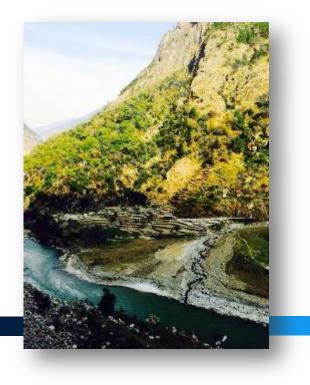
ENVIRONMENTAL AND SOCIAL RISK MANAGEMENT FOR HYDROPOWER PROJECTS

Increasing the share of new private sector investments in the hydropower sector that adhere to good international industry practice on environmental and social standards by 2020





Kate Lazarus Team Leader ESG Sustainable Power Advisory klazarus@ifc.org

IN PARTNERSHIP WITH



BUSINESS CASE FOR SUSTAINABILITY



MANAGING FOR SUSTAINABILITY

- To improve financial margins, businesses can operate to conserve resources, respect stakeholders and improve relationships (employees, and communities), and manage and/or mitigate risks to ensure business success.
- To position for the future, companies must consider their strategic choices to ensure continued access to important factors of production (e.g., water, materials), capital (e.g., investor confidence), and productive workers (e.g., best employees).
- In a financially volatile and environmentally climate changed world, sustainable growth is essential for the long-term success of business.

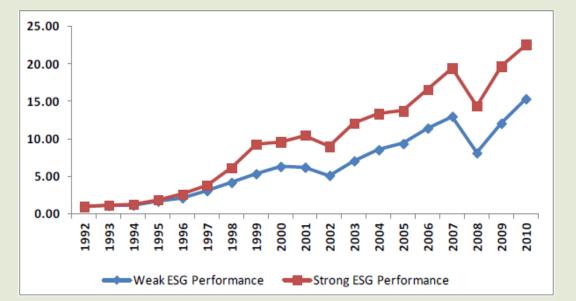
E&S Related risks and opportunities

Portfolio Company/ Stakeholder	Risk	Opportunity
Employees	Strike, Sabotage	Retention, Productivity
Government	Shutdown, Delays	License Renewal, Expansion
Community	Protest, Reputation	Support, Comm. development
Shareholders	Divesting	Long-Term Investors
Financiers	Increased Cost	Better terms
Media	Negative Publicity	Reputational Benefits
Clients	Contract Boycotts	Stable Market
Supply Chain	Disruption/Reputation	Access/Positive Influence
NGOs	Campaigns	Cooperation
Insurers	Loss of Coverage	Reduced Premiums
Export Market	Market Loss	Access to new markets

SUSTAINABILITY ADDS VALUE

- Lowering costs by improving operational efficiency
- Increasing revenue and growth opportunities through environmentally and socially sound products and services
- Improving access to capital through better corporate governance

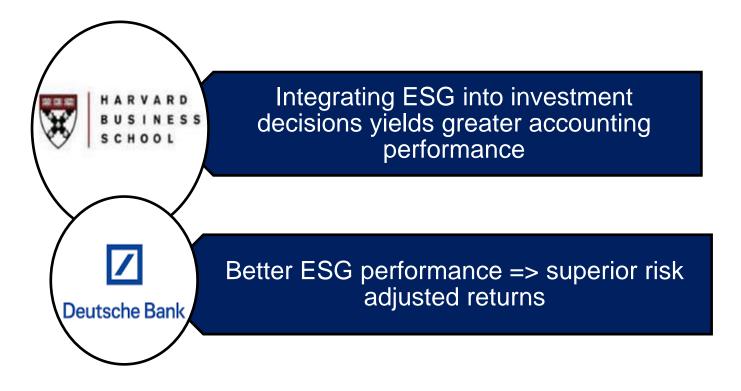




Source: Eccles G.R., Ioannou I. Serafeim G. "The Impact of a Corporate Culture of Sustainability on Corporate Behavior and Performance," Harvard Business School, November, 2011.



Business Case: Integrating E&S Considerations



BARCLAYS

ESG is increasingly a strong decision factor for investors, regulators, and asset managers



Does Sustainability Pay Dividends?



