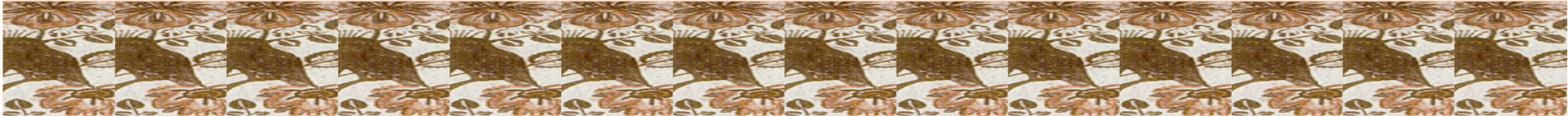




Professionalizing EIA for Biodiversity Conservation: *Challenges, opportunities and synergies*

- ◆ **Building Capacity through Training and Research**
 - ◆ **Building Capacity through Best Practice Guidance**
- 

Capacity building in EIA: What does it entail?

- ◆ Enhancing skills and knowledge of individuals and organizations
- ◆ Providing demand driven support for promoting best practices in EA
- ◆ Developing pool of experts for transfer of knowledge and practice



Training

- ◆ Training of resource managers,
- ◆ Training of trainers
- ◆ Training of EIA practitioners
- ◆ Training of policy makers

EIA is now a part of the PG Diploma course in Wildlife Management conducted by WII for wildlife managers

15 courses since 1996

300+ professionals

75+ trainees from South and South East Asia

WII is organizing customized courses for various target groups

250+ professionals

Representing Govt. officials, Scientists, EIA practitioners, trainers developers in key sectors and resource managers

Introduced as a theme in IFS Compulsory Course – 2 and 5 day courses

Introduced in the IFS-MCT Programme

Research Projects undertaken in the field of EIA

Teaching EIA in Masters course

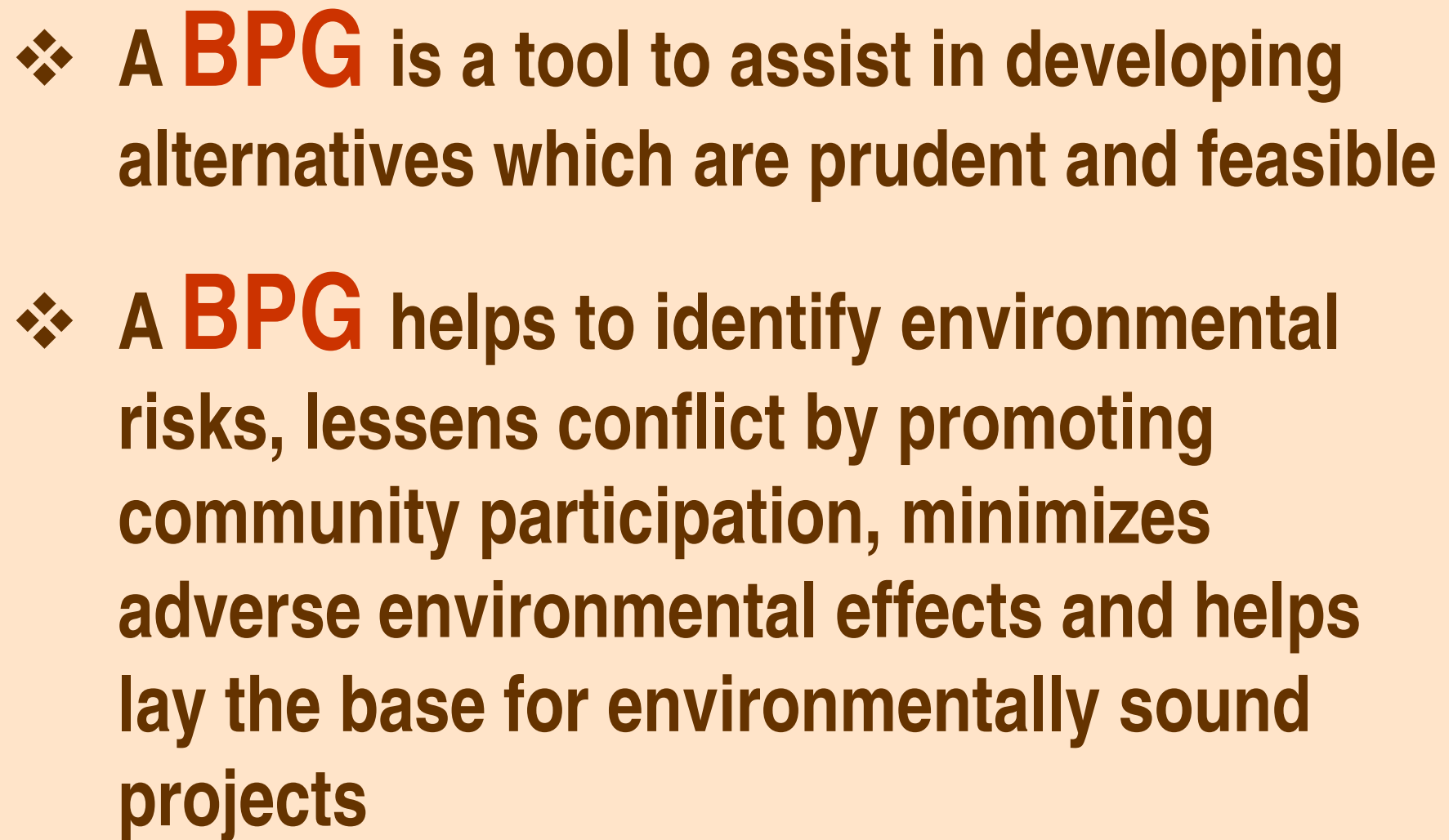
- EIA as a discipline has generated a lot of interest among graduate students and is now a part of the curriculum of many universities in South Asia
- The taught curriculums of most universities are deficient in coverage of biodiversity related impacts
- Good avenues for jobs through secured placements continue to attract students to opt for EIA




