Moving from a Project-level to River Basin-level CIA: Trishuli River Case Study

January 2018

The business of sustainability

ERM

Trishuli River Basin

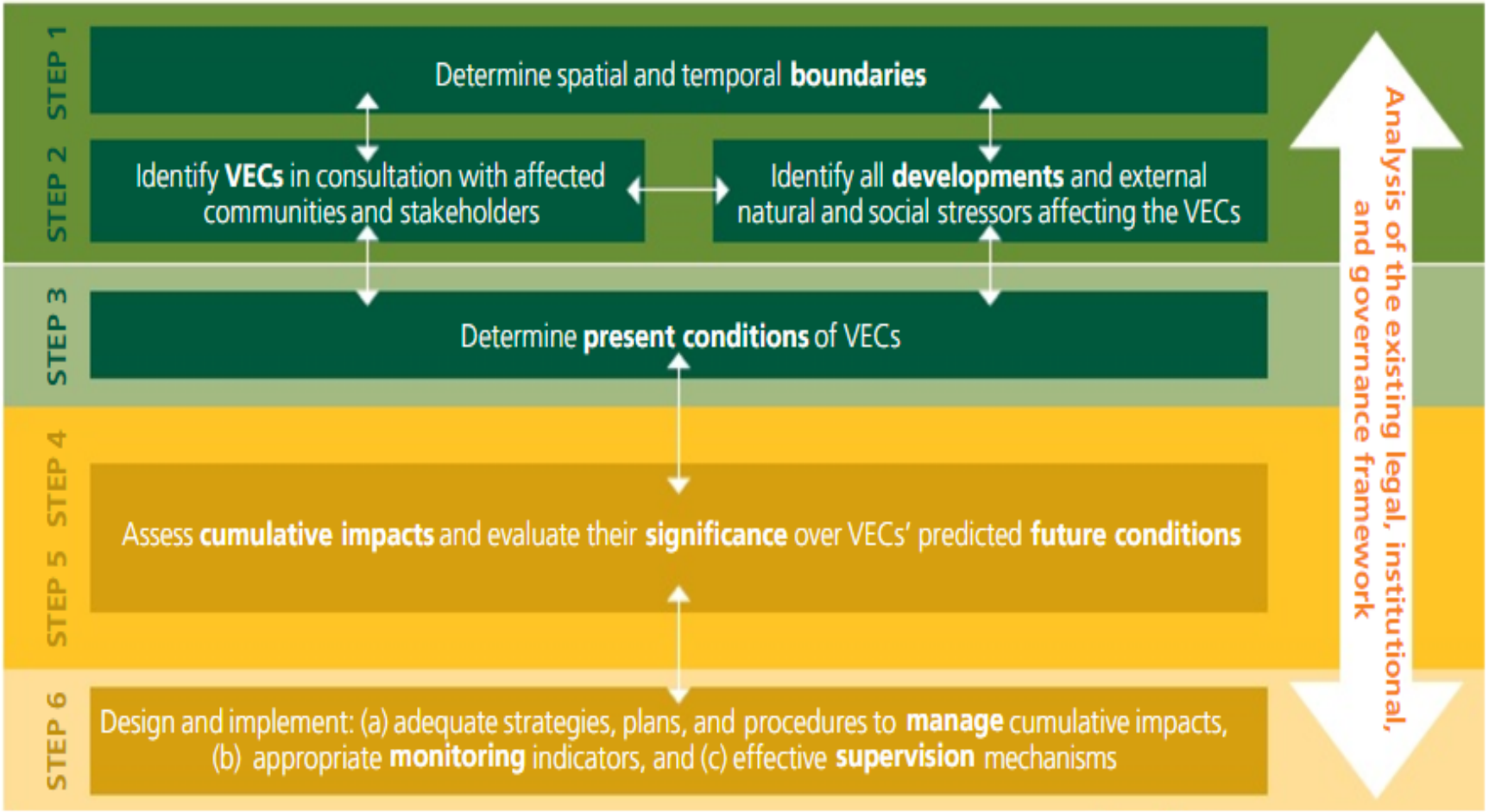
- Tributary to the Gandaki Basin
- ~32,000 sq. km. (approximately 10% in Tibet)
- ~40 hydropower projects proposed
- Why is the Trishuli Basin Important for Nepal?
  - Hydropower
  - Water
  - Rafting and Tourism
  - Local Recreation
  - Fisheries
  - Sand and Gravel
  - Religious/spiritual

