred biodiversity offset sites; developing an approach to work with the community to implement the offset (through a community conservation agreement) and securing agreement with stakeholders. The site is of high biodiversity value with Tapanuli orangutan, Sunda pangolin and Siamang as key species. The assessment is being completed under the requirements of the ADB SPS.

Newcrest Mining, Biodiversity Policy and Standards (Global) 2019

David prepared Newcrest Mining's revised biodiversity policy and standards. The policy and standard were revised to reflect Newcrest's membership of the International Council of Mining and Metals. The work included identifying key gaps with current policy, undertaking a workshop with Newcrest staff and developing a revised policy based on international best practices.

Review of Maleo Conservation, Sulawesi, (Indonesia) 2019

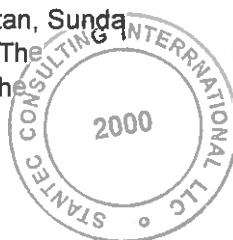
David completed a review of Maleo (*Macrocephalon maleo*) conservation in Sulawesi, Indonesia on behalf of the IFC. The Project involved assessing the effectiveness of existing conservation programs, defining the current status of these programs and making recommendations on future management options for the species within Central Sulawesi.

IFC Biodiversity Training (Myanmar) 2018

David conducted training for Myanmar consultants and the government sector with the IFC. The work involved preparing slide packs and presenting the training to fifty (50) attendees with the IFC's biodiversity specialist. The training covered assessments for critical habitat, natural habitat and development of mitigations.

Shwe Taung Cement Biodiversity Action Plan, (Myanmar) 2018

David prepared a Biodiversity Action Plan (containing a Biodiversity Offset Plan) for two sites for Shwe Taung Cement in Myanmar. The BAP included implementation measures to reduce impacts at STC's facilities as well as offset requirements to manage two protected areas within Myanmar. The plan was prepared for the International Finance Corporation. The biodiversity



offset will be the first formal offset within Myanmar. The project was directly funded by the IFC.

Batang Toru Hydroelectric, North Sumatra Hydroelectricity, Biodiversity Action Plan (Indonesia) 2018

David has led the development of a Biodiversity Action Plan (BAP) for the Batang Toru Hydroelectric project in Sumatra, Indonesia. This BAP is a requirement under IFC PS6 and has been drafted to manage Critical Habitat and Natural Habitats within the Concession area. The site contains habitat for important primate and flora species. The BAP contains components to manage fauna connectivity, invasive species, sediment and erosion control and hunting/poaching of wildlife.

Cooper Tire and Rubber Company Sustainability Assessment (Indonesia) 2018

David undertook an assessment of environmental and social risks for The Cooper Tire Company regarding their operations and supply chain in Sumatra, Indonesia. The assessment looked at international, national and local legal and policy frameworks; assessed the applicability of best practices to the rubber sector and identified key risks for Cooper Tire's operations in Indonesia.

Java Satu Power Java 1 Gas Powered Electricity generation, Central Java (Indonesia) 2018

David led the assessment of biodiversity of the Java 1 gas powered electricity generation plant located on the northern coast of Central Java. The assessment including designing field surveys and working with international experts to determine impacts on species, including the endemic Javan White Eye and an ecosystem services assessment. An impact assessment was completed that outlined required mitigations as well as preparation of a Biodiversity Action Plan. The BAP contained a Biodiversity Offset Plan for mangroves in order for JSP to comply with the Asian Development Bank

Safeguard Policy Statement (ADB SPS). The project was directly funded by the ADB.

Huong Linh Windfarm, Quang Tri Province, Central (Vietnam) 2018

David led the screening assessment for potential Critical Habitat for the proposed Huong Linh Windfarm in Central Vietnam. The project involved screening bird and bat species identified to potentially occur at the project site based on their potential flight through the Rotor Swept Zone (RSZ) of the windfarm. The assessment looked at potential behaviors and lifecycle functions of the species to identify the potential risk. A Critical Habitat screening was also undertaken to identify species that may require further assessment under the provisions of the International Finance Corporation Performance Standard 6.

Credit Guarantee Investment Facility 2018, Transmission Line Due Diligence (Cambodia)

David undertook a desktop due diligence assessment of a transmission line in Cambodia against the ADB SPS provisions. David conducted a desktop screening exercise for Critical Habitat triggers and an assessment of the adequacy of mitigation measures for the project. CGIF is an investment division of the ADB.

Discovery World Corporation 2018 (Philippines)

David undertook a critical habitat screening assessment for the Discovery World Corporation (DWC) resort in Palawan in the Philippines. The assessment included a review of the Projects likely impacts from a desalination plant on the marine environment. The project was completed for DWC on behalf of the IFC who directly invested in the project.

Van Phong Critical Habitat screening assessment 2018 (Vietnam)

David undertook a critical habitat screening assessment for the Van Phong power project in central Vietnam. The project is adjacent to a protected area with a population of black-shanked



douc langur. Recommendations were made to reduce impacts on biodiversity, including the langur population.

Da Mi Floating Solar 2018 (Vietnam)

David undertook an assessment of the Da Mi floating solar project under the provisions of the ADB SPS. The assessment included an assessment of critical habitat values at the project site, an assessment of impacts and identification of mitigation measures as well as an ecosystem services assessment. The project was funded by the ADB.

Bangkanai Gas Power Plant, Kalimantan (Indonesia) 2018

David undertook a due diligence assessment of the Bangkanai gas power plant in Indonesia on behalf of KfW. The assessment identified key gaps and recommended an approach to improve compliance of the project against IFC PS6 and KfW guidelines.

Sihanoukville Airport Biodiversity Assessment, Cambodia 2018

David led the assessment of biodiversity an ecosystem services for the expansion of the Sihanoukville airport in Cambodia. The assessment included specialist surveys for birds, bats and terrestrial biodiversity values of an adjacent protected area. The assessment resulted in recommendations to manage avifauna strike risk at the airport.

GEC Hydroelectric, Critical Habitat Assessment (Vietnam) 2017

David undertook an assessment of critical habitat values for Gia Lai Electricity Company (GEC) in Vietnam. The site assessed was the Thuong Lo Hydroelectric Project in Thua Thien Hue Province in Central Vietnam. The assessment was undertaken using the IFC Performance Standards as the applicable standard. The assessment included a historical review of information to determine if Critical Habitat values existing on the site. Mitigation and management measures were recommended to improve the management of

biodiversity values. The GEC project has been funded by the IFC.

Middle Paunglaung Hydroelectric, Energize Myanmar, Biodiversity Impact Assessment (Myanmar) 2017

David has provided technical guidance and project management in the assessment of biodiversity values for the Middle Paunglaung Hydroelectric Project near Naypyidaw in Central Myanmar. The biodiversity assessment included undertaking specialist surveys for mammals, herpetofauna, birds, flora and aquatic fauna. Specialist consultants were contracted by ERM to complete these surveys, including international specialists from Germany and Switzerland. The assessment will include analysis of the biodiversity values against the IFC PS6 provisions. The project is currently ongoing.

Shwe Taung Cement (STC) Quarry Extension, Biodiversity Impact Assessment (Myanmar) 2017

David led the assessment of the Shwe Taung Cement quarry extension and coal mining operation in the assessment of biodiversity values to comply with the IFC PS was challenging with screening identifying the likely presence of Critical Habitat species at both sites. Of particular interest was the likely presence of new-to-science and endemic flora and fauna on the limestone quarry associated with the cement facility. The assessment identified mitigation and management requirements and an offsetting strategy to compensate for the residual biodiversity values lost, including payments to existing conservation reserves in Myanmar. The project has been directly funded by the IFC.

Energy Absolute Public Company Limited, Northeastern Thailand Wind Power Project (2017)

David undertook a due diligence assessment on an Initial Environmental Examination (IEE) for the Energy Absolute Public Company Limited Northeastern Thailand Wind Power Project. The assessment involved assessing the IEE against the Asian Development Bank (ADB) Safeguard Policy



Statement (SPS). David reviewed the IEE against the SPS and identified gaps in the assessment that required further assessment, particularly regarding potential bird and bat flight zone assessments. A corrective action plan was prepared for the client and ADB.

Supreme Energy, Muruah Laboh and Rantau Dedap geothermal electricity Critical Habitat Assessment and Biodiversity Action Plan (Indonesia) 2017

David led the assessment of Critical Habitat (CH) and biodiversity offset assessments for the Muruah Laboh and Rantau Dedap geothermal electricity in Sumatra, Indonesia. These assessments were against the IFC Performance Standards and the ADB SPS. The assessments included screening species detected within the concession areas against the IFC CH assessment criteria, determining requirements for mitigations and management and developing an offset strategy for both projects. An ecosystem services assessment was also included as part of the assessment. The project has been directly funded by the ADB.

Wind Energy Holdings, Prachuap Khiri Khan Windfarm, Thailand (2017)

David led the biodiversity assessment for the proposed wind in Prachuap Khiri Khan Windfarm. The wind farm will comprise a total of 36 wind turbines which will generate approximately 90 MW of electricity. The assessment focused on terrestrial impacts as well as impacts to avifauna due to the operation of the project. The assessment applied the International Finance Corporation Performance Standard 6 and relevant Thai Government regulations. The assessment identified potential impacts to bird and bat species and recommended mitigations to manage the potential impacts to biodiversity values.