 90% of studies looking at the cost of capital indicated that sound sustainability standards <u>reduced</u> companies <u>cost of capital</u>





- 88% of studies found that robust ESG practices <u>boosted</u> firms' <u>operational performance</u>
- 80% of the studies indicated that good sustainability practices had a <u>positive impact</u> on the performance of companies' stock prices

Source: University of Oxford and Arabesque Partners 2015. From the stockholder to stakeholder: How sustainability can drive financial outperformance", p. 9



Global E&S Trends—Lender Requirements oriented to risk management

- **1.** European Bank For Reconstruction and Development
 - ESMS—Policies, Exclusion List, <u>IFC Performance Standards</u>, EHS Guidelines
- 2. Equator Principles Banks—92 Financial Institutions—global benchmark for determining, assessing and managing environmental and social risk in bank financed projects
 - ESMS—Policy, Exclusion List, <u>IFC Performance Standards</u>
- **3.** European Development Finance Institutions (EDFI) Principles for Responsible Finance
 - ESMS—E&S Policy, Harmonized Exclusion List, <u>IFC Performance Standards</u>
- 4. World Bank Group (IBRD, IFC IDA, MIGA)
 - ESMS—E&S Policy, Exclusion Lists, Safeguards, <u>IFC Performance Standards</u>, EHS Guidelines



Environmental and Social Risk Management

Risk Management

- Risk is the effect of uncertainty on objectives
- Risk is the chance that there will be a +/- deviation from the objective you expect to achieve



ISO 31000

A risk management process is one that systematically applies management **policies**, **procedures**, and **practices** to a set of activities intended to establish the context, communicate and consult with stakeholders, and <u>identify</u>, <u>analyze</u>, evaluate, treat, monitor, and review risk



Translating risk management into reward

• The integration of sustainability into management systems and practices brings tangible benefits, including new lines of business, new clients, greater access to financing, greater shareholder value, and improved reputation and goodwill.

IFC's Private Sector Clients using IFC Performance Standards

- 93% of clients believe the IFC standards in E&S risk management are helpful
 - Improved their stakeholder relations
 - Strengthen their brand
 - Manage their own risks
- Return on equity (ROE) and return on assets (ROA) improve with better environmental performance
- Clients value our expertise in E&S Risk Management over competitors

IFC's Sustainability Framework: From Policy Update to Implementation, December 2012

IFC Environmental and Social Risk Rating (ESRR)

Four Levels of ESRR in IFC investments—Appraisal and Supervision

- ESRR 1 Excellent
- ESRR 2 Satisfactory
- ESRR 3 Partly Unsatisfactory
- ESRR 4 Unsatisfactory

Supervision ESRR Rating of 4 characteristics

- No new investment until ESRR is 1 or 2
- Placed on Watch list
- Not eligible for Advisory Services or technical support



Environmental and Social Risk are <u>business risks</u>, the main types of risk are

Type of Risk	Impacts
<u>Credit Risk</u> = Client is not able to repay the loan on account of social and environmental issues	 Escalation of project costs (e.g. delays, additional investments) Fines/penalties due to non-compliance with E&S national requirements (OHS, emissions/discharge permits) Loss of production capacity (e.g. closure of business) Poor efficiency leading to low competitiveness/low sales Increased insurance costs
Liability Risk = FI faces legal complications, fees, and/or fines in rectifying social and environmental damage by virtue of taking possession of collateral	 Obtaining ownership of contaminated collateral Direct liability in the case of strict lender liability Class action suits if made responsible for negative impacts
<u>Reputational Risk</u> = Negative aspects of a project harm a financial institution's image in the media, with the public, <u>with</u> the business and financial community, and even with their own staff	 Media coverage Local resistance /consumer campaigns Governmental investigations



Build and Institutionalize an ESMS

Environmental & Social Management System

What is it?

- <u>Framework</u> integrating environmental and social risk management into business processes
- A set of <u>actions and procedures</u> implemented concurrently with risk management procedures
- Mandatory <u>environmental and social</u> <u>due diligence</u> prior to loan and supervision for the term of the loan agreement
- Loan <u>covenants</u> requiring project compliance with IFC or other lenders' environmental and social requirements

What does it do?