Upper Trishuli-1 Hydropower Project

- Proposed 216 MW run-of-river hydropower project
- Timeline
  - 2013 – Nepal EIA approved
  - 2015 – Supplementary Management Plans prepared to meet Lender requirements
  - 2015 – Earthquake
  - 2016/2017 – completed complementary studies
  - 2017/2018 – Updated ESIA to address post-earthquake changes, including CIA

Upper Trishuli-1 CIA

- Followed IFC CIA Guidelines six step process



Trishuli River Basin CIA

- Objectives
  - Establishing a truly multi-project, basin-level understanding of potential cumulative impacts in Trishuli Basin
  - Foster basin-wide, long-term collaboration in managing and monitoring environmental and social impacts and risks of ongoing development of multiple HPPs in the Trishuli Basin.
  - Design institutional and financial mechanisms to support joint management of common and cumulative environmental and social challenges, impacts and risks.

How do a Project-level and Basin-level CIA differ?

- Theoretically they should be the similar, but there are important differences:
  - CIA Process - broader and more inclusive
  - Step 1 - spatial and temporal boundaries may change
  - Step 2A - VECs may change
  - Step 2B - list of developments and stressors may broader
  - Step 3 – Baseline assessment may be more robust
  - Step 4/5 – assess magnitude and significance of VECs may be more robust
  - Step 6 – develop a more robust strategy, plan, and procedures for managing and monitoring impacts

CIA Process

- Project-level – typically involves talking with project-affected stakeholders, government, and key NGOs
- Basin-level – much broader, with Hydro Developer's WG

Government Authorities

Proponents: DoED, Ministry of Energy, MoPE

Key Departments: Health, Federal Affairs and Local Development, National Parks and Wildlife Conservation, Water and Energy Commission Secreteriat (WECS), National Planning Commission

Others: IBN, OMCN

National and District Entities

Hydropower Developers (including NEA and private entities)

IPPAN: Independent Power Producers Association of Nepal;

District representatives of key departments (Dhading, Rasuwa and Nuwakote)

Langtang National Park representatives

Civil Society Groups

Research Agencies: IUCN, WWF, ICIMOD, US AID

Conservation Agencies: Niti Foundation,, JVS, Nepal Water Conservation Foundation

NARA: Rafting Association;

Nepal Hydropower Journalists Association

Affected Communities

Gaon Palikas within the spatial boundaries

Rural Municipalities (Uttaragya, Kalika, Parvatikund, Gosaikund etc)