The Blue Circle Windfarms, Avifauna Assessment, Thailand 2016

David led the avifauna assessment for four (4) windfarms proposed by The Blue Circle Company in Thailand. The projects consisted of a combined 85 turbines capable of generating 180MW of electricity. The assessments included assessing

avifauna strike risk utilizing the Scottish National Heritage (SNH) Guidelines for terrestrial windfarms. The assessment applied the International Finance Corporation Performance Standard 6 and relevant Thai Government regulations. The assessment identified potential impacts to bird and bat species and recommended mitigations to manage the potential impacts to biodiversity values.

Africa Oil Corp. Independent Advisory Group (IAG) (Kenya & Ethiopia) 2016 – Ongoing

David is a member of the IFC appointed Independent Advisory Group (IAG) for Africa Oil Corp. operations in Kenya and Ethiopia. The work requires twice yearly audits of Africa Oil operations in country to check compliance with IFC Performance Standards and to provide advice on mitigation and management for biodiversity and ecosystem services.

GoodHope Palm Oil IFC PS6 Due Diligence (Indonesia) 2016

ERM prepared an IFC PS Due Diligence assessment for GoodHope Palm oil and the IFC. The project involved undertaking a gap assessment, in-field analysis of management practices; analysis of gaps against RSPO and IFC PS; assessment of specific requirements of IFC PS6 including natural and modified habitat distribution and Critical habitat screening assessment. This was undertaken for 7 sites in Indonesia (5 in Kalimantan and 2 in West Papua). ERM is currently developing an improved sustainability framework for the company to help compliance with their obligations.

Chip Mong Insee Corporation (CMIC), Cement (Cambodia) 2016

David led the assessment of the CMIC cement plant in Kampot Province in Cambodia. The assessment included a particular focus on limestone dependent flora and fauna, including molluscs and bats. The assessment was completed with international expertise to assist in defining the limestone dependent biodiversity



values. The IFC Performance Standards were the applicable standards.

North Sumatra Hydro Electricity, Batang Toru Hydro Electric (Indonesia) 2016

David led the biodiversity impact assessment for the Batang Toru Hydroelectric project in Sumatra Indonesia against IFC PS6 standards. This assessment has been highly complex with critical habitats for species such as Sumatran Orang-utan and Sumatran Tiger. The assessment has involved working with NGOs to undertake the assessment, analysis of ecosystem services and biodiversity offsets. A Biodiversity Action Plan was also prepared for the Project, including recommendations for biodiversity offsets.

Kansai Electric Power Company Inc. Xe Katam Hydro Electric (Lao PDR) 2016

David led the biodiversity impact assessment for the Xe Katam Hydro Electric Project near Pakse in Lao PDR. The assessment was conducted against the provisions of the IFC Performance standards (IFC PS). Detailed aquatic and terrestrial biodiversity surveys were undertaken. As required by the PS, the mitigation hierarchy was applied to determine the impacts to species and habitats within the Project area. Critical habitat screening assessment and natural/modified habitat assessments were also undertaken. Mitigation measures were appropriately designed to reduce impacts on terrestrial and aquatic biodiversity values.

ITD Water Treatment Plant, Dawei Special Economic Zone, (Myanmar) 2016

David prepared the Initial Environmental Examination in relation to biodiversity values for the ITD Water Treatment Plant in the Dawei Special Economic Zone. David prepared the assessment according to local Myanmar regulations, using the International Finance Corporation (IFC) Performance Standards as a guide.

Long Son Petrochemical (LSP) (Vietnam) 2015

David led the biodiversity impact assessment under the provisions of IFC PS6 for a major

petrochemical complex and port in Vietnam near Ho Chi Minh City. This included baseline surveys, the assessment of natural and modified habitats, critical habitat assessment and the application of the mitigation hierarchy to identify biodiversity offsets.

Mandai Rainforest Park, Temasek PTE Ltd. (Singapore) 2016

David led the biodiversity impact assessment for the Mandai Rainforest Park, which is part of the Singapore Zoo complex in central Singapore. The project has involved detailed ecological investigations, impact assessment and the development of complex spatial modelling for the site. Mitigation measures and onsite habitat compensation have been developed. A major component of the project has been detailed and extensive stakeholder engagement activities with the Singapore Government and local environmental interest groups.

Upper Kenarli Hydro Electric (Nepal) 2015

David provided technical advice and specific project work in relation to biodiversity assessments and offsets for the Upper Kenarli Hydro Electric project in Nepal. He worked on preparing the scopes for ecological assessments and advised on compliance matters against IFC PS6. David led the assessment on ecosystem services and biodiversity offsets.

Sembcorp Myingyan Power Station, Myanmar 2015

David undertook the biodiversity impact assessment for the Myingyan Gas Power Station, Mandalay District in Myanmar. The project consisted of a 225MW Gas fired Combined Cycle Power Station, access road and transmission line. David undertook the assessment to comply with both the Asian Development Bank (ADB) Safeguard Policy Statement (SPS) and the



International Finance Corporation (IFC) Performance Standards.

Petronas Bhd. Biodiversity Training (Malaysia) 2015

David prepared and gave training to Petronas, the Malaysian based oil and Gas Company, in Kuala Lumpur, on biodiversity risk assessments and the application of IFC PS6. This training occurred over 2 days and covered the principles of the standard, including the mitigation hierarchy, ecosystem service assessments and critical habitat determination.

BHP Billiton Cumulative Impact Assessment for IndoMet Coal Operations, Indonesia (2015)

David led the assessment of the biodiversity component for a cumulative impact assessment (CIA) for the BHP IndoMet Coal Operations in Central Kalimantan. This assessment used the IFC Guidelines on CIA to identify Reasonably Foreseeable Future Actions (RFFA) and impacts from these on the environment. The RFFAs included palm oil, forestry and mining operations within the Area of Influence. David undertook a stakeholder engagement exercise, including with WWF and the Roundtable on Sustainable Palm Oil (RSPO).

Newmont Batu Hijau, IFC Due Diligence, West Nusa Tenggara Province, Indonesia (2015)

David led the assessment of biodiversity values for an IFC due diligence for the Newmont Batu Hijau mine in West Tenggara Province. The due diligence assessed the compliance of the project against IFC PS6, including the development of a gap analysis.

MMG Kinsevere Biodiversity Action Plan (Democratic Republic of Congo) 2014

David participated in the assessment and development of a Biodiversity Action Plan for the MMG Kinsevere operations in the Democratic Republic of Congo. This assessment included providing direction on the assessment and

management of the sites biodiversity values, threats and opportunities for conservation.

Sabah Forest Industries Bhd. (SFI) Critical Habitat Assessment (Malaysia) 2014

David led the critical habitat assessment and impact assessment for Sabah Forest Industries (SFI) operations in Sipatang in Sabah State, Malaysia. The assessment involved undertaking an assessment of natural and modified habitats and the identifications of candidate critical habitat within the concession. The assessment involved remote sensing to derive delineation of habitat types and discrete management unit for critical habitat. Application of the mitigation hierarchy and offsets also occurred as part of the assessment.

Phulbari Coal IFC Audit (Bangladesh) 2014

David undertook an assessment of Phulbari coal's ESIA against IFC PS 6. This audit included undertaking a desktop assessment and indenting key gaps with the assessment and providing recommendations in relation to the assessment of biodiversity values and ecosystem services.

MMG Sepon, Biodiversity Offsets (Lao PDR) 2014

David led the assessment of biodiversity offsets for the MMG Sepon LXML mining complex in Suvarnakhet Province in Lao PDR. This project involved an assessment of the offset options of the mine site, including making key recommendations on the ecological assessment and management of key species, including the Siamese crocodile and Asian elephant.

Kansai Electric Power Company Inc., Nam Ngiep 1 Hydropower Project Biodiversity (Lao PDR) 2013

David led the biodiversity impact assessment for a hydro power scheme in Lao PDR against the Asian Development Bank's Safeguards Policy Statement. In undertaking the assessment critical habitat assessments were undertaken. The assessment enabled the development to proceed with a sound assessment of biodiversity values that achieved a no-net-loss outcome. A biodiversity offset design



was prepared to identify the, legal, social and institutional implementation, indicative schedule, budget and staff allocation required to deliver the recommended biodiversity offset. The project was subsequently approved by the ADB.

protected areas in accordance with the indicators. A GIS analysis and pivot table were provided to Merck for their future reporting and analysis against the indicator.

PTT PLC, Biodiversity and Ecosystem Service Standard and Guidelines (Thailand) 2013

David prepared PTT Group's Biodiversity and Ecosystem Service Standard Guidelines. PTT is a Government owned oil and gas company based in Thailand. These standards are based on best practice and internationally recognized approach to biodiversity management by IPIECA and IFC. David assisted PTT in developing Biodiversity Action Plans for their operations based upon these Guidelines. Biodiversity risk assessments were also done on palm oil assets in Indonesia.