- Ensures that activities are in compliance with its environmental and social standards
- A ESMS helps companies to avoid or manage projects with potential environmental and social risks
- Identify and mitigate credit, liability and reputation risk



Stakeholder Identification and Engagement



- Projects may impact many people and organizations
- People and organizations are your <u>stakeholders</u>
- Stakeholders have an economic or emotional interest in your financial, environmental and social performance
- Identification, acknowledgement and management required
- Important ESMS Function



Understanding an Environmental and Social Management System (ESMS)

- Processes and practices to implement your policies (business objectives)
- The management system helps to assess and control risks
- Foremost importance continuous improvement an ongoing process of reviewing, correcting
- Plan-Do-Check-Act cycle (PDCA) (Deming Cycle)

Identifying and analyzing the risks and objectives

What is important for you as an organization and what are you going to do about it? PLAN

ACT

DO

CHECK

Implementing the improved solution

What will you change if results are not what you expected? Developing and implementing a potential solution

What actions will you take? Who, what, where, when and how?

Measuring how effective the solution was, and analyzing whether it could be improved

Did you see the change you expected after implementing the actions?



Continuous Improvement Methodology

Identifying and analyzing the risks and objectives

What is important for you as an organization and what are you going to do about it?

Implementing the improved solution

What will you change if results are not what you expected?



Developing and implementing a potential solution

What actions will you take? Who, what, where, when and how?

Measuring how effective the solution was, and analyzing whether it could be improved

Did you see the change you expected after implementing the actions?



Environmental and Social Programs Advantage

Opportunities

- Designing and Building Projects on a Sound E&S Foundation
- Working with businesses that engage in environmentally friendly and socially responsible business
 - Renewable/ energy
 - Clean energy
 - Energy efficiency

Risk Reduction

- <u>Corporate management endorses Risk</u> (E&S) Mitigation Policy and practices (ESMS)
- Assessment of E&S impacts to environment/people caused by projects financed by Lenders
- <u>Integrate</u> risk mitigation tasks in all activities and subcontracts

Unspoken Barriers to ESMS

- Many companies generally don't see any 'value' (\$\$\$) to implementing ESMS
- Fear as first mover disadvantage
- Fear resistance of costly mitigation measures



IFC's Sustainability Framework

IFC Sustainability Framework



IFC PERFORMANCE STANDARDS OVERVIEW



PSI:Assessment and Management of E&S Risks and Impacts



PS2: Labor and Working Conditions



PS3: Resource Efficiency and Pollution Prevention



PS4: Community Health, Safety and Security



PS5: Land Acquisition and Involuntary Resettlement



PS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources



PS7: Indigenous Peoples



PS8: Cultural Heritage

ASSESSMENT AND MANAGEMENT OF ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS

PS1:

Establishing the appropriate management system

- Policy
- Identification of risks and impacts
- Management programs
- Organizational capacity and competency
- Emergency preparedness and response
- Stakeholder engagement, transparency, and grievance redress
- Monitoring and review



PS1: Assessment and Management of Environmental and Social Risks and Impacts

- Understand the project:
 - Construction (e.g. access, power, workforce, waste)
 - Operation (e.g. reservoir, run-of-river, base-load, peak generation)
- Identify project E&S risks and impacts: ESIA:
 - Good environmental and social baseline,
 - Impact assessment site specific & cumulative,
 - Management strategy: apply the mitigation hierarchy: avoid, mitigate or offset.
- Engagement with Affected Communities and other stakeholders:
 - Transparent, meaningful and good-faith communication and engagement throughout project cycle
 - Grievance mechanisms



