

# Value and Use to Financial Institutions of EA Environmental and Social Impact and Management Monetization

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# Two Worlds – Different Actors, Instruments, Results

## Environment

## Financial

### Actors

Public Sector Entities

Private Companies

Env/Social Consultants

Ministry Environment

Public/State Banks

Private Banks

Equity Investors

Guarantors

Insurers

### Instruments

EIAs/EAs/EMPs

Cost Benefit Analysis

Economic Impact Assessment

Finance Application/Model

Credit Risk Analysis

Legal Agreement

Loan Supervision

### Result

Environment Permit

Loan

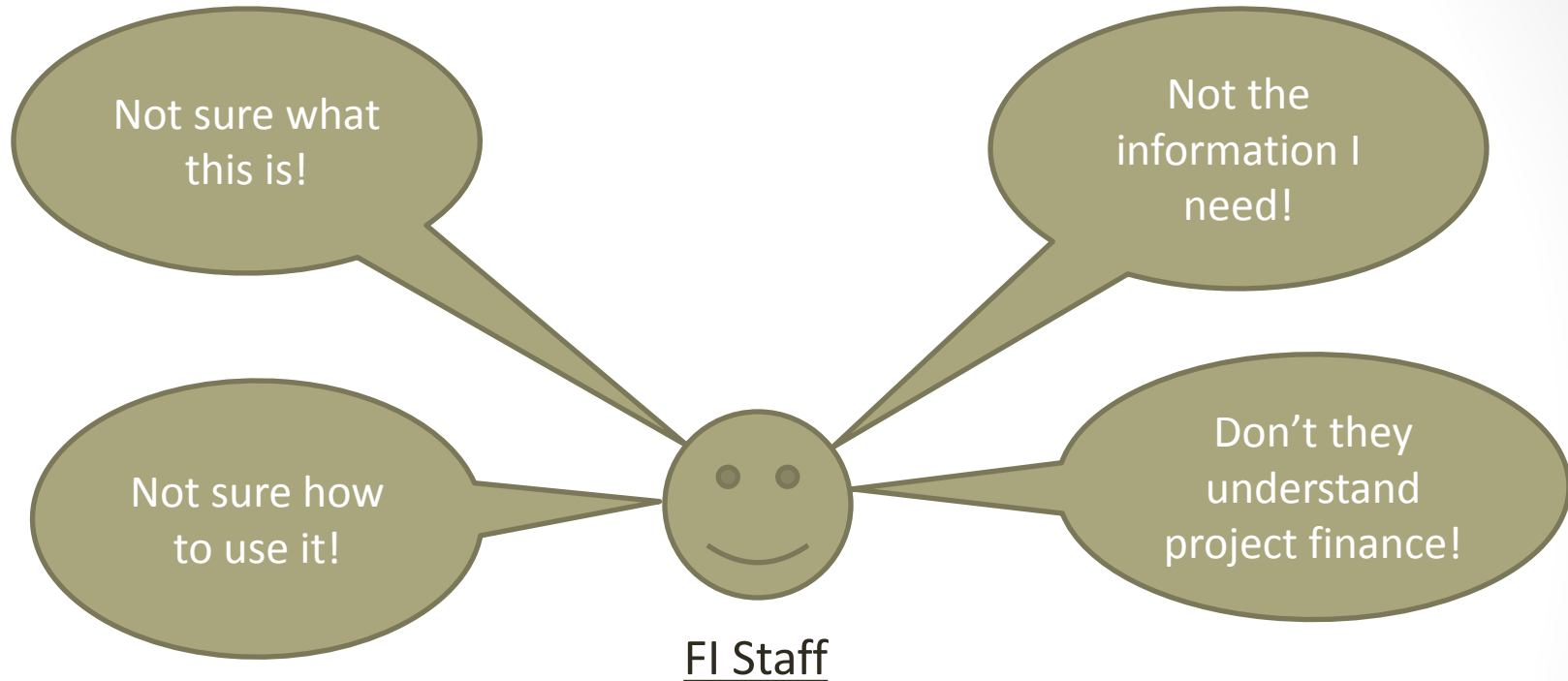
Equity

Guarantee

Bond

EA: Developer of Env. Cost Information

FI: User of Cost Information



Therefore

**Don't Incorporate Environmental Aspects**

# EA Instruments:

## Summary regarding Cost:

- 1. Assessment of Project and feasible alternatives**  
(economic or cost-benefit analysis)
- 2. Environmental Management Plan**

For the Proposed Project and It's Alternatives

### **A. Capital and recurrent costs for**

- Management of expected negative impacts (measures to avoid, minimize, compensate and/or mitigate)
- Institutional
- Capacity building and training
- Monitoring programs