Strategic Land Use Assessment for Rio Tinto (Global) 2013

David undertook a global strategic land use assessment for Rio Tinto, looking at the range of conflicts arising from mining activities across global operations. These include conflicts arising from communities, economics, environment and other factors that limit resource access. The project involves gathering evidence from Rio Tinto's operations and reporting on the results to better inform Rio Tinto on their operational practices.

MMG Biodiversity Standard and Guidelines (Global) 2012

David prepared MMG's global Biodiversity Standard and Guideline for the assessment and management of biodiversity. This aligned with IFC 6 standards and other key global assessment standards for biodiversity protection. The standards and guidelines have been approved by MMG and will be used by their future operations.

Merck Pharmaceuticals, GRI Biodiversity Indicators (Global) 2012

David undertook an analysis of 60 global sites owned by Merck Pharmaceuticals in accordance with the GRI Biodiversity Indicators. This included plotting the presence of threatened species and





Michael Mangiante

Senior Environmental and Geospatial Specialist

Michael Mangiante is an experienced senior scientist with eight years of background in environmental science, water resource management, and geospatial modeling. Michael received a Masters of Environmental Management from Duke University with a certificate in geospatial analysis and has applied his creativity and advanced technical expertise in working with team members and clients on energy, water resource management, economic analysis, and environmental assessment related projects. Specifically, Michael has developed custom approaches to evaluate the sensitivity landscapes to energy and transmission line development projects in order to identify potential energy sites that minimize environmental or social impacts. Additionally, Michael has acted as the senior data scientist for multiple commercial solar energy, transmission line, and development projects across the globe using satellite imagery and custom geospatial algorithms to identify project impact assessments. During Michaels work with the U.S. Environmental Protection Agency, he developed custom spatial and satellite remote sensing analyses to support large-scale environmental models and research. Additionally, he led a project to evaluate the technical and economic potential for sustainable energy in U.S. cities and was a key contributor to U.S. policy on vector-borne disease mitigation. Michael has presented complex information to stakeholders from varied backgrounds and collaborated with federal agencies, private companies, non-profit organizations, and research institutions.



Experience: 8 years' experience in geospatial analysis and environmental management

Email: Michael.Mangiante@erm.com

LinkedIn: <https://www.linkedin.com/in/michael-mangiante>

Education

- Masters of Environmental Management, Ecosystem Science and Conservation, Duke University, Durham, NC, USA, 2014
- Certificate in Geospatial Analysis, Duke University, Durham, NC, USA, 2014
- Bachelors of Science, Environmental Science, Villanova University, Villanova, PA, USA, 2012

Languages

- English, native speaker
- Spanish, limited proficiency

Fields of Competence

- Geospatial analysis
- Environmental science
- Renewable energy
- Water resource management
- Climate change adaptation
- Economic Analysis

Key Industry Sectors

- Government
- Power
- Technology
- Water



Key Projects

Geospatial Enable ESIA for Solar Site in Malawi

Environmental subject matter expert for a solar development project in Malawi. Specifically, Michael developed a fit-for-purpose land cover analysis and desktop geospatial review the environmental and social sensitivity of the proposed area to development. Michael also evaluate regional environmental and social criteria to determine site suitability analysis for development in the region.

Geospatial Technology Enablement for MCC

Facilitated implementation and standardization of geospatial technology throughout the MCC compacts and organizations. Worked with in country teams, program leads, and subject matter specialists to design programs and protocols to increase the implementation of geospatial technology throughout MCC and MCAs workflows.

Resettlement Survey with Mobile Data Collection

Led an effort to create a digital survey system that was used by over 20 surveyors to collect personal information from households for the purposes of resettlement in a large project area in Panama. Michael designed the digital surveys used in the field to help increase efficiency and integrated the data collection processes with an online data management system. This data was compiled into a relational database system and was the primary information used for resettlement purposes.

Environmental Screening for 29 Geothermal Power Plant Development Sites in Mexico

Developed a multi-criteria geospatial approach to evaluate biodiversity, cultural, environmental, and social sensitivity to geothermal power plant development for locations across Mexico. Data used in this analysis incorporated open source information as well as location specific information from the Mexican government. Michael improved on the Mexican government land-cover maps by using the European Space Agency Sentinel 2 imagery to

generate custom land cover classifications for all 28 sites. The screening reports incorporated information relevant to the Inter-American Development Bank and Mexico's regulation related to social and environmental factors. Results from this analysis were generated using Python, ArcGIS 10.5, and R and uploaded to an online screening analysis tool that Michael created using the ESRI's ArcGIS Online platform. Following the completion of the analysis, ERM team worked with developers to evaluate proposed geothermal plant development locations using the tools and datasets made available through the ArcGIS Online portal.

NEPA/SHPO Online Geospatial Screening Tool using ArcGIS Online and U.S. Government Data

Developed and updated a web-based screening tool to tabulate geospatial criteria relevant to NEPA/SHPO reports within the United States. Current datasets from USGS, DOI, EPA and other relevant government agencies were accessed by ERM and curated on ERM servers to be used in the ArcGIS Online screening tool. As part of this tool, ERM created custom report templates and easy to use online tools which customers could easily manipulate and use to evaluate proposed development locations and to help increase efficiency in their workflow. ERM teams have used this tool to evaluate project locations and to minimize environmental or social impacts.

Power Alignment Assessment in Nepal

Facilitated the use and implementation of geospatial datasets between GIS staff, engineers, and stakeholders for a power alignment project in Nepal. Specifically, Michael created geospatial data layers necessary to analyze the terrain and determine the environmental and social sensitivity of the landscape to development. Michael also coordinated version control and data management for all information created or used by the engineers or GIS team during project planning and development.



Climate and Physical Risk Assessment for a Desalination plant in Tijuana, Mexico

Led the geospatial assessment of physical impacts related to climate and natural hazards for a large desalination plant in Tijuana, Mexico. Michael calculated likelihood of impacts related to natural disasters such as floods, earthquakes, hurricanes, and landslides. Additionally, Michael helped manage the development of future sea level rise and climate related impacts using public geospatial datasets.

Key Projects Prior to Joining ERM

Rooftop Solar, Economic and Technical Potential

Determined the economic return on investment of rooftop solar PV for all commercial and residential properties in the City of Brownsville, Texas to inform the city managers and public utility. Michael combined economic, engineering, and geospatial modelling techniques to create an innovative and comprehensive renewable energy analysis. He funded this project through a competitive EPA Regional Sustainable Environmental Science Grant and engaged with the National Renewable Energy Laboratory, city officials, utility representatives, solar energy companies, and EPA Region 6. The results of this analysis are currently in review for publication.

Drafting U.S. Policy on Mosquito-Borne Disease

Core contributing member of the White House National Science and Technology Council, Pandemic Prediction Forecasting Science and Technology Inter-agency working group. Michael drafted the science and technology grand challenges facing the United States related to mosquito-borne disease. This policy specifically focused on how the local and federal government could utilize geospatial technology and monitoring information to better predict and control mosquito-borne illnesses. Michael collaborated with representatives from the EPA, DoD, CDC, NSF, DOE, DOA, DOI, USDA, and SI.

Cloud-based Geospatial Platform Advisor

Advised the U.S. Environmental Protection Agencies environmental mapping program, the EnviroAtlas, on Google Earth Engine, an innovative cloud-based geospatial platform. Michael acted as a liaison between Google and the U.S. EPA to facilitate effective collaboration. As a result, Michael was invited to both the 2016 and 2017 Google Earth Engine Users Summit in order to evaluate the technology and help integrate Google Earth Engine into the EnviroAtlas workflow.

Publications and Presentations

- Mangiante, M., Whung, P.Y., Zhou, L., Cepada, A., Campirano, E., Licon, D., and M. Torres. 2018. Economic and technical assessment of rooftop solar photovoltaic potential in Brownsville, Texas. *Energy*. In Review.
- Zhou, L., Schwede, D.B., Appel, K.W., Mangiante, M.J., Wong, D.C., Napelenok, S.L., Whung, P.Y., and B. Zhang. 2019. The impact of air pollutant deposition on solar energy system efficiency: an approach to estimate PV soiling effects with the Community Multiscale Air Quality (CMAQ) model. *Science of the Total Environment*. 651: 456-465.
- Mangiante, M., Davis, J.S., Panlasigui, S., Neilson, M.E., Pflingsten, I., Fuller, P.L., and J.A. Darling. 2018. Trends in non-native aquatic species richness in the United States reveal shifting patterns of both species introductions and sampling effort. *Aquatic Invasions*. 13(3): 323-338.
- Panlasigui, S., Davis, J.S., Mangiante, M., and J.A. Darling. 2018. Assessing threats of non-native species to native freshwater biodiversity: Conservation priorities for the United States. *Biological Conservation*. 224: 199-208.
- Mangiante, M., Whung, P.Y., Zhou, L., Cepada, A., Campirano, E., Licon, D., and M. Torres. 2018. Economic and technical assessment of rooftop solar photovoltaic: A study of Brownsville, Texas, U.S.A. Accepted for presentation at the American Geophysical Union Fall Meeting 2018.