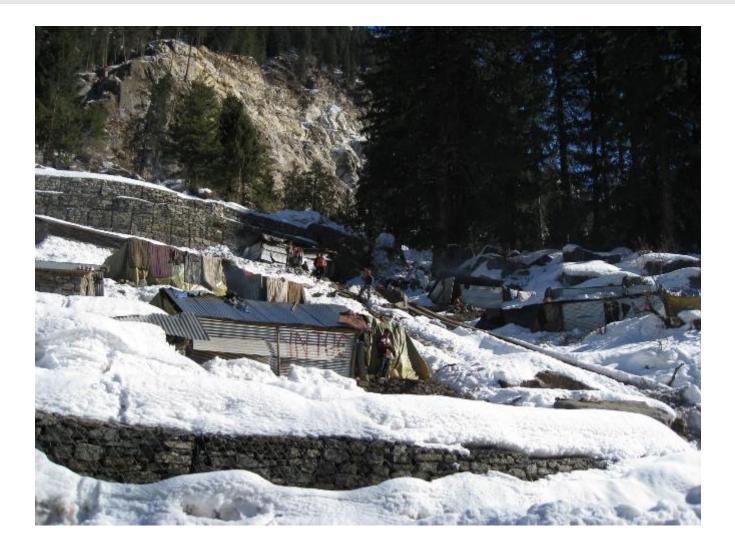
PS2:

LABOR AND WORKING CONDITIONS

Ps2: Labor and working conditions

- Understand the project:
 - Occupational Health and Safety (OHS) risks for the construction and operation:
 - task and risks (e.g. working near water, confined spaces)
 - training/ qualification needs
 - Workforce needed (e.g. local / migrant / foreigner)
 - Potential for tensions within workers and with communities
 - Labor Accommodation / worker camps (e.g. water, sanitation, medical facilities)
- Manage OHS E&S risks / avoid / prevent / emergency response:
 - Separate worker from risks
 - Appropriate Training and Equipment (PPE)
 - Emergency response

Ps2: Labor and working conditions





PS3:

RESOURCE EFFICIENCY AND POLLUTION PREVENTION

PS3: Resource Efficiency and Pollution Prevention

- Understand the project:
 - Construction:
 - Tunnel waste waters
 - Handling and disposal of solid and hazardous materials

- Operations:
 - Reservoir water quality / emissions
 - Reduce availability of water resources downstream
 - Concentrate pollutants in de-water segments
 - Vulnerability to climate change

PS3: Resource Efficiency and Pollution Prevention



COMMUNITY HEALTH, SAFETY AND SECURITY

PS4:

PS4: Community Health, Safety, and Security

- Understand the project:
 - Dam / Structural Safety
 - Early warning systems
 - Emergency response
- Labor influx / Social Cohesion
- Security forces
- Flow reduction / modification
 - Sanitation
 - Water transmitted diseases
 - Sudden flow fluctuations downstream safety

PS5:

LAND ACQUISITION AND INVOLUNTARY RESETTLEMENT

PS5: Land Acquisition and Involuntary Resettlement

- Understand the project:
 - Civil works may require displacement:
 - Involuntary Resettlement
 - Source of Livelihoods
 - Access to resources
 - Associated Facilities
 - Transmission Lines
 - Access Roads
 - Waste disposal

PS5: Land Acquisition and Involuntary Resettlement



PS6:

BIODIVERSITY CONSERVATION AND SUSTAINABLE MANAGEMENT OF LIVING NATURAL RESOURCES

PS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources

- Understand the project:
 - Flooding can significant modify habitat from free-flowing river to lake/reservoir
 - Reservoir may impair connectivity terrestrial habitat
 - Dam can create barrier for migratory fish
 - Reduced flow downstream convert aquatic habitat permanent stressful low flow conditions
 - Fluctuating flows downstream from power-house impair steady-state.







PS7:

INDIGENOUS PEOPLES (IPS)

PS7: Indigenous peoples

- Indigenous People may be differentially affected by reduction of flow (e.g. spiritual or religious beliefs).
- Relationship to land may be more complex for IPs than to other affected people.
- Differentiated consultation and negotiation with IPs.
- Area flooded may contain resources (herbs or medicinal plants) subject to customary use.

