

### International Workshop "The Ecosystem Approach under the CBD and socio-economic monitoring"

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International Workshop

**“The Ecosystem Approach under the CBD  
and socio-economic monitoring”**

November 26-28, 2007, University of Bremen

Online Proceedings



**table of contents**

<b>Introduction</b> Michael Flitner, Heiko Garrelts (artec, University of Bremen) .....	4
<b>Session 1: Points of departure (I)</b> .....	6
Jutta Stadler (Federal Agency for Nature Conservation, BfN): .....	7
<i>“The Ecosystem Approach of the Convention on Biological Diversity(CBD). The primary framework for action under the CBD.”</i>	
Robert Höft (CBD Secretariat, Montreal): .....	21
<i>“The Ecosystem Approach under the Convention on Biological Diversity.Is there a case for indicators?”</i>	
<b>Session 2: Points of departure (II)</b> .....	30
David Vackar (Charles University of Prague):.....	31
<i>“Lessons from the CSD process on Sustainability Indicators”</i>	
Heiko Garrelts (artec, University of Bremen): .....	60
<i>“Concepts of welfare, goals of societal development and approaches of measurement”</i>	
<b>Session 3: Instruments and actors</b> .....	80
Frank Vanclay (Tasmanian Institute of Agricultural Research): .....	81
<i>“What can we learn from the thinking in SIA?”</i>	
<b>Session 4: Getting practical - experiences with social monitoring</b> .....	123
Christiane Gätje (Schleswig-Holstein Wadden Sea National Park): .....	124
<i>„Socio-economic monitoring in the Schleswig-Holstein Wadden Sea National Park”</i>	
Silke Peters (Flower Label Program, Germany):.....	156
<i>“Socio-economic monitoring and indicators in Flower Label Program’s framework.”</i>	
Uwe Kerkow (Social Watch, Germany):.....	177
<i>“Experiences with the application of the Basic Capabilities Index”</i>	

<b>Session 6: The role of contextualization in indicator design and use</b> .....	198
Nancy Holman (London School of Economics):.....	199
<i>“Promoting Action for Sustainability Through Indicators at the Local Level in Europe”</i>	
Olli Salmi (Helsinki University of Technology):.....	221
<i>“Cultural contextualization of indicators of human environment interaction”</i>	
<b>Session 7: Concluding Panel: Socio-economic monitoring and biodiversity.</b>	
<b>The road forward. Short comments from invited guests.</b> .....	236
Cornelia Ohl (Centre for Environmental Research, Leipzig-Halle):.....	237
<i>“Perspectives of Socio-Economic Monitoring and Indicators under the Ecosystem Approach (EA)”</i>	
Diana Gallego Carrera (University of Stuttgart): .....	254
<i>“Closing statement”</i>	
Nancy Holman (London School of Economics):.....	257
<i>“Reflections on the meeting”</i>	
<b>List of Participants</b> .....	259

## Introduction

Michael Flitner, Heiko Garrelts (artec, University of Bremen)

The concept of biodiversity as enshrined in the Convention on Biological Diversity (CBD) brought about a number of conceptual innovations for international nature conservation policies. Firstly, the understanding of nature conservation was broadened by encompassing aspects of genetic erosion and the loss of entire ecosystems. Secondly, there is a far more comprehensive involvement of different “new” actors, like nongovernmental organisations, women groups, indigenous groups and local communities. Thirdly, there is the emphasis on sustainable use of biological diversity and sharing of the benefits derived therefrom. The fourth renewal consists in the modification of the protected area approach. The conservation and sustainable use of biological diversity can and should not be restricted to special protected areas, it has to happen *everywhere*. This implies a general shift towards different types of integrated land use planning (Arts 2000; Hartje/Klaphake/Schliep 2003; Bennett 2004; Flitner et al. 2006).

The CBD is thus linking environmental and nature protection objectives to broader social and economic processes and goals: overcoming poverty, sustainable economic development, participation – to name only some of the thornier issues. The awareness of the interdependent nature of global problems as well as of the great discrepancies between the rich and the poor countries is thereby strengthened.

The Ecosystem Approach (EA) and its implementation guidelines represent an instrument which is supposed to decisively support the implementation of the Convention. The widespread claim of the EA requires a specification of its demands especially with regard to issues of integrated monitoring and assessment. However, while the elaboration of ecological parameters is quite advanced, progress with regard to social-economic issues appears to be rather slow. Until very recently, social monitoring has been a neglected issue in nature conservation and protection. Thus, clear measures of ‘success’ in the social realm are absent or contested. Yet, in some circumstances, delivering the CBD-objectives through the implementation of the EA may even require to prioritise socio-economic issues (Hartje/Klaphake/Schliep 2003).