Akshita Misra

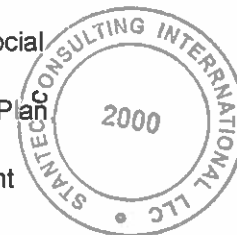
Consultant

Akshita is a graduate in Sociology with a Masters in Environment and Development with a specialization in conservation and biodiversity. She is presently working as a Consultant with Environmental Resources Management (ERM) India Pvt Ltd. Akshita has worked on projects across India including the states Madhya Pradesh, Chhattisgarh, Rajasthan, West Bengal, Maharashtra, Karnataka, Tamil Nadu, Kerala, Andhra Pradesh and Gujarat as well as Bhutan, Nepal, Sri Lanka, Bangladesh, Myanmar and Malaysia. She has worked with local, state and central government and a number of donor agencies such as the World Bank, IFC, Equis, DFID and IDFC.



Akshita's core competencies are her social and community skills, her understanding of the International Best Standards and Guidelines (Like Performance Standards, Equator Principles) that govern and regulate International Finance through World Banks/ IFC, DFID, ADB/AFDB, UN organizations and other DFIs and the applicable rules and regulations. This understanding is based on her hands on experience of working on projects/ assessments, policy studies and advisory support to projects that are mandated to adhere to such standards.

Akshita is skilled in conducting community consultations, monitoring and evaluations, socio-economic impact assessments, surveys, livelihood analysis, in areas that include resettlement and rehabilitation, water and sanitation, health, power, infrastructure, etc. Akshita has hands on experience of undertaking Environmental and Social Impact Assessments and reviews and designing social management systems and plans, including Livelihood Restoration Plans, Stakeholder Engagement Plans, Grievance Redressal Plans, Gender Action Plan Community Development Plans etc. Akshita has hands on experience of designing, implementing and monitoring Environment and Social Management Systems and management plans. She has/is working on projects involving technical assistance and advisory support and her role in such assignments includes developing standards and guidance notes, providing hands on training for institutional/capacity building, monitoring and reporting progress on ESAP and other agreed frameworks.



Email: Akshita.misra@erm.com

Education

- Graduate in Sociology in 2007 from Jesus and Mary College, Delhi University

- Masters in Environment and Development in 2012 from Ambedkar University Delhi
- PG Diploma in Environmental Law, 2016, Centre for Environmental Law; WWF and National Law University

Languages

- English
- Hindi

Fields of Competence

- Design and Implementation of Social & Environment Management System
- Community relations and stakeholder engagement
- Resettlement and Rehabilitation
- Preparation of social action plans including Livelihood Restoration Plan, Community Development Plan, Stakeholder Engagement Plan amongst others
- Social Impact Assessment, Risk assessment
- Monitoring and Evaluations
- Natural Resource Management and Planning
- Labour Audits/Due Diligences
- Qualitative and Quantitative Data Collection and Analysis

Key Sectors

- Mining
- Renewable Energy (Solar Power, Hydropower and Wind Power)
- Infrastructure and Logistics
- Food and Beverages

EMPLOYMENT RECORD

- May 2014 to Present; Consultant, ERM India Private Limited, New Delhi
- November 2012 to May 2014, Assistant Consultant, ERM India Private Limited, New Delhi
- May 2012 to November 2012, Trainee, ERM India Private Limited, New Delhi

Key Projects

Update of the Social Impact Management Framework for Upper Trishuli-1 Run-of-river-hydropower project;

Client: Nepal Water and Energy Development Company,

Duration: 2017-2018



Environmental Resources Management, India (hereinafter referred to as 'ERM') has been commissioned by Nepal Water and Energy Development Company (hereinafter referred to as 'NWEDC') to update the Social Impact Management Framework (SIMF) for the Upper Trishuli 1 (UT-1) Hydropower project (hereinafter referred to as the 'Project') in Nepal. The SIMF comprises of:

- Livelihood Restoration Plan
- Gender Action Plan
- Stakeholder Engagement Plan
- Grievance Redressal Mechanism
- Benefit Sharing plans as part of PDA requirements

A Livelihood Restoration Plan (LRP) was previously prepared for this project in 2015 by ERM. However, before this plan could be implemented, the Gorkha earthquake hit Nepal on 25th April 2015. The earthquake resulted in significant impacts and internal displacement of a large number of people from local villages in the project area. The Present SIMF is thus aimed at updating the 2015 LRP in keeping with the present context post-earthquake.

As a part of the current LALRP updation in 2017, a socio-economic survey of 128 PAFs (out of 154) and detailed stakeholder consultations (PAFs, local community, NGOs/ INGOs, Government agencies etc.) formed the core of the methodology.

The scope of work for the project included the following

- Socio-economic profile/status and any vulnerabilities arising from the earthquake;
- Utilization of land/asset compensation and the current status (impact) on the assets created using the compensation amount;
- Change if any, in the livelihood profiles;
- Change, if any in the options of resettlement and rehabilitations;
- Reaffirm the livelihood restoration preferences/options suggested prior to the earthquake and update choices/preferences;
- Map (verify) skills/capacities to undertake/perform the suggested livelihood options/preferences;
- Reassess/confirm the delivery models for the

livelihood maintenance/restoration/improvement programs;

- Update/reassess time and resource requirements for implementing the LALRP.

Akshita was the Project Manager for the project and was responsible for the socio-economic survey and the preparation and update of the management plans highlighted above.

Assessment of the Land Acquisition and Resettlement Process and Development of a Livelihood Restoration Plan for a Run Of the River Hydro Power Project in the Upper Trishuli Watershed, Rasuwa District, Nepal

Client: Nepal Water and Energy Development Company,

Duration: 2014-2015

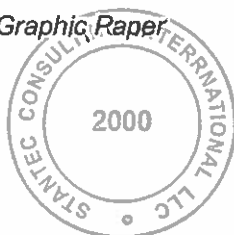
ERM was commissioned by Nepal Water and Energy Development Company (NWEDC) to undertake an Assessment of the Land Acquisition and Resettlement and Development of a Livelihood Restoration Plan for the Upper Trishuli-1 (UT-1) Hydropower project in Nepal. ERM undertook this study in association with a Kathmandu based firm Nepal Environmental & Scientific Services [NESS] (P) Ltd.

Akshita was part of the social team for the project and was involved in undertaking a regulatory review for the project, carrying out focus group discussions with key stakeholders, review of the land acquisition and compensation process, development of the social baseline (socio-economic survey and FGDs) for the project, identifying the potential impacts and their mitigation measures and formulation of the livelihood restoration plan for the project.

Retrospective Social Impact Assessment, Labour Audit, and Biodiversity Action Plan, Sabah, Malaysia

Client: in Ballarpur International Graphic Paper Holdings (BIGPH)

Duration: 2014-2015



The International Finance Corporation (IFC) is considering a potential equity investment in Ballarpur International Graphic Paper Holdings (BIGPH), a company incorporated in the Netherlands. The company owns subsidiaries which are leading pulp and paper manufacturers in India and in the Sabah province of Malaysia. As part of the investment proceeds were expected to be directed to Sabah Forest Industries (SFI), IFC's environmental and social review focused on a detailed due diligence of the SFI operations that include:

- Integrated pulp and paper manufacturing;
- Intergrated timber complex; and
- Forest and plantation concession of over 290,000 hectares.

Prior to the investment approval, SFI was required to commission specialist studies in social impact assessment, biodiversity assessment and a labour audit. These studies had to comply with the applicable regulations in the Sabah province of Malaysia and the social and environmental sustainability performance of the IFC.

ERM's offices in India and Malaysia assisted Sabah Forest Industries (SFI) in meeting IFC's project approval and financing requirements by undertaking the following assessments from May to August 2014:

- Retrospective social impact assessment (SIA) of converted areas within SFI's forest and plantation concession;
- Framework on Free Prior and Informed Consent (FPIC) for SFI's Stakeholder Engagement;
- Labour audit and assessment of working conditions across SFI's operations;
- Biodiversity and Critical Habitat Assessment; and
- Forward looking Social Impact Assessment of SFI's plantation expansion plans along with public disclosure.

Akshita, was part of the team undertaking the retrospective impact assessment and forward looking impact assessment for the project. As part of the assignment Akshita was involved in the formulation of survey tools, field visits, supervising the socio-

economic surveys, interaction with the community and the establishment of the retrospective baseline for the project.

Environmental and Social Impact Assessment for Western Cluster Iron Ore Project, Liberia

Client: Western Cluster Limited

Duration: 2012-2014

ERM has been commissioned to undertake Environmental and Social Impact Assessment (ESIA) and associated studies for the development, operation and closure/handover of the Western Cluster iron ore assets in Liberia including the railroad corridor(s) connecting the port and mining developments, road for transportation in initial years

ERM through the ESIA has been asked to inform the Project's management of environmental and social risks and impacts; meet expectations of good international industry practice (GIIP) and Vedanta's internal corporate standards; and fulfil Liberian regulatory EIA requirements before commencing with the project.

