# Strategic Environmental Assessment (SEA): A pro-active approach to avoid reactive mitigation

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# What is a strategy?



Strategic environmental assessment (SEA) "A systematic, participatory decision-making support process undertaken to ensure that key factors relating to the environment and sustainability are taken into account in the development of Policies, Plans, and Programmes (PPPs)" .... Posas (2011)

at the earliest appropriate stage of decision making on par with economic and social considerations. (Sadler and Verheem, 1996).

#### In this context, SEA may be seen as:

 a structured, rigorous, participative, open and transparent EIA based process, applied particularly to plans, Policies and programmes

SEA is driven by strategic thinking



# SEA is a strategic planning tool for assessing impacts at different hierarchical levels

- Policy <u>An inspiration or guidance for action to achieve defined</u> objectives, set priorities, rules and mechanisms to implement objectives
- Planning A purposeful forward looking <u>strategy or design options</u> and measures for resource allocation according to resource suitability and availability, following the orientation, and implementing, relevant sectoral and global policies
- Programme A coherent, <u>organised agenda</u> or schedule of commitments, proposals, instruments and/or activities that elaborate and implement policy

## **Strategic thinking**



### EIA- You know what you want to assess



Source Partidário, 2011

# **SEA-**We know what we want (vision and intentions) but we do not know exactly how to go about it



# How do you relate SEA and EIA



Source Partidário, 2011

## **Difference between EIA and SEA**

### **SEA = Strategy, concept** Form: process, trends, reforms, continuity

Sustainability objectives Intervention Review yrs actions 3 vrs actions time B time

Source: Modified from Partidario 2011

**EIA = Solution** Form: discrete, designed, final



## The real trigger for SEA emergence

### **Overcoming limitations of traditional EIA**

- EIA can not influence macroeconomic and sectoral policies
- EIA is not effective in assessing cumulative impacts of multiple economic investments



EIA	SEA
Applied to projects and their impacts	Applied to policies, plans and program and their impacts
Short- and medium-term perspective	Strategic and long-term perspective
Takes place at the end of the project design cycle	Takes place at earlier stages of the development design process
Applied to projects within a sector	Sectoral and cross-sectoral
Reactive assessment of development proposals	Proactive approach to help development of proposals
Scope is localised, site-specific	District, regional and beyond
Limited planning requirement	Comprehensive planning required
More detailed information required, primary data collected through field work	State of the Environment Reports, statistical data, policy and planning instruments

EIA	SEA
Well-defined, linear process.	Multi-staged, iterative process
Based on smaller range of consultations	Based on larger range of consulations
Product of decision processes (final outcomes)	Provides decision windows along decision
Scale of impact microscopic, local	Macroscopic, (global, national, regional)
EIA document is mandatory.	May not be formally documented.
Emphasis on mitigating environmental and social impacts	Emphasis on avoiding impacts and meeting balanced environmental, social and economic objectives of PPPs
Limited consideration of feasible alternatives, cumulative impacts rarely addressed	Considers broad range of alternatives as well as cumulative effects of multiple developments against projected trends



SEA can help improve integration of economic, environmental and social considerations

# Other related instruments that are part of the SEA "toolbox"

- ✓ Sectoral Environmental Assessment
- Regional Environmental Assessment
- ✓ Landscape Level Assessment
- ✓ Sustainability Analysis (SA)
- ✓ Strategic Environmental Analysis (SEAN)
- ✓ Country Environmental Analysis (CEA)
- Poverty and Social Impact Analysis

**Cumulative Environmental Assessment:** Impacts on the environment which result from the incremental effects of an action <u>when considered together with other past, present, and reasonably</u> <u>foreseeable future actions</u> regardless of who takes the other action (CEQ, 1978).



# Relevance of SEA for mainstreaming environment in development planning and decision making

SEAs are complementary assessment tools for **Upstreaming** (i.e. aid at the strategic level) and **Mainstreaming** (inputting directly into the decision making)



### **Priority sectors for SEA**

- i. Regional planning
- ii. Urban land use planning
- iii. Development planning in road, mining, energy sectors
- iv. Coastal Zone Management
- v. Resource management and allocations
- vi. Disaster management planning



# **SEA of mining sector**

India produces as 84 minerals comprising 4 fuel, 11 metallic, 49 non- metallic industrial and 20 minor minerals.