This is the starting point of the research project “The Ecosystem Approach of the CBD and socio-economic monitoring”, conducted by the Research Center for Sustainability Studies, University of Bremen (Germany) with the generous support of the Federal Agency for Nature Conservation (BfN, Bonn). An especially important part of the research project has been a workshop with the participation of international experts in the field. This workshop provided the opportunity to correct and refine the proposals developed to date.

The underlying “architecture” of this workshop was as follows:

- Firstly, we - being in charge for the research - wanted to take into account what is happening in the different bodies, mechanisms and programmes of the CBD. For example, here we looked at work on indicators and monitoring carried out in the context of the 2010 Target, the Strategic Plan and the different work programmes of the Convention. Furthermore, we wanted to receive information on how the EA is already implemented at the national level in Germany (presentations Stadler and Höft).

- Secondly, we stepped back from these CBD-related developments to look more closely into the broader debates on social monitoring and indicators that are going on in very different settings, spanning academic circles and international policy fora alike. There are a number of highly elaborated and legitimised processes (and products) from other international fora this debate can and must draw on. These processes and products are particularly valuable for building a set of international 'core indicators'. The Commission on Sustainable Development (CSD) process on sustainability indicators represents one example (presentation Vackar). In addition, we argue that a comprehensive understanding of the problems of socio-economic monitoring can only be achieved by looking closely into the origins and results of the social scientific debates that have been conducted over the past decades (presentation Garrelts). Valuable insights can be gained from the way of thinking in social impact assessments (presentation Vanclay).
- Thirdly, despite the lack of theoretical elaborations, many practical experiences with social monitoring in different contexts are available. Examples can be found on the regional level in Germany, on the international level within the Flower Label Program's framework and within the application of the Basic Capabilities Index (BCI) (presentations Gätje, Peters, Kerkow).
- Fourthly, the indicator design has to be problem-oriented and has to be accepted by local actors. How has this requirement of social embeddedness been conceptualised in recent research projects? (presentations Holman and Salmi).
- The final question, based on the workshop's results and findings, consists in: How do we define a future direction of indicator design and social monitoring in the context of the EA? (comments and presentations Ohl, Carrera, Holman)

Enclosed are the presentations held at the workshop in Bremen.

We would like to express our thanks to the authors for their valuable contributions.

## References

- Arts, B. 2000: Global environmental policies: Between 'interstatist' and 'transnational' arrangements. In: Tatenhove, J., Arts, B. and Leroy, P. (eds.): Political Modernisation and the Environment. The Renewal of Environmental Policy Arrangements. Dordrecht: Kluwer Academic Publishers, 117 – 144.
- Bennett, G. 2004: Integrating Biodiversity Conservation and Sustainable Use: Lessons Learned from Ecological Networks. Gland: Switzerland and Cambridge.
- Flitner, M./Matthes, U./Oesten, G./Roeser, A. (eds.) 2006: The Ecosystem Approach in Forest Biosphere Reserves: Results from Three Case Studies. Bonn: BfN-Skripten 168.
- Hartje, V./Klaphake, A./Schliep, R. 2003: The International Debate on the Ecosystem Approach. Critical Review. International Actors. Obstacles and Challenges. Bonn: BfN-Skripten 80.

# Session 1:

## Points of departure (I)

Jutta Stadler (Federal Agency for Nature Conservation, BfN)

Robert Höft (CBD Secretariat, Montreal)