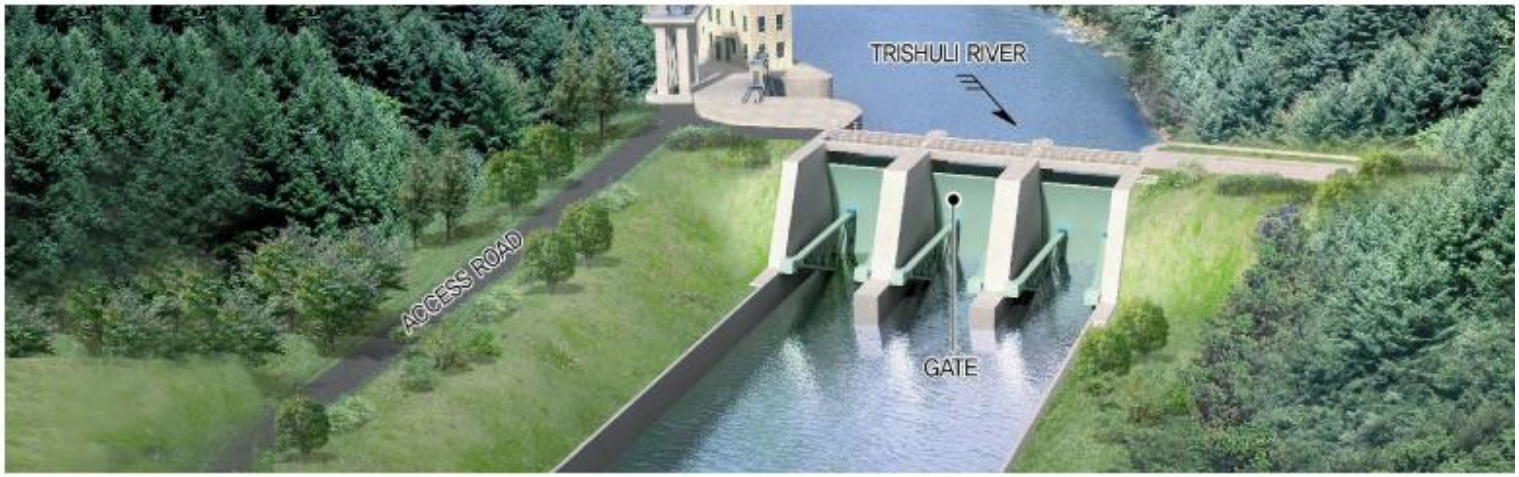
CFUGs: Community Forest Users Group

Representatives of Vulnerable Social Groups

Local Labour Courts at district level

Step 1: Spatial and Temporal Boundaries

- Spatial boundaries
  - Project Level – Trishuli River Basin in Nepal
  - Basin Level – entire Trishuli River Basin, using available information for the portion in Tibet
- Temporal boundaries
  - Project Level – 10 years, while recognizing that the effects from cumulative impacts may 100 years or more
  - Basin Level – 50 years (typical hydro project life expectancy)



Step 2A: Determine Developments/Stressors

Project-Level	Tentative Basin-Level
Hydropower Projects	Hydropower Projects
Transmission Lines (limited)	Transmission Lines (expansive)
	One Belt One Road
	Chinese Rail Line
	Mining and Quarries
	Irrigation dams
Solar farms	Downstream Industries
Land Use	Land use
Climate Change	Climate Change
Earthquakes/Landslides	Earthquakes/Landslides
Forest Fires	Forest Fires

Step 2B: Determine VECs and Developments

Project-Level	Tentative Basin-Level
Water Quality	Water Quality
Water Quantity (flow)	River Flow
Water Users	*See "Livelihoods" below*
Fish and Aquatic Habitat	Mahseer and Snow Trout
Sediment Transport	Sediment Transport
Erosion/Landslides	Slope Stability
Terrestrial Habitat	Habitat Fragmentation
	Birds
Natural Resource Use	Livelihoods
Cultural and Religious Sites	Religious/Cremation Activities
	Tourism/Pilgrimage
	Indigenous/Vulnerable Groups

Step 3: Baseline Assessment

- Able to gather more information because of broader stakeholder engagement and involvement
- Developer project survey

Species	IUCN Category	Spawning Migration & Timing											
		Distance	M	A	M	J	J	A	S	O	N	D	J	F
Tor putitora	EN	L			↑	↑	↑	↑	↑	↓	↓			
Neolissochilus hexagonolepis	NT	M			↑	↑	↑	↑	↑	↓	↓			
Schizothorax richardsonii	VU	M	↑	↑						↓	↓			
Labeo angra	LC	M	↑	↑	↑	↑	↑	↓	↓					
Labeo dero				↑	↑	↑	↑	↓	↓					
Schizothorax progastus			↑	↑						↓	↓			