**B. Quantify the environmental impacts and benefits to the extent possible, and assign economic values where feasible (includes nonfinancial costs and benefits)**

# Broad Range of FIs and Financial Instruments: Thus Varying Forms of Interest in Costs

## Projects

- Public, Private, Public-Private

## Finance Methods

- Debt or loan (project or corporate finance): FI concern is ability to repay the FI loan
- Equity: investors desire to increase value of asset
- Bonds: investors desire is guaranteed return on investment over a period of time
- Guarantees: investors concern is risk (probability and cost) if guarantee must be paid by FI

## FIs

- International Finance Institutions: development banks, export credit agencies
- Private Institutions: commercial banks, investment banks, equity funds, pension funds, socially responsible investment funds
- Public/State Financial Institutions/Banks

# FI Focus - FI loan to a Project

## Summary: Interest regarding Cost

FI concern is ability to repay the FI loan – Leads to Focus on:

- Risk of not generating sufficient revenue
- Risk potential additional costs

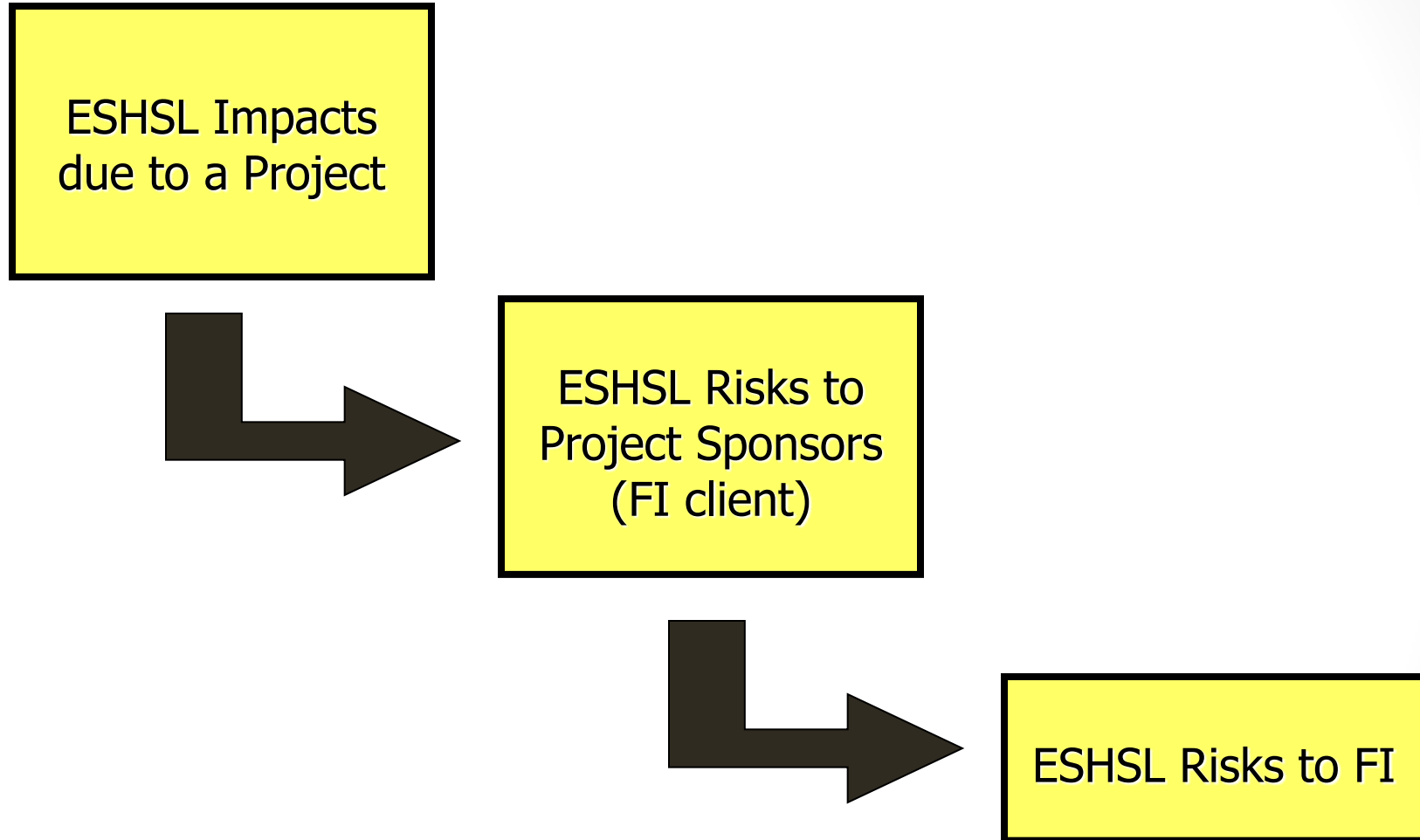
FI Risk Management – FI does NOT take on all risks

- Some Risks are the responsibility of the Borrower (project) or some other party
- Other Risks the FI assumes, at least partially, as part of financing
- Loan (or other) Agreement between FI and Borrower establishes such responsibilities, requirements, etc.