Akshita was involved in the formulation of the social baseline for the railroad corridors connecting the Mines and port facility for the project.

Social Impact Assessment and Management Plans for Guma Mines, Chhattisgarh, India

Client: Ultratech Cement Limited

Duration: 2012-2013

ERM has been commissioned by Ultratech Cement Limited to undertake a Social Impact Assessment for newly acquired Mines; the Guma Mines for its cement plant, Rawan Cement Works in the village Guma, Raipur, Chhattisgarh. On the basis of the impacts identified ERM was required to formulate management plans for the mitigation of impacts. These plans include a Livelihood Restoration Plan, Community Development Plan, Stakeholder Engagement Plan and a Grievance Redressal Mechanism.

Akshita was part of the team for the Social Impact Assessment and was involved in the phases of data collection; including administration of surveys and stakeholder consultations, socio-economic survey of PAFs and report writing. Apart from writing the Social Impact Assessment report, Akshita also prepared the Management plans for the project.

Development of a Resettlement Policy and Framework Resettlement Action Plan for a diamond Mine, Bundelkhand, Chhatarpur, Madhya Pradesh

Client: Rio Tinto Exploration India Private Limited

Duration: 2014-2015

ERM was commissioned by RTEIPL to develop a Resettlement Policy and a Framework Resettlement Action Plan (Framework RAP) for the Bunder Project. The Resettlement Policy was aimed at establishing the principles and approach to planning, managing and implementing any economic and/or physical resettlement impacts due to the requirement of land and/or natural resources.

Akshita was part of the team for the project and was involved in the regulatory review, baseline formulation and consultation with stakeholders.

Consultancy Service for Assessment of Contamination, Design of Remediation Plan

Client: West Bengal Pollution Control Board

Duration: 2012-2014

The Government of India's 11th Five Year Plan (2007-2012) links growth and environmental sustainability and acknowledges some gaps with respect to environmental management, pollution control and environmental degradation. The plan also for the first time raises the issue of contaminated and degraded sites that need inventorying, rehabilitation and remediation. Therefore, the Government of India, through the Ministry of Environment and Forests (MoEF) is implementing a project on Capacity Building and Industrial Pollution Management Project (CBIPMP) with financial assistance from the World Bank.



ERM India Private Limited (ERM) was contracted by West Bengal Pollution Control Board for providing Consultancy Service for Assessment of Contamination, Design of Remediation Plan for five contaminated Sites in West Bengal. Akshita is part of the social team for the project and led the stakeholder consultations, establishment of the social baseline as well as the assessment of the impacts of the contamination on the community.

Preparation of Stakeholder Engagement Policy, Technical Standard and Guidance Note as part of the ABG Sustainability Framework

Client: Aditya Birla Group

Duration: 2015-2016

Aditya Birla Group is in the process of preparing its global sustainability framework. Akshita was involved in the development of the stakeholder engagement policy, technical standard and guidance note for the same.

Preparation of Land Acquisition Technical Standard and Guidance Notes as part of the ABG Sustainability Framework

Client: Aditya Birla Group

Duration: Ongoing

Aditya Birla Group is in the process of preparing its global sustainability framework. Akshita was involved in the development of the Technical Standards and Guidance Notes for involuntary land acquisition, physical resettlement and livelihood restoration



Prajna Singh

Assistant Consultant

Prajna Singh is working as an Assistant Consultant with ERM India. She has over four of experience in the field of Social Development including coordinating and conducting Environment and Social Due Diligence studies (ESDD), Labour Audits, and Environment and Social Impact Assessments (ESIA). She has conducted ESDDs across sectors, specifically Wind, Solar, Nuclear, Pharmaceutical, City Gas Distribution, Thermal, Hospital, Mining sectors. She has worked on education and supply chain management prior to joining ERM. She has experience of working with multi-lateral, bilateral funding agencies and financial funds. She is conversant with World Bank, Asian Infrastructure Investment Bank, Overseas Private Investment Corporation and IFC guidelines and policies. She has a Masters in Sociology from Delhi School of Economics, and an MBA from University of Oxford.



Experience: 4 Years

LinkedIn: <https://www.linkedin.com/in/prajna-singh-92198b63/>

Email: Prajna.Singh@erm.com

Education

- MBA, Said Business School, Oxford University, United Kingdom, 2017
- MA Sociology, Delhi School of Economics, Delhi University, Delhi, India, 2013
- BA Psychology, Sociology, Economics, Christ University, Delhi, Bangalore, 2011

Languages

- English
- Hindi

Fields of Competence

- Environment and Social Impact Assessments;
- Environmental and Social Management Systems;
- Social, human rights and labour due diligence;
- Environment and Social Due Diligences
- Desk Based Assessments

Key Industry Sectors

- Power - Hydro, Wind, Solar, Thermal, Nuclear
- Oil & Gas
- Hospital
- Pharmaceuticals
- Infrastructure (Roads, Airports, Ports)
- Real Estate
- Steel



Key Projects

ESDD for a Biomass Gasification Project in Cambodia (2019)

Client: IED Invest

ERM was commissioned by IED Invest to undertake an ESDD for their Biomass Gasification Project (1 MW) in Cambodia, and the proposed expansion of another 1 MW unit. Prajna led the social components of the due diligence, undertaking consultations with workers, nearby communities, and at associated facilities. She undertook a review of the company's compliance to applicable reference framework, which included national regulations and international standards such as IFC Performance Standards.

E&S Risk Screening for four Operational Airports in India (2019)

Client: AMP Capital

ERM was commissioned by AMP Capital to undertake a desktop based E&S risk screening associated with a proposed investment decision in into the operations, management and development of four operational airports in India. Prajna led the team that conducted the risk screening and verified environment, social and health and safety risks to identify red flag issues and material performance issues and other non-compliances against Indian laws and IFC Performance Standards.

Resettlement Action Plan Survey and Social Baseline for a 350 km Transmission Line, Nepal (Ongoing)

Client: Millennium Challenge Corporation

MCC invests in least developed nations, and signed a compact with the Government of Nepal to increase the availability of electricity and lower the cost of transportation in Nepal. The project includes the construction of approximately 350 kilometres of high voltage power lines, equivalent to one-third the length of Nepal; the addition of a second cross-border transmission line to facilitate electricity trade with India; and activities to improve sector governance to promote private investment. ERM in partnership with other consultants was commissioned to undertake the ESIA, EIA, RAP etc.

Prajna was part of the team that undertook the social baseline and RAP survey. She led a team of surveyors to undertake the household assessment surveys for the Baseline Data Collection, as well as the Resettlement Action Plan. She was also involved in the data analysis and reporting for the EIA, as well as the RAP.

ESMS Implementation for a Review for a Bank (2019)

Client: IndusInd Bank

ERM was commissioned by IndusInd Bank to undertake a review of the implementation of their ESMS and identify gaps in implementation. Prajna took lead in undertaking interviews with different Business Units and reporting gaps in the existing implementation.

ESDD for three potential wind farms, Gujarat (2019)

Client: ENEL

ERM was commissioned by ENEL Green Power to undertake an Environmental and Social Due Diligence (ESDD) for three wind farm sites located in of Gujarat, India. As part of the ESDD, ERM undertook a rapid E&S assessment of three under-planning wind farm projects. The ESDD covered a review of the sites to identify key areas of risks, non-compliances, opportunities and performance gaps against the applicable reference framework, as appropriate for the early stage of development and forward looking recommendations. Prajna led the social component of this Project.

ESG Due Diligence for a potential investment in a Hospital

Client: Quadria Capital Investment Management Pte Ltd.

ERM was commissioned by Quadria to undertake an ESG Due Diligence (ESG DD) relating to a potential investment opportunity into a Hospital. The scope of the assignment covered a review of ESG Management Systems, and an assessment of E&S compliance and other risks and opportunities of an operating multispecialty hospital. Prajna led the social assessment for this Project



ESIA of 285 MW Wind Power Project in Kutch, Gujarat

Client: ENEL

ERM was commissioned by ENEL to undertake an Environmental and Social Impact Assessment (ESIA) study for a proposed 285 MW wind power project. Prajna led the social components, which included community consultations, village profiling, preparation of a socio-economic baseline and identification of social impacts in the Study Area.

CSR Review and Community Needs Assessment (2019)

Client: Shell India

ERM was asked to undertake a Community Needs Assessment in the vicinity of Shell Technology Centre in Bangalore. The objective was to identify key needs of the local community for meaningful investment. Prajna with a team of two others undertook numerous consultations and focused group discussions with approximately 15 villages around the centre, to identify and develop possible CSR investment strategies.

Phase I of the Environment and Social Due Diligence for a Nuclear Power Plant (2018)

Client: Confidential

A confidential client consortium was proposing an investment in a Nuclear Power plant in India. ERM was commissioned to prepare the desk based Phase I Environment and Social Due Diligence as per applicable national laws and international Environmental and Social Impact Assessment to meet IFC performance standards and lender requirements.