Steps 4/5: Assess Impact Magnitude/Significance

- Assessment
  - Project-Level – primarily qualitative, primarily drawn from ESIA analysis
  - Basin-Level – semi-quantitative
    - DRIFT model to evaluate effects of flow on aquatic habitat
    - More detailed GIS analyses
- Project-level significant cumulative impacts
  - River flow
  - Fish and aquatics
  - Landslides
  - Recommends mitigation measures
  - Identifies need for collaboration among hydropower developers to effectively manage potential cumulative effects

Step 6: Develop Strategy to Manage Impacts

- IFC CIA Guidance recognizes the challenges in implementing management and mitigation measures for cumulative impacts

> Since cumulative impacts typically result from the actions of multiple stakeholders, the responsibility for their management is collective, requiring individual actions to eliminate or minimize individual development's contributions. At times, cumulative impacts could transcend a regional threshold and therefore collaboration in regional strategies may be necessary to prevent or effectively manage such impacts.

- Engaging more partners in the process, creates the potential for the management of cumulative impacts to evolve into a Joint Environmental Management Framework
  - Mechanisms to share burden of managing cumulative impacts
  - Environmental monitoring programs to validate whether management measures are working

Collaborative Framework for Delivery

- Prescribing joint delivery requires that there is an agreed platform or framework which supports that collaboration
- Collaborators may not only be project proponents but may also include:

  - **Government**
  - **Affected and other stakeholders**
  - **Conservation groups**
  - **Expert groups**

- Actions implemented under such a framework need to be targeted and specific to managing identified cumulative impacts
- Need to develop governance arrangements and specific objectives to be achieved through the intended collaboration

Example Joint EM Framework

Joint Environmental Management Framework

Lead Agency & secretariat

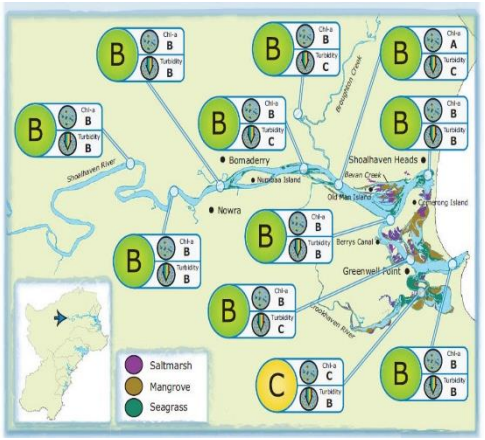
Governance Committee

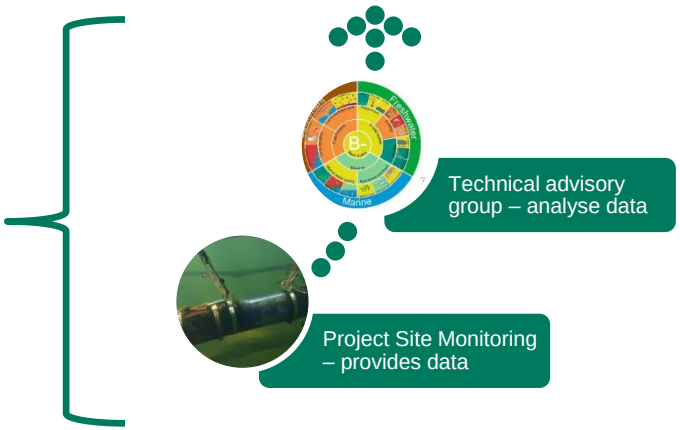
Committee Representatives

- Government
- Developers
- Civil Society
- Affected Stakeholders
- Expert Advisors

Responsibilities

- EMMP implementation
- Report on performance
- Data sharing, analysis, program evaluation
- Adaptive management





ERM

धन्यवाद !!!

ERM