Issue of “materiality” in the context of financing

- What is material (will effect) potential for loan repayment
- Function of loan amount, tenure, project financial model
- Non-material for financial purposes
  - Likely still “material” to project owner
  - May be very “material” to the environment and/or people

# Transaction ESHSL Impacts and Risks



# Linking EA Environmental Cost to FI Risk Management

## Types of Relevant Categories of Project Financial Risks

- Legal/Regulatory
- Construction –
  - Delays and Cost Over-runs
  - Project Completion - Sponsor Support
- Operation
- Market
- Political

## Associated Relevant FI Risk Management Measures

- Insurance
- Force Majeure
- Security - Take-over
- Contract covenants
- FI Supervision

**Time (project delays) can be Significant Cost**



# Linking EA Environmental Cost to FI Risk Management (1 of 3)

## Legal/Regulatory

- Increased capital and/or operating costs (typically O&M) due to new (or likely future) legal requirements such as emission/discharge limits or fees for adequate waste disposal (in particular hazardous waste)
- Additional costs associated with mitigation measures for other environmental related permits (e.g., tree cutting and replacement, etc.)
- Additional costs for to full requirements for biodiversity offsets
- Additional costs for mitigation measures deemed necessary based upon environmental monitoring data/studies undertaken as part of Environmental Permit (e.g., to address an impact not fully confirmed at time of permit approval)
- Costs due to environmental permit litigation or transboundary litigation
- Additional costs to address indirect or cumulative impacts that are not fully associated with the project in the EIA
- Additional costs due to underestimation of mitigation due to Project borrower not responsible for obtaining Environmental Permit (e.g., done by public sector entity in PPP)

## Construction - Delays and/or Cost over-runs

- Project Delays due to logistics (transport of materials and workers), public opposition, labor disputes, lack of labor or materials, rainy season construction, unplanned/known physical cultural resources, natural resource damages
- Mitigation measures not fully defined prior to construction (e.g., soil and waste disposal sites, worker camp locations, etc.)
- Additional mitigation required due to works in sensitive environments (more than planned) or based upon results from environmental monitoring programs
- RoW or land acquisition, compensation or resettlement
- Increased costs due to large construction demands (goods and services) on small local community driving up prices
- Designs based upon inaccurate and/or uncertain data (e.g., river flows, etc.) thus additional measures required
- Unexpected conditions/events: soil and ground water contamination, geologic/soil, etc.
- Regulatory fines/penalties
- Third-party claims (personal or property damage)
- Costs to respond to unplanned events: spills, releases, etc.
- Costs for mitigation for unplanned events not covered by insurance
- Personnel and other costs for project owner to supervise construction
- Mitigation measures requiring support from governmental entities (e.g., traffic control, etc.)

# Linking EA Environmental Cost to FI Risk Management (2 of 3)

## Project Completion (Sponsor Support)

- Potential not fully mitigated impacts at time of completion of construction, such as re-vegetation, restoration of work camps, biodiversity offsets, pending uncertainties in O&M phase impacts (e.g., downstream flows/impacts, etc.), unmitigated impacts due to construction delays/cost over-runs (e.g., rushing construction may create additional impacts, cost over-runs may result in less expenditure on environmental mitigation)

## Operation

- Increasing operation costs, such as hazardous materials storage/management, waste disposal, emissions/discharge treatment (including equipment, materials, utilities costs), personnel costs (including training) and dealing with high turnover
- Mitigation measures requiring significant maintenance and/or repair costs (e.g., high amount of equipment failure, etc.) or new capital costs (e.g., replacement)
- Monitoring programs of significant size
- Designs based upon inaccurate and/or uncertain data (e.g., discharge/emission treatment, receiving air shed or water body, etc.)
- Regulatory costs, such as routine monitoring reports, environmental auditing, environmental monitoring requirements
- Environmental taxes
- Regulatory non-compliance fines/penalties
- Third-party claims (including litigation costs)
- Costs to deal with non-planned events (contingency and spill plans, etc.)
- Contamination clean-up costs (soil and ground water, etc.)
- Costs to deal with climate change, such as decreased revenue (e.g., less water available for power generation), or increased costs (e.g., additional mitigation measures to deal with extreme weather)
- Costs due to worker health and safety equipment and for injuries/illness, in particular deaths and chronic issues
- Poor labor practices resulting in operating inefficiencies
- Environmental management systems costs
- Deteriorating environmental quality of surrounding properties/areas that may directly or indirectly affect project (e.g., ground water contamination, air emissions, fires, explosions, use of hazardous materials, etc.)
- Increases in EHS related insurance due to poor performance