Ps8: cultural heritage

- Flooding of archeological sites
- Impact on areas of cultural or religious value.
- Free flowing water of certain quality or depth may be needed for burial ceremonies rituals.





environmental "flashpoints"

Biodiversity Impacts

- Terrestrial & Aquatic Fauna
- Forestry

Ecological Flow

- Fisheries
- Small Scale Irrigation Schemes
- Cultural heritage

Cumulative Impacts

- Upstream
- Downstream
- Basin-wide

Climate Change Impacts

Social "flashpoints"

Land acquisition

- Physical displacement
- Livelihood risk
- Cultural heritage

Labor Influx

- Risks to public health and safety
- Cost of goods & services/Inflation
- Threats to community resources

Employment

International Benchmark for Private Sector

- A principles-based approach
 - Agreement on core objectives and principles
- Progressive realization of Performance Standards objectives
 - Environmental and Social Action Plans to fill gaps
 - Ongoing engagement and implementation support from IFC



Understanding IFC's Environmental and Social Due Diligence Process



IFC and client

agree to work

together



Review and Agree on Next Steps

The client receives copies of:

- Environmental, Health and Safety (EHS) Guidelines, and

The IFC Environmental and Social (E&S) team:

 Asks the client to provide key information regarding assets and management of E&S risks and impacts. · Assesses the project against the Performance Standards and EHS Guidelines.

 May meet with company, government, and local stakeholders to discuss E&S aspects of the project.

 Generates an E&S Review Summary (ESRS) and an E&S Action Plan (ESAP). The ESRS and ESAP are reviewed and approved by the client.



Publicly disclose the project and consult with local community

IFC discloses its ESRS along with relevant sponsor E&S documentation on the IFC website. The client discloses project E&S assessment information locally. Projects will engage and consult with Affected Communities to ensure their awareness of the project, and provide for an ongoing constructive relationship.

For projects with potential significant adverse impacts on Affected Communities and projects involving Indigenous Peoples, IFC will make a determination of the level of community support for the project.

Finalize the investment agreement

Once the World Bank Group Board of Directors approves the project:

- The investment agreement is mutually agreed and finalized.
- The final agreement reflects the terms of the ESAP plus any other E&S commitments.
- Funds are disbursed once the client meets disbursement conditions.

Ongoing monitoring and disclosure

Monitoring occurs on two levels:

Site visits from IFC staff.

 Submission of the client's Annual Monitoring Report on progress in meeting the E&S terms of the investment agreement.

Engagement between the client and Affected Communities should be ongoing. IFC will disclose the client's progress against the ESAP.

During monitoring, IFC and the client may identify opportunity for project enhancement through IFC Advisory Services.

IFC's Compliance Advisor/ Ombudsman (CAO) may also provide additional oversight. The CAO is an independent office that impartially responds to E&S concerns of Affected Communities, and aims to enhance IFC accountability and outcomes.

- IFC's Performance Standards, Relevant World Bank Group
- Other supporting documents.



CONSIDERT OF NONE HINISTRY OF PORESTS AND ENVIRONMENT

Hydropower Environmental Impact Assessment Manual

JULY 2018



Download at: www.mofe.gov.np

CONTEXT Introduction to the Manual

Purpose of the Manual

- support sustainability of hydropower sector development process in Nepal by providing guidance on environmental and social impact assessment of proposed projects.
- build upon national legislation
- reflect the General EIA Manual (forthcoming) Nepal
- highlight opportunities presented by good international industry practices (GIIP) for sustainable hydropower projects.
- help hydropower project proponents in Nepal better define environmental and social risks, responsibilities and opportunities

Use of the Manual

- by Government review agencies, hydropower project proponents, financiers, civil society groups, consultants - all interested parties
- applicable to any type of hydropower facility with the potential to trigger requirement for an EIA (as defined in EP Rules, Schedule-2)
- in addition to associated
 infrastructure such as power
 transmission lines, substations,
 construction materials management,
 and roads



COMPONENTS of the Hydropower EIA Manual

- 1. Introduction
- 2. Hydropower in Nepal
- 3. EIA Process for Hydropower
- 4. Stakeholder Engagement
- 5. Screening
- 6. Scoping
- 7. Identifying Existing Conditions
- 8. Assessing Impacts
- 9. Managing Impacts
- 10. Reporting
- 11. Reviewing

- A. Baseline study parameters& study methodology
- B. Ex of socio-economic HH survey
- C. HPP activities, impacts, mitigation measures
- D. Additional information requirements
- E. Public Notice Sample
- F. Format of Scoping Document
- G. TOR