# The Ecosystem Approach of the Convention on Biological Diversity (CBD)

**The primary framework for action  
under the CBD**

Jutta Stadler  
Federal Agency for Nature Conservation  
Biodiversity Unit

Jutta Stadler



# Guidance for Parties

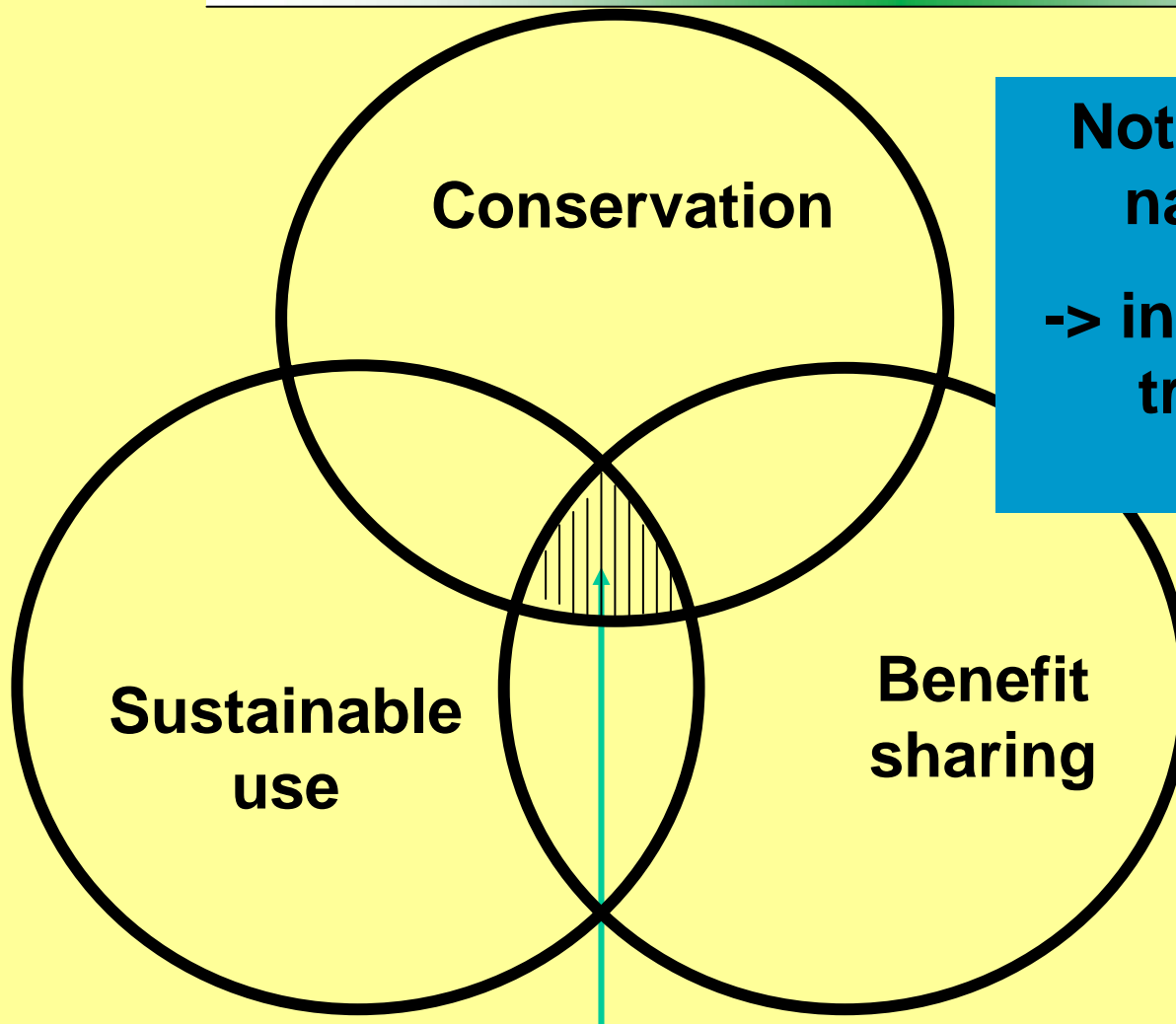
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- 1) **Precautionary principle**
- 2) **Ecosystem approach**

The ecosystem approach (in the framework of the CBD) is described as a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way.

**It recognizes that humans, with their cultural diversity, are an integral component of many ecosystems.**

# The ecosystem approach



**Not only a concept of natural sciences !**  
**-> interdisciplinary and transdisciplinary approach !**

**Ecosystem approach of the CBD**

Jutta Stadler

# Definition of “ecosystem”

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## **CBD Art. 2: „Ecosystem“**