# Linking EA Environmental Cost to FI Risk Management (3 of 3)

## Market

- Business interruption or delay due to lack of material inputs, e.g., associated facility
- Environmental issues (e.g., regulatory non-compliance) with suppliers and/or project product users
- Insufficient materials/resources for project operations (e.g., water supply, soil materials, etc.)
- Reduced sales/revenue due to project perceived as environmentally damaging

## Political

- Governmental modification of contract (e.g., construction, concession)
- Changes in political administration leading to additional costs due changes in regulatory interpretations or enforcement
- Local currency devaluation which may lead to additional cost for import of EHS equipment and materials

## Insurance

- Risks due to man-made events (fires, spills)
- Risks due to natural events (e.g., flood, seismic, etc.)
- Third-party claims (personal or property damage)
- Workers compensation: non-typical HS risks
- Non-typical: impacts on sensitive physical cultural resources, soil and ground water contamination

## Force Majeure

- Labor unrest

## Security/Take-over

- Value of security reduced due to contamination clean-up costs or impacted assets (soil and ground water, asbestos, radon, PCBs, etc.)
- Additional O&M or clean-up costs due to project owner failure to adequately implement required ESHS measures (e.g., due to significant reduction in expenditures prior to loan default and take-over)
- Deteriorating environmental quality of surrounding properties/areas that may directly or indirectly affect project (e.g., ground water contamination, air emissions, fires, explosions, use of hazardous materials, etc.)

## Contract covenants: loan agreement, construction contract, O&M agreement, etc.

- Requirements for Rep&Warranties (e.g., existing liabilities), Project Completion and Sponsor Support, Insurance
- Bid and contracts inclusion of ESHS costs
- Reserve account, Dividend or revenue block, Performance bond or letter of credit, Contingent equity capital, Standby debt facility

## FI

- Cost to comply with FI environmental and social policies/standards
- Cost for FI loan supervision related to ESHS aspects

# Approach

1. Understand the potential financing plan/structure for the project (or principal options)
2. Attempt to obtain adequate consideration and resources (budget) to do proper cost benefit analysis
3. Develop EMP costs taking into consideration full range of potential environmental costs (e.g., see GRI EN30: Environmental protection expenditures)
4. Identify potential costs associated with project ESHS risks and risks to FI
5. Provide adequate detail, description and uncertainties (see Tips)
6. Provide (possibility as letter with EIA) additional cost related information (beyond EIA) and recommendations, as applicable to undertake additional monitoring/studies to reduce significant cost uncertainties

**Put in terms FI will use, needs and understands**

# Tips

Be explicit what cost does and does not include. (Environmental and ?? Social, health and safety, etc.)

State date for basis of cost estimates, and whether discounting for future costs

Separate costs by Construction from Operation and Maintenance

Separate by cost by applicable project parties (owner or governmental authority, constructor, operator, etc.)

State potential costs due to potential ESHS risks, and to extent possible group according to likely party responsible for management of each ESHS risk

State separately costs that could be unit prices as part of bid/contract (e.g., pollution control equipment, etc.)

If limited resources, focus more on costs that would be material to project, owner, FI

Describe potential uncertainties (especially related to increase in cost estimates, and propose additional monitoring/studies to reduce significant cost uncertainties

Provide possible suggestions for FI risk management in loan agreement and project owner in contracts

# Challenges

EA market practice in many countries is often a commodity market (e.g., low cost and less emphasis on quality) thus many EAs don't include a robust cost-benefit analysis

Accuracy and uncertainty of EIA costs estimates given capacity/skills of EA practitioners

Correctly measuring and valuing environmental and social goods such as effects on human health and environmental integrity (e.g., the value of visibly clean air)

Some benefits/impacts can be monetized, others are described or quantified effects that are not able to be monetized

Defining the distribution of benefits and costs (i.e., who pays the costs and who receives the benefits)

Determining the timing and discounting to address timing differences between various impacts (e.g., health benefits that occur long after a waste management system is employed) - selecting an appropriate discount rate

Inclusion of EHS related costs into bids and contracts (e.g., inclusion can restrict efficiency, inclusion can be useful to set minimum measure of EMP quality)

# Putting into EA Terminology

Stakeholder  
Analysis

- Understand FIs

Assessment  
And  
Information  
Disclosure

- Provides stakeholder (FI) with adequate, timely and relevant information in a form and language they understand

**Better Mainstreaming Your Work  
into Decision Making Process of  
Project Owner and FI**