Labour Audit of Mica Processing Facilities (2018)

Client: Yamaguchi Mica Co Ltd.

ERM was invited by Yamaguchi as a third party consultant to undertake a Labour, Health and Safety Audit of their suppliers processing facilities in Koderma, Jharkhand. Prajna was part of the team that undertook a review of the supply chain by visiting the processing units and undertook mapping of the supply chain to ascertain prevalence of child labour. The project involved a review of compliance

to applicable reference framework which included Indian labour laws and other social legislations, ILO conventions and Ethical Trading Initiatives.

ESDD of a Solar Portfolio of 23 solar plants (903 MW) (2018)

Client: Actis

Actis was looking at a potential investment opportunity in the solar energy sector by investing in EGEPL. ERM was commissioned to highlight key Environment & Social risks and issues based on a limited desk-based due diligence to assist Actis in developing a bid for EGEPL's solar energy portfolio. Prajna was part of the team that conducted the risk assessment across the 23 solar plants.

ESDD of a City Gas Distribution Company located in Western India (2018)

Client: Morgan Stanley Investment Management Private Limited

ERM was commissioned by Morgan Stanley on behalf of North Haven India Infrastructure Fund to undertake an ESDD of a City Gas Distribution Company they were looking to invest in. The project involved a review of compliance to AIB standards and Morgan Stanley Environment and Social Policy Statement.

Environment and Social Impact Assessment of a proposed 200 MW Wind Power Project (2018)

Client: by Orange Renewables

ERM was commissioned by Orange Renewables to undertake an ESIA for a proposed 200MW wind farm in Andhra Pradesh. Prajna led the social components which included community consultations, village profiling, and preparation of a socio-economic baseline and social impacts of the study area.

ESG Due Diligence of Axis Energy's 210 MW Wind Assets (2018)

Client: Piramal Capital and Housing Finance Limited

ERM was commissioned by Piramal to conduct an ESG DD relating to a potential investment opportunity in two wind energy projects of Axis Wind Farms. Prajna was the lead social and labour expert for the project and undertook a review of the

company's compliance to applicable reference framework which included Indian labour laws and other social legislations, IFC Performance Standards and Equator Principles.

ESDD of a portfolio of 6 assets across Power, Steel, Port and Manufacturing Sectors (2018)

Client: India Resurgence Asset Management Business Private Limited

India RF had commissioned ERM to undertake a desk-based red flags review (environmental and social) of a portfolio of assets across the power, steel, port and manufacturing sectors located in India (Project Bank). The review intended to support their evaluation of a debt acquisition opportunity associated with the following assets that were part of Bank of India's loan portfolio. Prajna led the social due diligence across the 6 assets.

ESG Due Diligence of a Pharmaceuticals and Health Management Portfolio (2018)

Client: India Resurgence Asset Management Business Private Limited

India RF commissioned ERM to undertake an ESG Due Diligence (ESG DD) relating to a potential investment opportunity into Panacea Biotech Limited. Panacea Biotech Limited (the Target) is one of India's largest vaccine manufacturing and Biotechnology Company engaged in Research & Development (R&D), Manufacturing and marketing of Pharmaceuticals, Biopharmaceuticals, Vaccines and natural / indigenous products. In addition to its domestic presence, Panacea has consolidated its presence across 21 international markets and has an overall workforce of approximately 1500. Prajna was the lead social and labour expert for the project and undertook a review of the company's compliance to applicable reference framework which included Indian labour laws and other social legislations, and IFC Performance Standards

ESDD of a City Gas Distribution Company located in India (2018)

Client: Think Gas Investments Pte. Ltd.

ERM was commissioned by Think Gas, formed by I squared Capital to undertake an ESDD of a City Gas

Distribution Network. The project was a Greenfield project, with a potential investment from OPIC. Prajna was the key social and labour expert for the project and undertook a review of the company's compliance to applicable reference framework which included Indian labour laws and other social legislations, OPIC Environment and Social Policy Statement, IFC Performance Standards and Equator Principles

Environment and Social Management Systems for an infrastructure fund in India (2018)

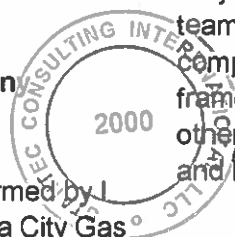
Client: North Haven (Morgan Stanley)

ERM was commissioned by North Haven Infrastructure Fund to prepare an ESMS for the company based on AIIB ESS and national laws, rules and regulations. The document is targeted at allowing the client to understand the E&S risks and impacts of their investments in a variety of sectors including infrastructure, power, manufacturing etc. Prajna supported the team that was involved in preparing the ESMS, including the investment process and integration of E&S elements. Specifically sector wise heat maps, and tools to support the labour, land, stakeholder engagement, contractor management and community development related policies, management standards and assessment tools.

ESDD of a portfolio of 14 hospitals across India (2018)

Client: Abraaj and Care Hospitals

ERM was commissioned by Abraaj to undertake an ESGDD of a potential investment opportunity in one of the largest medical care groups in India. The ESGDD was intended to cover the existing facilities of the hospitals in cities of Hyderabad, Vizag, Bhubaneshwar, Raipur, Surat, Pune and Nagpur Prajna was part of the key social and labour experts team for the project and undertook a review of the company's compliance to applicable reference framework which included Indian labour laws and other social legislations, IFC Performance Standards and Equator Principles.



ESG DD of an integrated steel manufacturing plant in Sundargarh, Orissa (2018)

Client: India Resurgence Asset Management Business Private Limited

India RF commissioned ERM to undertake an ESG Due Diligence (ESG DD) relating to a potential investment opportunity in Adhunik Metalliks Limited (AML). The objective of the assignment was to undertake the ESG DD of AML to identify key areas of risks, non-compliances, opportunities and performance gaps against the applicable reference framework of Indian labour laws and other social legislations and IFC Performance Standards. Prajna led the social components which included community consultations, consultations with retrenched workers, and consultations with trade unions.

ESG Due Diligence of Potential Wind Farms sites of a total of 900 MW Capacity (2019)

Client: Enel

ERM was commissioned by Enel to conduct an ESG DD relating to a potential investment opportunity in three Greenfield wind energy projects of 300 MW each. Prajna was the lead social and labour expert for the project and undertook a review of three project sites compliance to applicable reference framework which included Indian labour laws and other social legislations, IFC Performance Standards and Equator Principles.



CURRICULUM VITAE

Personal Particulars:

Name: Swasti Budhathoki
Address: Ekantakuna, Lalitpur, Nepal.
Mobile no: 9841886971
E-mail: swasti55@hotmail.com



Career Goal: To obtain a position in an organization that will utilize my skills, and offer opportunities for my career. I am interested in working in the area of environmental sustainability and impact assessments, and thus contribute to the current environmental issues.

Academic Qualification:

Year	Degree Obtained	College/university
2009	Master Degree in Environmental Science	Tribhuvan University (T.U), Nepal
2007	Bachelor in Environmental Science	Tri-Chandra Campus, Nepal
2003	Higher Secondary Level in Science	HSEB, KIST, Kathmandu, Nepal

Employment Record:

Year	Position	Employer
May 2019- Till date	Project Assistant	TMS/ ERM
February 2019- April 2019	Transcriber	TMS/ ERM
June 2011- August 2013	Research Associate	ADAPT-Nepal
March 2011 – May 2011	Proposal Writer/Team Member	ADAPT-NEPAL
April 2010- February 2011	Research Associate	ADAPT-NEPAL
October 2009 -March 2010	GESI Officer	ADAPT-Nepal/ Rampur Ghole Study Committee

Work Experience in Detail

Job Title: Project Assistant

Organization: TMS/ ERM

Client: MCA-Nepal

Duration: May 2019 – Till date

Major Responsibilities

- Assist in MCA-Nepal Partnership program (MPP), a benefit sharing component of the transmission line project
- Maintain a grievance database and coordinate with different experts to formulate a response for the grievance, and provide final responses to the claimant
- Data collection, compilation and analysis for base line survey, EIA and RAP for transmission line project
- Preparation of Monthly report and maintenance of stakeholder consultation database

Job Title: Transcriber

Organization: TMS/ERM

Client: MCA-Nepal

Duration: February 2019- April 2019

Major Responsibilities:

- Transcription of the FGDs/KIIs from baseline survey
- Analyzing and compilation of information from FGDs/KIIs for benefit sharing component.



CURRICULUM VITAE

Job Title: Research Associate

Organization: ADAPT-NEPAL

Client: Second National Communication, Ministry of Environment

Duration: June 2011- August 2013

Major Responsibilities:

- Assist in organizing and collaborating with the other institutions for networking and better performance in achieving the scope of work
- Perform primary and secondary data collection, compilation and analysis for Greenhouse gas inventory, its adaptation and mitigation measures

Job Title: Proposal Writer/Team Member

Organization: ADAPT-NEPAL

Duration: March 2011 – May 2011

Major Responsibilities:

- Prepare detail concept note on the Reconnaissance Study of Tilicho Lake for its preservation in context with the changing climate
- Organize meetings and consult with the experts in an endeavor to the sustainable management of the region with ultimate socio-economic upliftment of the region

Job Title: Research Associate

Organization: ADAPT-NEPAL

Client: Alternative Energy Promotion Center (AEPC)

Duration: April 2010- February 2011

Major Responsibilities:

- Compile and provide all list of activities conducted in the FY 2008/09.
- Prepare all the progress achieved in all the sectors under AEPC including the marked achievements and other innovative activities.