Building Capacity through Best Practice Guidance

**What is a Best
Practice Guide (BPG)**



- 
- ❖ A **BPG** is a tool to assist in developing alternatives which are prudent and feasible
 - ❖ A **BPG** helps to identify environmental risks, lessens conflict by promoting community participation, minimizes adverse environmental effects and helps lay the base for environmentally sound projects

more...

- 
- ❖ A **BPG** helps to minimize environmental impacts and reduce economic costs
 - ❖ A **BPG** helps to deliver high quality information

Best Practice Guidance at WII

The First Trigger...late 1990s

- ◆ Observation of frequent road injuries/ mortality of wild animals of all taxa particularly herpetofauna, birds and mammals
- ◆ Request from MoEF for an Environmental Assessment of a road project in NSTR Tiger Reserve in Andhra Pradesh State in 1999

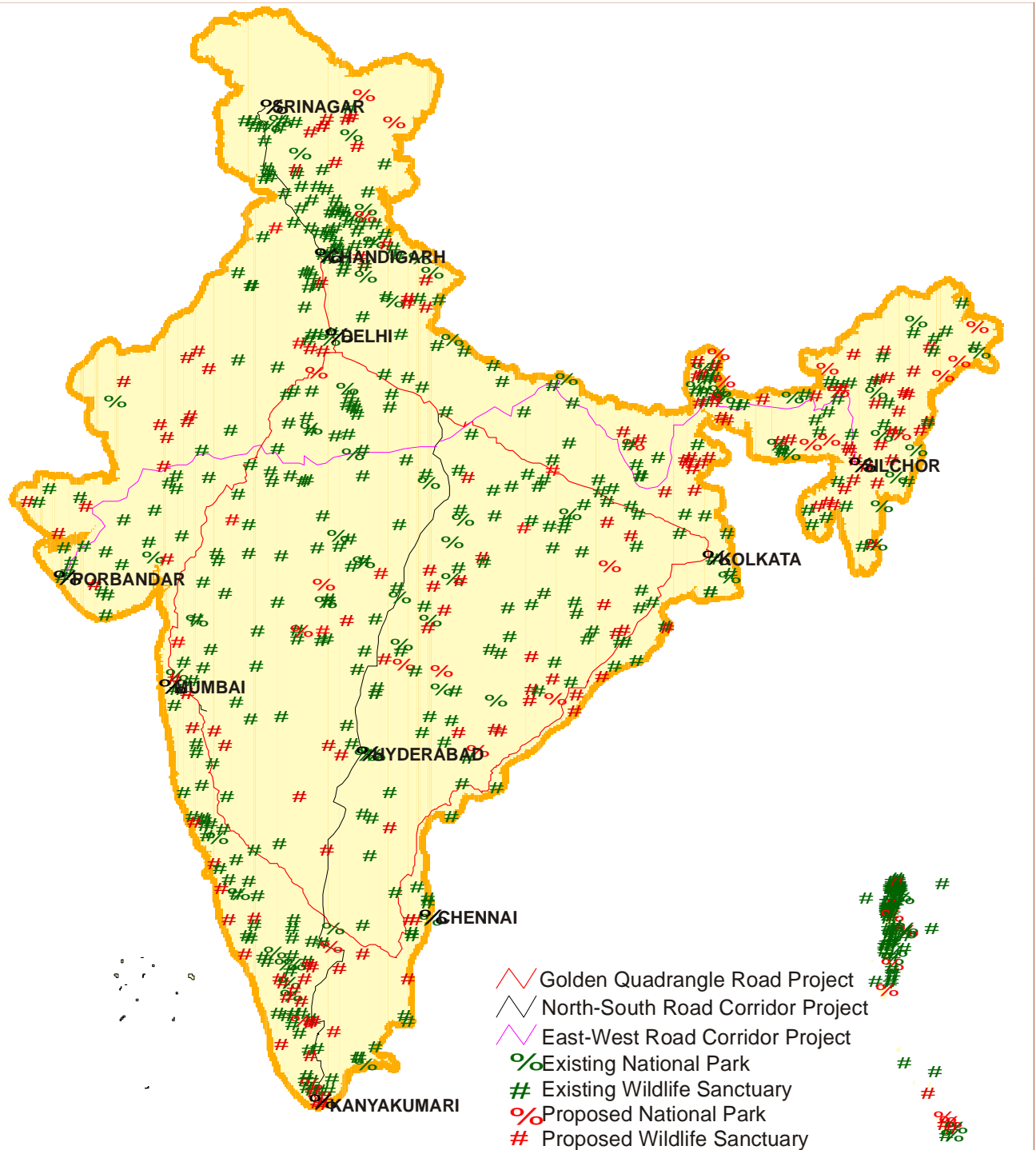


Current and proposed roadwork in India: 1996-2003

Road project	km
Golden quadrilateral	5952
NH2 Delhi – Calcutta	1469
NH5&6 Calcutta–Chennai NH4, 7, 45 & 46	1745
Chennai– Mumbai	1302
NH8 Delhi – Mumbai	1436
North – South and East–West corridors	7300

Source: National Highway Authority of India 1999

Protected Area Network and Road Development

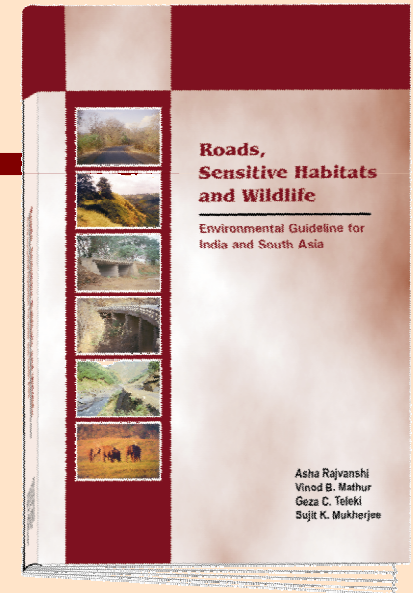


“

Roads, Sensitive Habitats and Wildlife

*Environmental Guidelines
for India and South-Asia*

”