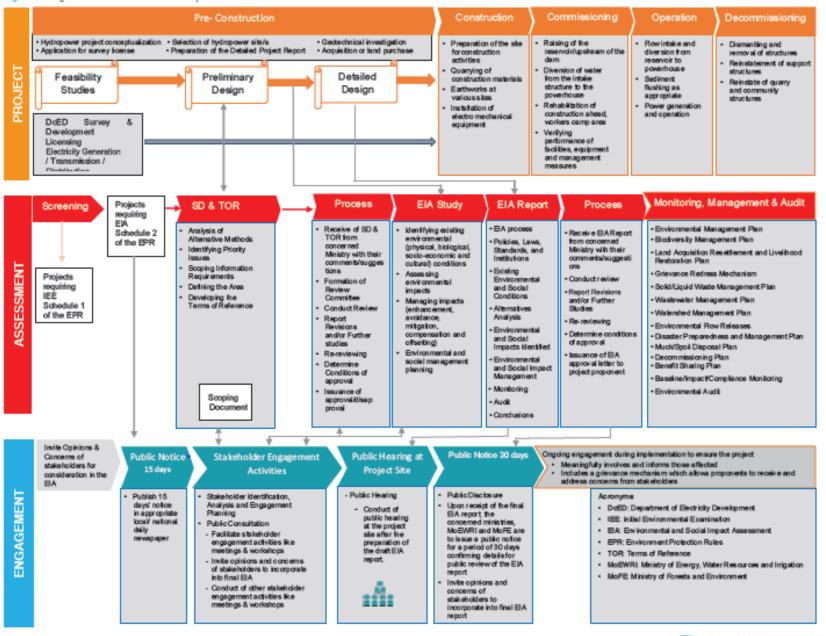
Engaging Stakeholders pgs. 11-15

Overall cost and effectiveness of an EIA is often determined by the quality and success of stakeholder engagement.

- Ongoing meaningful engagement
 - Meaningful involves and informs those affected
 - Includes a grievance mechanism which allows proponents to receive and address concerns
- Emphasizes stakeholder identification and analysis
- Outlining of stakeholder engagement in the EIA (and the various stages)
- Stakeholder engagement plan and grievance mechanism







International Finance Corporation WORLD BANK GROUP

Socio-economic impacts of hydropower projects: Pgs. 49-56

- Extensive section of socio-economic impacts of HPPs
 - During all stages of development pre-construction, construction, commissioning and operation.
 - A number of appendices with examples of types of impacts and survey information
 - Identification of challenges in livelihoods assessments
 - Includes: livelihood impacts, involuntary displacement & resettlement impacts, demographic/population impacts, gender related impacts, vulnerable groups, health/safety/well-being/community value, cultural heritage, etc.



Impact Assessment Methods: Pgs 53-56

- Once impacts are identified, prediction and assessment of impacts should be further supported by understanding of the magnitude, extent and duration of the impacts, collectively considered impact significance.
- National EIA Guideline prescribes Method 1
 - Physical, chemical, biological, socio-economic and cultural impacts identified during various phases of the project are ranked according to their impact magnitude, extent and duration (Appendix A: baseline study parameters/study methodology for HPP)
 - In addition to complying with Method 1, proponents are required to use either Method 2 or Method 3 to help determine the significance of project impacts.
 - M2: List of criteria e.g. nature of impacts on environment/community, types of impacts, duration and project phase, etc and definitions
 - M3: Categorized based on type or nature of each impact
 - Beneficial impact impacted environment/stakeholders would be 'better off' due to proposed development
 - Adverse impact: impacted environment/stakeholders would be 'worse off' plus determination of level of significance



Management Plans

- Manual recommends
 - disaster preparedness and management plan resettlement and rehabilitation plan
 - benefit sharing plan
 - CSR and Community Support Program Plan
- The Manual currently does not include detailed guidance on each of these plans.
- If that is an area developers and proponents feel they could benefit from further guidance, then that is something that can be worked on in the near future.