Job Title: GESI Officer

Organization: Rampur Ghole Study Committee

Duration: October 2009 -March 2010

Major Responsibilities:

- Identify and analyze possible issues and options for women empowerment in an endeavor to sustainable management of the Ghole area

Membership

- Advisor of HEAD-Nepal
- Member of Brave Nepal

Languages:

- English: Spoken and Written
- Nepali: Spoken and Written
- Hindi: Spoken and Written

Computer Skills:

- Windows Package
- GIS
- SPSS



CURRICULUM VITAE

Other Experiences:

Trainings/Workshops Organized /Facilitated:

- First National Youth Conference on Environment, 2010 - Environmental experts and graduates
- Nepal National Water Week - Ministry representatives, I/NGO staffs and students including locals
- Climate Change Awareness Campaign - Environmental experts and graduates

Trainings/Workshops/Conferences Attended:

- International Conference on Solar Radiation and Aerosol, 2011 - SAHR, IOE
- Climate Resilient Planning, 2010-2013 - National Planning Commission
- Thematic Working Group's draft report consultation workshop of NAPA, 2010 - MoE
- Technology Need Assessment Workshop, 2010 - MoE
- An Intensive course of Environmental impact Assessment (EIA), 2008 - SchEMS, Pokhara University

References:

- Mr. Adarsha P. Pokhrel
Chairperson, IHP-UNESCO Nepal
email: saiibaba@wlink.com.np
- Mr. Balkrishna Prasai
Managing Director, ADAPT-Nepal
Contact no: 9851088417



Hathan Ram Mahato

Narayani Municipality-5, Chitwan

PERSONAL INFORMATION

Date of birth:	15 th June 1969
Father's name:	Laxman Ram Mahato
Gender:	Male
Religion:	Hindu
Marital status:	Married
Temporary Address:	Kathmandu - 2, Baluwatar
Contact Number	9851084484
E-mail Address	hathan99@gmail.com

ACADEMIC BACKGROUND

Level	Name of Institution	Passed year	Board
SLC	Adarsha Secondary School, Dibyanagar, Chitwan	2043 B.S.	SLC Board
I com	Shaheed Smirti College, Ratnanagar, Chitwan	2047 B.S.	TU
B com	Shaheed Smirti College, Ratnanagar, Chitwan	2050 B.S.	TU

WORK EXPERIENCE

- Leading Bird watching and wildlife Tours in Nepal and India since 1993 onward
- Several bird research and surveys carried under the aegis of Bird Conservation Nepal
 1. Survey of Wood Snipe *Gallinago nemoricola* in Langtang National Park 2008.
 2. Bird Monitoring and survey of Phulchowki Mountain Forest 2008/2009.
 3. Survey of Ibisbill *Ibidorhyncha struthersii* in Langtang Valley and Trisuli river basin 2010.
 4. Ornithological Survey of Rara National Park 2014.
 5. Ornithological Survey of Reshunga Forest 2015.
 6. Ornithological Survey of Sagarmathma National Park 2015.
 7. Ornithological Survey of Banke National Park 2016.
 8. Annual Asian Waterfowl Census (AWC) in Nepal since 2000
 9. Annual Raptor Watch since 2010
- Contribution in publication:
 1. compilation of Additional Sightings in BCN newsletter *Danphe*
 2. State of Nepal's Birds 2004 and 2011
 3. Birds of Rara 2015
 4. Nepal Bird Red Data Book 2016
 5. Birds of Koshi 2016
- Contribution on New Bird Species Record for Nepal
 1. Black-tailed Crane *Porzana bicolor* 1999.
 2. Ashy Minivet *Pericrocotus divaricatus* 2011.
 3. Eurasian Skylark *Alauda arvensis* 2015.



TECHNICAL BACKGROUND

- Basic Nature Guide Training 1992.
- Advance Nature Guide Training 1995.
- Important Bird and Biodiversity Area monitoring Training
- Leadership Training.
- Wetland bird census Training.

MEMBER OF ORGANISATION

- Executive Board Member of Bird Conservation Nepal (2006-2008)
- Honorary member of Oriental Bird Club UK since 1999.
- Honorary member of Royal Society for Protection of Birds UK since 2000.
- General Member of Bombay Natural History Society, India since 1998.



CURRICULUM VITAE (CV)

1. NAME OF EXPERT:	Mr. Hiru lal Dangaura
2. Position	Project Assistant
3. DATE OF BIRTH	2042/08/10 (25 Nov 1985)
4. NAME OF ORGANIZATION	Bird Conservation Nepal
5. COUNTRY OF CITIZENSHIP/RESIDENCE	Bhajani Municipality - 6 mahadeuli District Kailali, Nepal and Citizenship is Nepali.
6. RELEVANT EXPERIENCES	22 years of working experiences (12 years working experience voluntarily and 10 experience in professionally) in community based Biodiversity conservation including Bird, wildlife, aquatic freshwater biodiversity conservation, watersheds and wetland management, and climate change adaptation, Indigenous Tharu's Culture with community development stationing in Kailali, Bardia, Banke, Doti, Dadeldhura, Baitadi, Darchula districts of mid and far-west regions of Nepal.

7. EDUCATION:

Year	Degree	Field of Study	School/Venue
	M.A. Running	Rural Development, Faculty of humanities and social science	Rashtray College Sukhad kailali affiliated Tribhuvan University, Kathmandu, Nepal
2075 BS	BA	Rural Development, Faculty of humanities and social science.	Rashtray College Sukhad kailali affiliated Tribhuvan University, Kathmandu, Nepal
2067 BS	+2.	Management (Nepali, English, Business organization Management, Accountancy.	Shree Raghunath Adarsh High School, Bauniya Kailali Nepal
2063 BS	SLC	Account and OPT Maths	Shree mahunyal H.S.S. Bhajani Kailali Nepal.

8. OTHER TRAININGS/WORKSHOPS:

1. Province level workshop on forest fact preparation by Ministry of forest & environment Nepal.
2. Province level workshop on Nepal's sixth national report to the convention biological diversity in Dhangadhi kailali.
3. Mid-west and Far west Tourism development strategic workshop in Thakurdwara Bardia organized by TDS,GIZ
4. Training on Integrating rights and social issues in conservation by BCN
5. Training on Sustainable Forest management by District forest office kailali.
6. Training on Sustainable livelihood & biodiversity conservation by BCN
7. Training on IBAs Monitoring & management by BCN
8. Training on Eco tourism promotion Training by BCN

9. participate in First vulture save zone declaration program in India Katarniaghat Sanctuary organized by Katarniaghat conservation foundation & BNHS
10. Training on Project Planning ,Behavior Change, and Media Massaging by BCN
11. Training on Vulture conservation & Management by BCN
12. Training on Vulture conservation & Management by BCN
13. Training on Community mobilization by Dolphin Conservation Cnter.
14. Training on Report writing and Recycle, reuse, reduce waste management (in school period by WWF Nepal , ECCA,
15. Training on Basic cooperative accounting Training
16. Training Basic peer educator
17. Training on Eco club mobilization by WWF Nepal

10 Employment / volunteer Record:

From August 2013 to present time

Employer: Bird Conservation Nepal (BCN), P.O. Box- 12465, Kathmandu, Nepal

Position held: Project Assistant (NORAD/NOF) project

From January 2010 to 2013 August

Employer: Bird Conservation Nepal (BCN), P.O. Box- 12465, Kathmandu, Nepal

Position held: Monitoring & Education Assistant (Vulture Conservation Programme)

From Feb 2004 to June 2008

Employer:- Regional Eco Club Kailali

Position held:- President , -



From June 2002- July 2007

Volunteer:- Eco club Mahunyal Higher Secondary School Bhajani kailali

Position held:- President

From August 2000-March 2002

Volunteer:- Eco club Rashtery Primarari school Thapapur -4 Paltupur kailali Nepal

Position held:- President ,

From November 2002- July 2009

Volunteer:- Dolphin Conservation Center, Nepal

Position held:- Team Leader

From 1999-2009

Volunteer:- Catapult collection movement for bird conservation, Nepal

Position held:- Secretary ,

11.MEMBERSHIP IN PROFESSIONAL ASSOCIATIONS:

- (i) Member of Dolpphin Conservation Center kailali Nepal.
- (ii) Life Member of Bird Conservation Nepal.

12 Language Skills:

Language	Spoken	Written	Reading
Tharu, Mother-tongue	Excellent	Excellent	Excellent
Nepali	Excellent	Excellent	Excellent
English	Good	Good	Good
Hindi	Good	Good	Good

13. Awards

- 1. Abraham conservation Award 2010 from WWF Nepal and presented by international WWF representative.
- 2. Environment conservation Award 2012 from Government of Nepal, ministry of Environment, science & Technology presented by honorable prime minister Dr Baburam Bhattra.