CONTENTS

Part – I Theory and Practice

1. Roads and Wildlife: The Relationship
 2. Protected Areas, Wildlife and Roads: Environmental Issues
 3. Environmental Institutions, Legislations and Process
 4. Ecosystems, Impacts and Mitigative Measures
 5. Methods and Tools
 6. Additional Sources of Information
- 



CONTENTS

Part – II Case Studies

1. *Road and Rail Network Development in Gir National Park and Sanctuary*
 2. *Kohalpur-Mahakali Highway Project, Nepal*
 3. *Mumbai-Pune Expressway Project*
 4. *Linear Developments and Elephant Movement in Rajaji-Corbett Conservation Area*
 5. *Colombo-Katunayake Expressway Project: Integrating Environmental Considerations in Project Planning*
 6. *Andhra Pradesh State Highway Rehabilitation and Maintenance Project: The Nandyal-Giddalur-Thokapalli Road*
- 



CONTENTS

Annexures

Annexure I – Glossary

Annexure II - Sample of Environmental Management Action Plan




```
graph TD; A[Impacts of Roads] --> B[Habitat fragmentation and modification]; A --> C[Restriction of animal movements]; A --> D[Injury and mortality of wildlife species]; A --> E[Soil erosion and hydrological alterations]; A --> F[Environmental contamination]; A --> G[Human colonization induced disturbances];
```

Impacts of Roads

**Habitat fragmentation
and modification**

**Restriction of animal
movements**

**Injury and mortality of
wildlife species**

**Soil erosion and
hydrological alterations**

**Environmental
contamination**

**Human colonization
induced disturbances**

Best Practice Guidance at WII...

The Second Trigger...2005-06

- ◆ Shortcomings in EIA Practice...
 - *The practitioners' perspective...*
 - *The reviewers' perspective....*

The EIA Experience...

- ◆ Treatment of biodiversity in EIA practice has hitherto been minimal, meagre and even superficial in a majority of projects.
- ◆ A precise identification of '*drivers of change*' in biodiversity values is generally not carried out.

more...

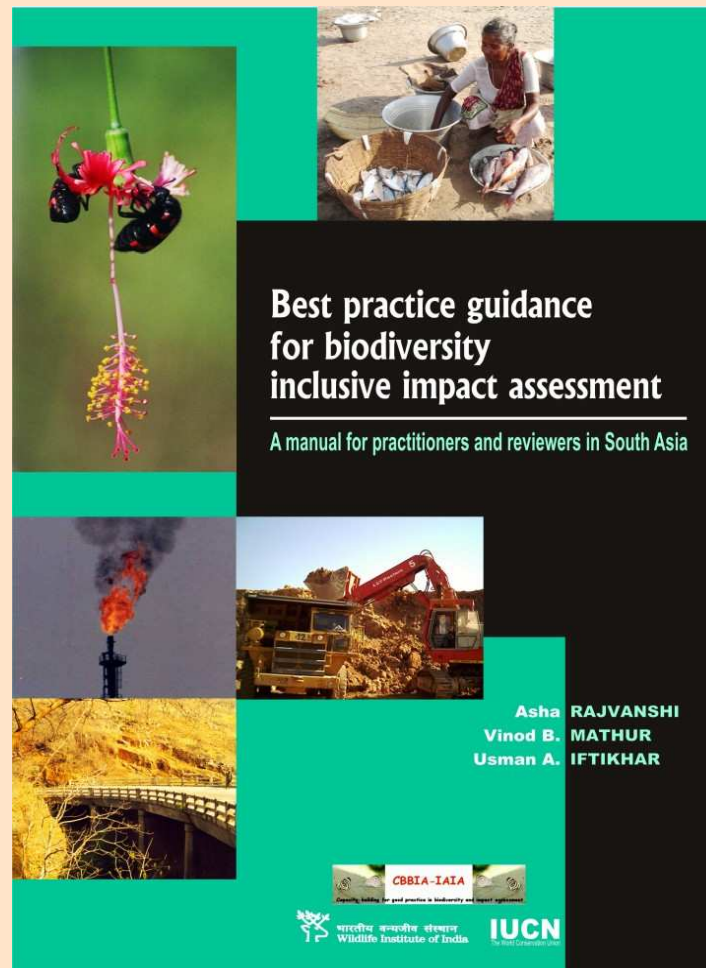
The EIA Experience...