13,000 mineraldeposits occupy about0.7 million hectaresof land area



### To mine or not mine



#### Source: Jhala 2012







# Cluster approach is the answer for reviewing the landscape level impacts

A 'cluster' approach would help:

- to support production in <u>small mines</u> (with less than 0.2 MTPA and lease areas of say less than 100ha) in an environmentally sustainable manner
- allow the assessment of the landscape level impacts of <u>contiguous mines</u> from several mines in a neighbourhood
- improving the environmental scenario resulting from <u>abandoned mines</u> with problems of water logging, raging fires, subsidence and waste dumps

## POLICY SUPPORT

- India has the second largest road network (3.31 million km) in the world (National Highway Authority of India).
- ~ 26,000 km road
  passes through forests



SEA and SEA like tools are needed for policy reform in road sector

Assessing impacts at landscape level

National Highway -7





National Highway -37

### **Case study : Developments in Highway Sector**



# NH–7 along Pench Tiger Reserve

Ecological issues and best practice mitigation options

- Longest national highway
- Runs north-south for **2,369 km** from Varanasi to Kanyakumari.
- Cuts through 7 states (Uttar Pradesh, Madhya Pradesh, Maharashtra, Andhra Pradesh, Karnataka, and Tamil Nadu).







The NH 7 cuts through one of the most important wildlife corridors between Pench Tiger Reserve and Kanha National Park.



# Proposal of NHAI for 4 laning of the National Highway -7



Total stretch of road in MP and Mahrashtra: 65 km

### This involved:

- Request for diversion of forest area for widening of NH-7
- Directives of Hon'ble Supreme Court to NHAI to revise proposal for reducing demand on forest area
- NHAI proposed animal crossings through PTR
- Technical review of proposal by WII on request of NTCA



Initial Proposal Right of Way : 60m Median: 4.5m Road verge: 30m

Allows time and space for animals to decide whether to cross the road or not

Revised Proposal Right of Way : 30 m Median: 4.5 m

#### No road verge

Increases risk to animals as the lack of verge constrains decisions to cross/ not cross the road

# Importance of road verge reflected from direct animal sightings





Effects of four lanes of the road merging into two lane road - increase in the time spent by the vehicles on the 2 lane section of the road.

#### 'Fait Accompli' Situation

#### An Example of a Typical River Basin...



#### Overall

(environmental awareness, competition for water, growing demands, construction and operation-related safeguards, environmental knowledge base and decision support systems, adequacy of policies, institutions, instruments, incentives & coordination in management of the resource base and service delivery; cultural property management,

#### Typical Environmental Issues in a Basin Context



Pesticides, TDS)

Source: N. Harshadeep, The World bank



## REGIONAL PLANNING IN MUNNAR HIGH RANGE MOUNTAIN LANDSCAPE

Occupies 3,100 km<sup>2</sup> Unique ecosystems Origin of major river systems High endemism Matrix of multiple land uses



## Land-uses in Munnar landscape



#### Sectors





## **Key outcomes**



Development of a **Regional plan** aimed at long-term sustainability of Development Plans that would ensure socio-economic wellbeing and effective conservation in PA and non-PA areas

# Complementary or hierarchical relationship of SEA with other related instruments



# **Stages involved in the SEA**

#### 1. Establishing the context for the SEA

- Screening
- Setting objectives
- Identifying stakeholders

#### 2. Implementing the SEA

- Scoping (in dialogue with stakeholders)
- Collecting baseline data
- Identifying alternatives
- Identifying how to enhance opportunities and mitigate impacts
- Quality assurance
- Reporting

#### 3. Informing and influencing decision-making

Making recommendations (in dialogue with stakeholders)

#### 4. Monitoring and evaluating

- Monitoring decisions taken on the PPP
- Monitoring implementation of the PPP
- Evaluation of both SEA and PPP

# **SEA- International Experience**

Globally formal provisions increase from 20 countries in 2001 to 60 countries in 2011



# SEA around the world: 1990



# SEA around the world: 2000



# SEA in the world: Beyond 2010

Specific SEA legislation
 EIA / other environmental legislation
 Other SEA-enabling legislation

Donor mandated practice Voluntary practice Donor mandated and voluntary practice

# **Conceptual References**



() OECD DAC NETWORK ON ENVIRONMENT AND DEVELOPMENT CO-OPERATION (ENVIRONET) STRATEGIC ENVIRONMENTAL ASSESSMENT AND ECOSYSTEM SERVICES November 2010 **OECD** 

Strategic Environmental

A REVIEW OF RECENT EXPERIENCE

Practice

Assessment in Development



() UNEP

> Environmental Impact Assessment and Strategic Environmental Assessment: Towards an Integrated Approach

# Thank You