14. COMPUTER SKILLS:



- MS- Word, MS- Excel, MS -Power Point, E-mail & Internet.

15 Other Skills

- Good knowledge of operating Photocopy, Fax, Driving, Swimming etc.

16 STRENGTH:

- Excellent in communication and facilitation Skill,
- Willingness and enthusiasm for working with rural and vulnerable communities,
- Adjust in any complex-social Environment,
- Flexibility and commitment to learn,

- Honesty, integrity and openness in relationships,
- Politeness and respectable deeds,

17. ADEQUACY FOR THE ASSIGNMENT:

WORK UNDERTAKEN THAT BEST ILLUSTRATES CAPABILITY TO HANDLE THE TASKS ASSIGNED

- ✓ Annual Demoiselle Crane monitoring in Mustang since Oct 2015.
- ✓ Bird Survey of Banda Taal which lies in Brahmadev corridor kanchanpur August 2018
- ✓ Annual Vulture highway line transects survey since 2015.
- ✓ Bird Survey of Ghodaghodi Lake Area 2014,2015,2016,2017,2018 supporting the publication of Ghodaghodi Bird Checklist 2018
- ✓ Finns Weaver survey in Suklaphanta in 2018
- ✓ Winter bird count in Rara Lake 2014.
- ✓ Vulture Nest monitoring 2010-2019 regular.
- ✓ Winter bird Count since 2007 to presents time regular.

18.CERTIFICATION:

I, the undersigned, certify that to the best of my knowledge and belief. This CV correctly describes my qualifications and experience. In absence of medical incapacity, I will undertake this assignment for the duration and in terms of the inputs specified for me in TOR provided team mobilization takes place within the validity of this project.

I certify that I will have certainly been informed by your organization for which my CV proposed. I confirm that I will be available to carry out the assignment.

Signature: _____

Date:



Curriculum vitae (CV) **Jyotendra Jyu Thakuri**

Contact Information

Bird Conservation Nepal, P. O. Box: 12465, Lazimpat, Kathmandu, Nepal.

Telephone: 0977-1- 4417805, 4782644. Fax: 977-1-4413884

Email: jyotendra123@gmail.com and jyotendra@birdlifeneal.org

Education

MSc : Central Department of Zoology, Tribhubhan University, Kirtipur, Passed year 2007, First division, Zoology (Ecology)

Dissertation Topic: Study of status, distribution and seasonal bird diversity at Seshanarayan and Dallu community forest, Pharping, Kathmandu.

Work Experience

Organization: Bird Conservation Nepal (BCN), BirdLife International's partner organization to Nepal

1. Post: Senior Programme Officer: July 2017 – March 2019
2. Post: Conservation Officer: July 2011 – June 2017.
 - *Project leader: of "Conserving the critically endangered Bengal Florican – a Terai flagship species"- Darwin Initiative's project.*
 - *Project coordinator of "Understanding, Assessing and Monitoring of ecosystem services for better biodiversity conservation"- Darwin Initiative's project.*
3. Post: Research and training officer: July 2010 to June 2011
4. Post: Field Education Officer
 - *Project: Bagmati River Nature Park, duration: October 2007- June 2010*
5. Post: Vulture Field Biologist
 - *Project: Vulture conservation programme, duration: April 2007- September 2007*

Small Grant / Projects

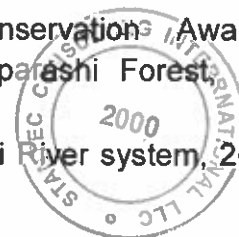
- OBC Conservation Award-2017: Monitoring of Finn's Weaver in Shukla Phanta National Park.
- OBC Conservation Award-2016: An Ornithological Survey of Khandbari Num forest IBA, Nepal
- OBC Conservation Award- 2012: An Ornithological Survey of Manaslu Conservation Area, Potential Important Bird Area, Nepal.



- Rufford Small Grant 2011: Survey and conservation of Cheer Pheasant *Catreus wallichii*, in Rara National Park, Nepal.
- Sacramento Zoo Conservation Fund 2010: Assessment of status of Great Hornbill (*Buceros bicornis*) in Chitwan National Park, Nepal.
- OBC Conservation Award- 2010: An Ornithological Survey of Reshunga Forest, Potential IBA, West Nepal.
- North of England Zoological Society, Chester Zoo grant 2010: To study the population status and distribution of Sarus Crane *Grus antigone* in Suklaphanta Wildlife Reserve, Nepal".
- Mohamed bin Zayed Species Conservation Fund 2009: Status, distribution and ecology of Hodgson's Bushchat *Saxicola insignis* in Suklaphanta Wildlife Reserve, Nepal
- OBC Conservation Award- 2008: An Ornithological Survey of Dang Deukuri Foothill Forest and West Rapti Wetland (IBA).

Other projects completed in team

- Led the team in Urban Bird Count in Kathmandu valley twice a year in the summer and winter season from 2016 till 2018.
- Monitoring of Autumn migration of Demoiselle Crane in Kaligandaki Valley, west Nepal in October of 2017 and 2018.
- An ornithological survey of Madane Protected Forest jointly with the bird experts of Dansk Ornitologisk Forening (DOF), Denmark on 8th – 16th March 2018.
- Monitoring of Finn's Weaver in Shukla Phanta National Park, project funded by OBC in 2017.
- An Ornithological Survey of Khandbari Num forest IBA, Nepal, project funded by OBC in 2016.
- An Ornithological Survey of Api Nampa Conservation Area, Nepal, 2011, project funded by Api Nampa Conservation Area, project leader
- Assessment of migratory birds along the Indrawti River Basin, 2010 project funded by WWF Nepal, Co-investigator.
- National Adaptation of Action Project, Ministry of environment Nepal 2010: Assessment of Ibis Bill for the adaptation of climate change in central Nepal, Co-investigator
- OBC Conservation Award 2010: Bird Conservation Awareness Programme to the communities around Nawalparasi Forest, central Nepal, principal investigator.
- Status and abundance of birds along the Bagmati River system, 2009. A report submitted to NTNC, principal investigator.



- Bird survey of Kanchenjunga Conservation area 2008: Bird Conservation Nepal and Royal Society for the Protection of Birds, Kathmandu and Sandy, Team member
- EIA consultant, Ornithologist: March – April 2008, study survey and report to Asian Development Bank (ADB) north south fast track road project TA4842 NEP. Report submitted to NDRI / North South Fast Track Road Project, Asian Development Bank, Co-investigator

Equipment granted

- IDEA WILD 2009, Bushnell Legend 20-60x80mm Spotting Scope w/ Tripod
- IDEA WILD 2012, Zoom H4n Handy Portable Digital Recorder

Publications

- Thakuri et. Al. 2019. Bird Survey of Madane protected forest, Gulmi district, West Nepal. *Danphe* 28 (1) 1-10
- Thakuri, J. J. and Thapa, I. 2012. Assessment of Reshunga Forest for an Important Bird Area Status. *Danphe* 21 (2): 1-4
- Thakuri, J.J. and Poudyal, L. P. 2012. Birds of Pipar in Annapurna Conservation Area, Nepal. *Danphe* 10 (3)
- Thapa, I. and Thakuri, J. J. 2011. Illegal wild bird trade in Nepal. Biodiversity Conservation Efforts in Nepal. Department of National Parks and Wildlife Conservation (DNPWC), Babarmahal, Kathmandu Nepal.
- Khatiwada, J. R., Chaudhary, H., Ghimire D., Thakuri J.J., Chalise, M. K. and Kyes, R.C. 2010. Conservation status of Wood Snipe *Gallinago nemoricola* in Langtang National Park, Nepal. *Danphe* 19 (1): 6-8
- Thakuri, J. J. 2009. Ornithological Survey of Dang Deukhuri Foothill Forest and West Rapti Wetlands, IBA. *Danphe* 18(3): 5-12
- Thakuri, J. J. and Thapa, I. 2009. Bird survey along the Bagmati River Corridor. *Danphe* 18(2): 1-9
- Inskipp, C., Inskipp, T., Winspear, R., Collin, P., Robin, A., Thakuri, J. J. and Pandey, M. 2008. Bird survey of the Kanchenjunga Conservation Area, April 2008. Bird Conservation Nepal and Royal Society for the Protection of Birds, Kathmandu and Sandy.

Training

- Darwin Scholarship Programme 2012. Biodiversity Monitoring and Communication training 21-31 August 2012, Field Studies Council, UK.

Notable birdwatching events

- First Global Bird Watchers Conference, 25th - 27th November, 2010
Khijadiya, Gujarat India
- Second Global Bird Watchers Conference, 19th -22th January 2012,
Ahmedabad, Gujarat, India.

Interests

- Bird photography
- Major picture contribution in:
 - a. Oriental Bird Images, UK,
http://orientalbirdimages.org/photographers.php?action=birdercontrib&Birder_ID=897
 - b. ARKive, UK, <http://www.arkive.org>