- ◆ A '*comprehensive evaluation*' of significance of such changes including economic costs are not provided in EIA documentation.
- ◆ A '*sound and pragmatic*' mitigation and environmental management plan is often lacking.

And above all, a clear set of recommendations' for the reviewers/ decision-makers, to base the pronouncements are not available.

The response...

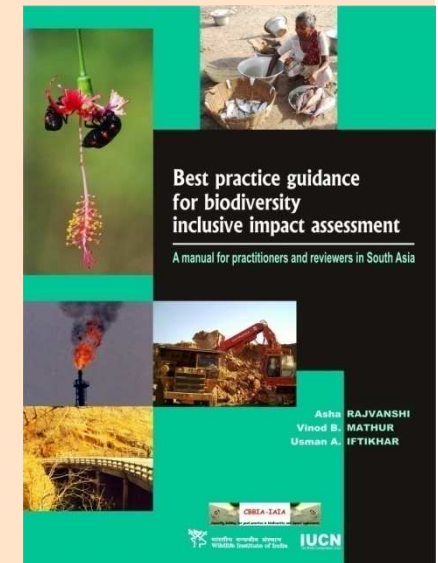
- ◆ A practical tool kit to address capacity issues and provide innovative '*fit for purpose*' guidance instead of '*one-size-fits-all*' approach was developed.



more...

The response...

- ◆ The manual was a major step in ***‘retooling’*** the impact assessment for mainstreaming biodiversity through integration of both ecological and economic valuation tools.
- ◆ The manual was consciously designed to provide ***‘start to end’*** procedures and ***‘how to’*** approaches to improve EIA practice.
- ◆ The manual reflects a positive effort in translating the need to make EIA a more integrated and effective development planning and decision-making tool.



The response...

The manual provides practitioners a useful construct for the thought process which might be needed to re-frame EIA as an integrated tool for merging ecological and economic evaluation of biodiversity and mainstreaming it as a development issue.