INTRODUCTION OF GOOD INTERNATIONAL INDUSTRY PRACTICES (GIIP) IN THE GOVERNMENT OF NEPAL HYDROPOWER EIA MANUAL



Introduction of Good International Industry Practices (GIIP)



COOD PRACTICE HANDBOOK Environmental Flows for Hydropower Projects

Guidance for the Private Sector in Emerging Markets

More detailed capacity and guidance required

Environmental Flows – Box 6, Pg 47

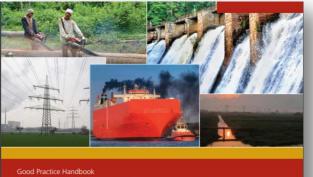
The quantity, timing and quality of the flow of *water, sediment and biota* necessary to sustain freshwater and estuarine ecosystems and the human livelihoods and well-being that depend on these ecosystems.

EFlows assessments address main potential impacts of HPPs:

- Dewatering of a reach
- Changes in pattern of flows of water and sediment
- Lost of connectivity



Introduction of Good International Industry Practices (GIIP)



Cumulative Impact Assessment and Management: Guidance for the Private Sector in Emerging Markets

CHEC Final

More detailed capacity and guidance required

Cumulative Impact Assessments– Box 5, Pg 44

- Result from the successive, incremental or combined effects of a project or activity when considered with existing, planned or reasonably anticipated future ones.
- Particularly relevant for cascades of hydropower in the same watershed or basin.



Introduction of Good International Industry Practices (GIIP)

Methodologies for Aquatic Flora and Fauna Baseline Sampling– Box 3, Pg 34 / Identifying existing conditions/baseline assessments

Information and data on:

-Identifying study reach and target species

-location of sampling stations

-seasonal sampling cycles: monsoon, post-monsoon, winter and pre-monsoon

-methodologies of sampling

- Macroinvertebrates, including crustaceans, mollusks, aquatic insects
- Plankton & periplankton
- Amphibians and reptiles
- Vegetation
- Periphyton
- Fisheries
- Ecological vulnerable species
-



Fisheries

- Baseline information should include Important fishing area across the area of influence
- Discuss species present e.g. Species diversity, Life history, Reproductive cycle, behavior, habitat preference,
- Specific on migratory fish, migration pattern,
- Waterways used for migration including main stream or river and tributaries
- Baseline sampling -considering seasonal changes—each sampling event should cover monsoon, post-monsoon, winter, and pre-monsoon

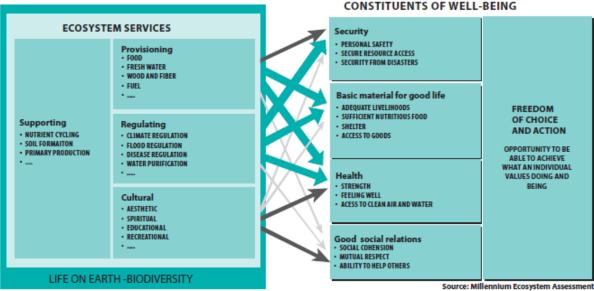






Introduction of Good International Industry Practices (GIIP) **Ecosystem Services & Linkages to** Socio-economic Factors – Figure 4, Pa 49

Figure 4: Ecosystem Services and Linkages to Socio-economic Factors¹⁵



Avoid impacts on ecosystem services

Direct impacts – lost of provisioning ecosystem services or access

Identify and document each ecosystem services provided by the waterscape,

Draw on Millennium Ecosystem Assessment (MEA), 2005 framework

Upstream-downstream linkages

Possibility of incentive mechanism



ARROW'S COLOR: Potential for mediation by socioeconomic factor

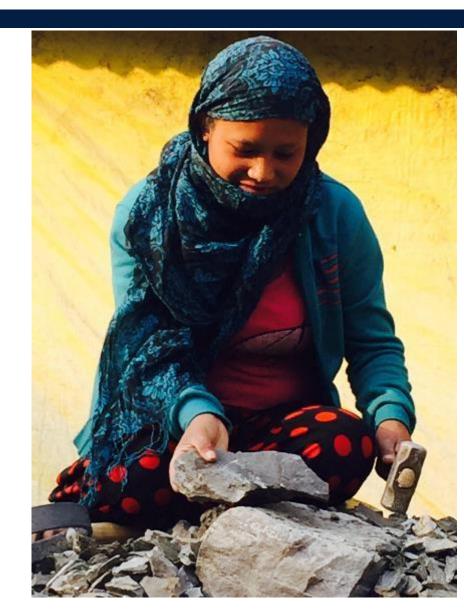
ARROW'S WIDTH: Intensity of linkages between ecosytem services and human well being



Next Steps

Capacity building and training

- Inter-Ministerial level
- Provincial level
- HPP Proponents
- E&S consultants
- Additional guidance



E&S Risk Management Guideline for Nepal Financial sector

Environmental and Social Risk Management (ESRM) guidelines launched by NRB in May 2018.