Screening



Scoping



Assessment



Evaluation



Mitigation



Reporting

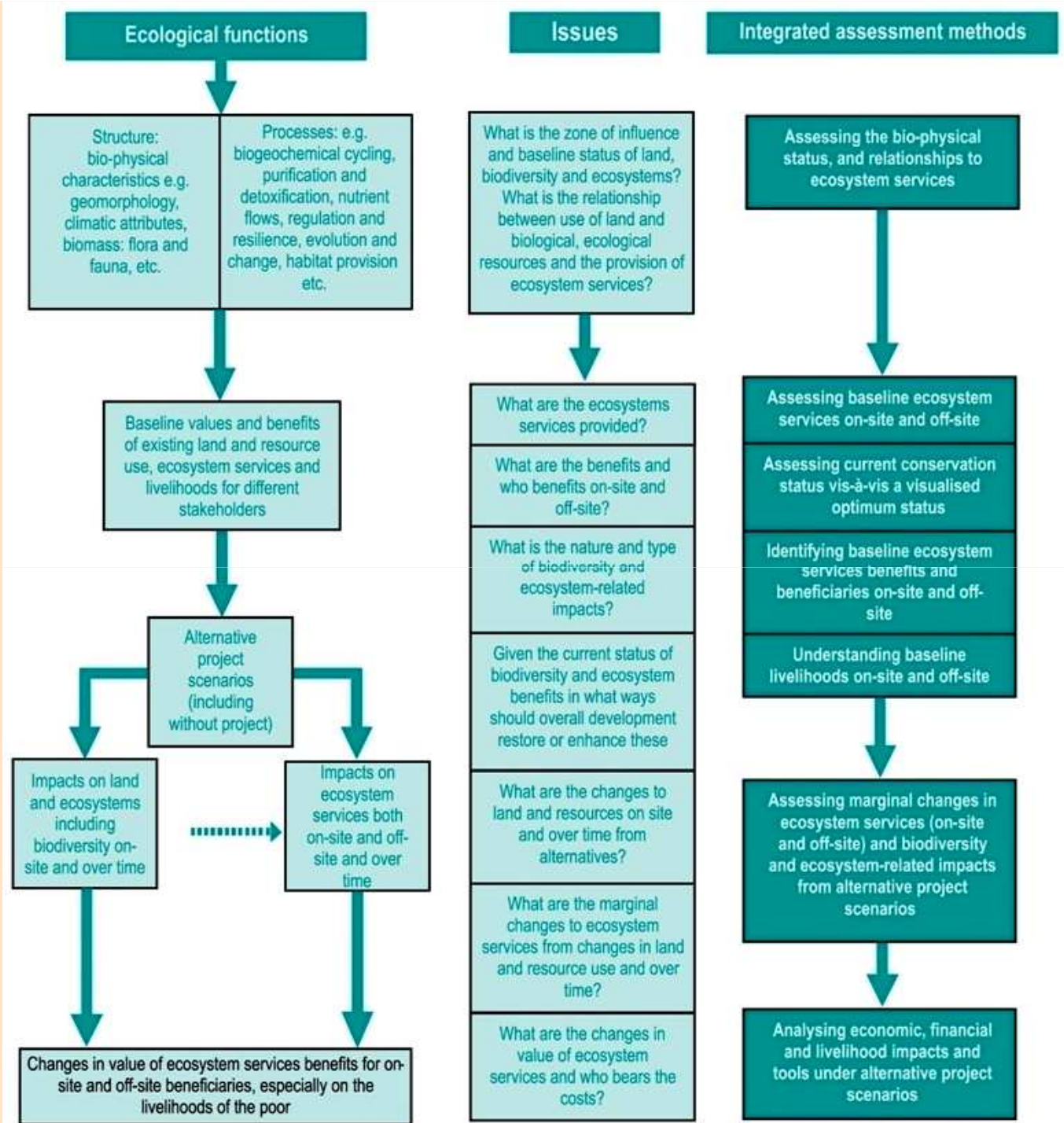


Review



Decision-making

Guidance on mainstreaming biodiversity through integration of ecological and economic assessment tools in the generic EIA framework...



To sum up...

The manual holds the key to our ability to develop and implement smart plans for the protection of the natural environment. Whether it can help to reduce human suffering in the future will depend on the will of decision-makers to incorporate biodiversity considerations in policies, plans and environmental management.

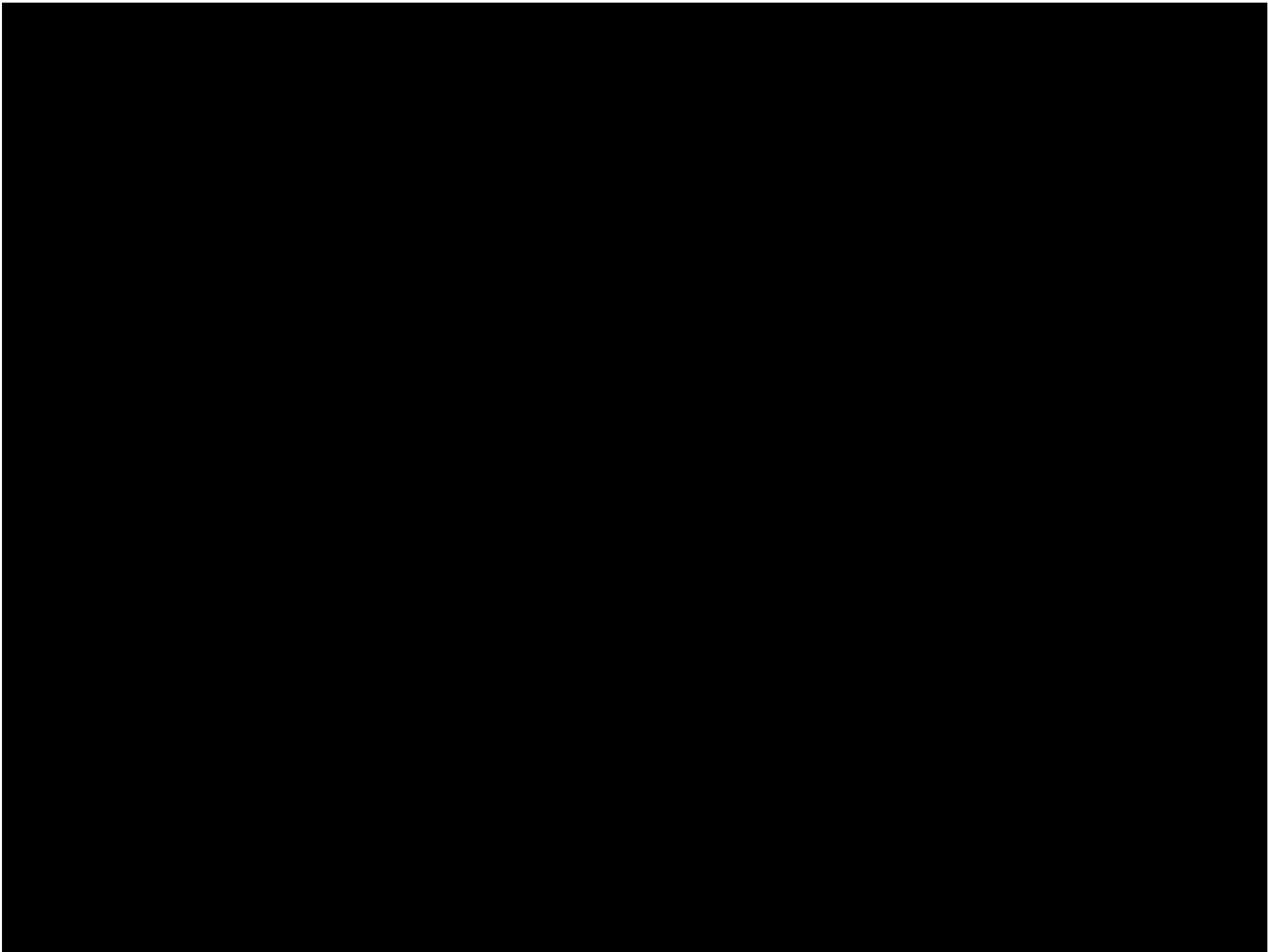
Given the increasing incidence and force of man-made disasters, we can no longer afford to ignore such advice

Dr. Ahmed Djoghla
*Executive Secretary
Convention on Biological Diversity*

Importance of biodiversity assessment in EIA...

- **EIA Practitioner** *“Biodiversity assessment is the critical first step for conservation of natural resources”.*
- **Project Planner** *“Biodiversity assessment is only one more spanner in the environmental appraisal of projects”*
- **Decision Maker** *“We cannot afford to neglect biodiversity issues, but we also have the onus to promote development. We also need to harmonize conservation with development, but don’t how to achieve this”.*

Thanks....



Mammalian species mortality on roads in protected areas of India and Nepal (1997-1998)

Number of individuals killed per year	Wildlife habitats and the nature of roads on which mortality is reported					
	Tadoba Tiger Reserve	Sariska Tiger Reserve	Gir National and Park Sanctuary	Corbett Tiger Reserve	Pench Tiger Reserve	Royal Bardia National Park Nepal
	FR	SH	SH	SH	NH	NH
Chital		2	1			3
Sambar	3				1	
Nilgai		2	1			
Wild boar						
Lion			2			
Leopard			1	4		
Tiger		2		5	2	
Langur	17			37	1	
Civet	3				1	
Porcupine			1			
Barking deer						2
Mongoose	4				1	
Hyaena	2	1				
Jungle cat		1				1
Total road kills	29	8	6	46	6	6
Source	Dubey, 1997 <i>pers. comm.</i>	Johnsingh <i>et al.</i> 1998	Singh & Kamboj 1996	Uttar-anchal Forest Dept.	Areendran & Pasha 1999 <i>pers. comm.</i>	Karki & Shreshtha 1998 <i>pers. comm.</i>