An awareness raising process for the financial sector has begun.

NRB will be actively monitoring the implementation of ESRM guidelines. A M&E tool has been made part of the ESRM Guideline.

A core group, chaired by the Deputy Governor of NRB, has been formed to guide the implementation process. Banker's association Presidents are part of the Working Group.

The guideline includes tools and checklists which will help bankers do the E&S Due diligence. Thresholds have been created to ensure differentiated due diligence procedure for small business finance as compared to project finance.

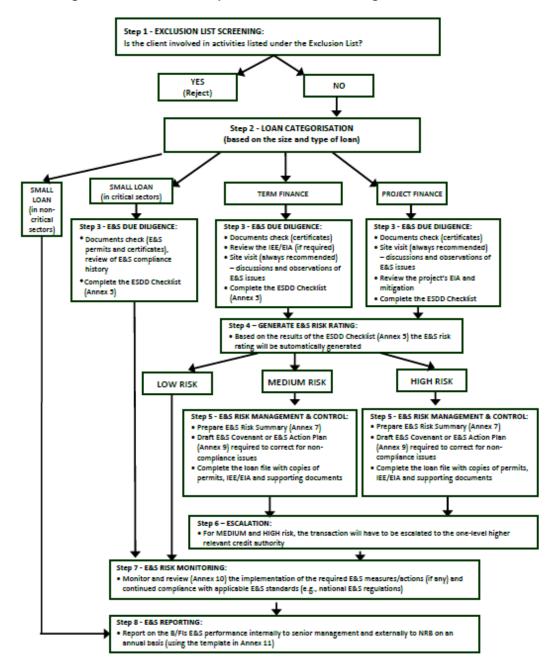
Implementing ESMS as per the guideline: Policy and procedures, E&S Due Diligence, Risk Rating, Escalation, Action Plans and covenants, Dealing with eventualities, Supervision

Earlier Bankers would collect ESIA reports for large projects. Now Bankers will need to collect the ESIA report and also conduct their own due diligence in identifying and managing E&S risks.

https://nrb.org.np/bfr/circular/2074-75/2074_75_For_A_, B_& C_Class--Circular_22-Attachment to Guideline on Environmental & Social Risk Management for Banks and Financial Institutions Related.pdf



The following flow chart summarizes the steps to be followed while conducting ESDD:





"How To" HANDBOOKS

For information on these and other resources, email us at **asksustainability@ifc.org**



Good Practice Note: Environmental, Health and Safety Approaches for Hydropower Projects (2018)



Good Practice Note: Managing Contractors' Environmental and Social Performance (2017)



Guide to Human Rights Impact Assessment and Management (2010)

Provides practical advice to companies on how to identify and assess the human rights risks and impacts of their business activities, integrate results into their management system, and improve their performance.



Good Practice Note: IFC Life and Fire Safety: Hotels (2017)



Good Practice Handbook: Use of Security Forces: Assessing and Managing Risks and Impacts (2017)



Introduction to Health Impact Assessments (2009)

Intended to provide good practice guidance for conducting a health impact assessment (HIA) to determine potential impacts on community health as a result of project development.



Property a Recottaneed Action Part

Guide to Biodiversity for the Private Sector (2006) and Handbook for Preparing a Resettlement Action Plan (2002) will be updated FY13-14

Stakeholder Engagement: A Good Practice Handbook for Companies Doing Business in Emerging Markets (2007)

Provides a comprehensive overview of good practice in engagement with stakeholder groups that are "external" to the core business operations, such as affected communities, local government authorities, and civil society organizations.



THANK YOU WWW.IFC.ORG/HYDROADVISORY