**means a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit.**

**This definition does not specify any particular spatial unit or scale.**

**The scale of analysis and action should be determined by the issue being addressed.**

**Ecosystem approach as a general concept  
=> basic principles**

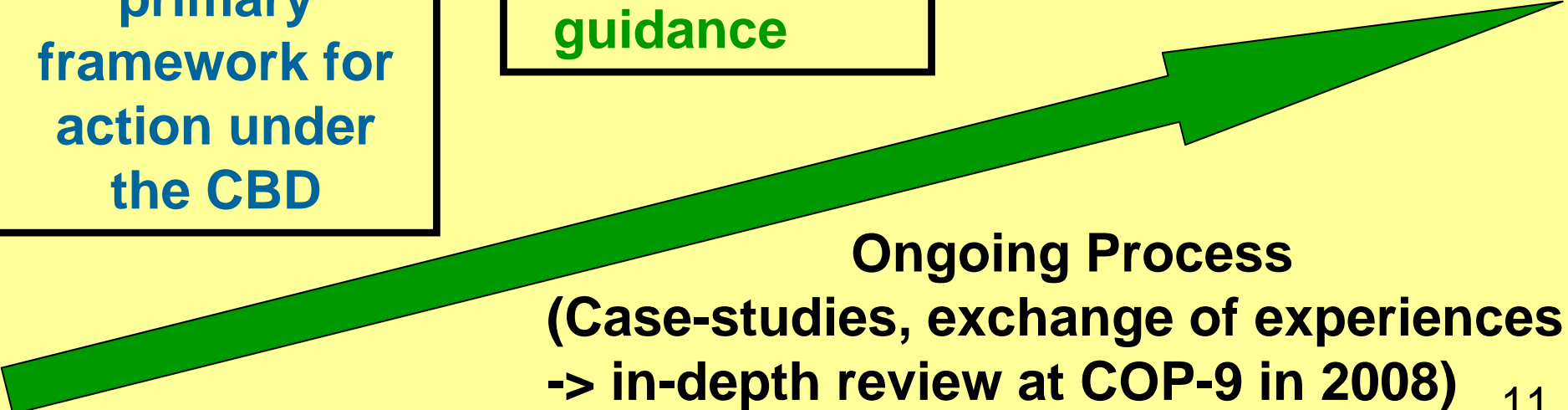
# Elaboration of the concept

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1995  
Decision II/8:  
**EsA as the  
primary  
framework for  
action under  
the CBD**

2000  
Decision V/6:  
- **Description**  
- **12 Principles**  
+ **Rationale**  
- **Operational  
guidance**

2004  
Decision VII/11:  
**In addition:**  
- **Annotations to  
the Rationale**  
- **Implementation  
guidelines**



**Ongoing Process**  
(Case-studies, exchange of experiences  
-> in-depth review at COP-9 in 2008)

# 12 Principles of the Ecosystem Approach I

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The following 12 principles are complementary and interlinked,  
appropriate weight has to be given to each,  
according to local circumstances

# 12 Principles of the Ecosystem Approach I

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- 1) participation in decision-making
- 2) Decentralization to the lowest appropriate level
- 3) Consideration of actual or potential management effects on other ecosystems
- 4) Management of ecosystems in an economic context
- 5/6) Conservation of ecosystem structure and functioning to maintain ecosystem services**

# 12 Principles of the Ecosystem Approach II

---

- 7) appropriate spatial and temporal scales
- 8) Long term ecosystem management objectives
- 9) External and internal changes to the system
- 10) Balance between conservation and use
- 11/12) Consideration of all forms of information, involvement of all relevant sectors of society and scientific disciplines**

# Related approaches

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- **Ecosystem approach of the CBD**
  - **Addis Ababa principles and guidelines for sustainable use of Biodiversity**
  - **Environmental Impact assessment guidelines**

- **UNESCO-MAB Biosphere Reserve Concept**

- **Integrated Conservation and Development projects**
- **Community-based Natural Resource Management**

- **Sustainable Forest Management**
- **Sustainable Fisheries Approaches**
- **Integrated Coastal Zone Management**
- **Integrated River Basin Management**



# Guidance / case studies

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## **CBD Ecosystem approach source book:**

### **User guides, case-study database**

<http://www.cbd.int/ecosystem/sourcebook/beginner-guide.shtml>

<http://www.cbd.int/ecosystem/sourcebook/advanced-guide.shtml>

<http://www.cbd.int/ecosystem/sourcebook/search.shtml>

### **IUCN-CEM: „The ecosystem approach – 5 steps to implementation“**

<http://www.iucn.org/themes/cem/ourwork/ecapproach/index.html>

<http://www.iucn.org/dbtw-wpd/edocs/CEM-003.pdf>

### **WWF: „Mountains to the Sea“**

[http://www.panda.org/about\\_wwf/what\\_we\\_do/freshwater/publication\\_s/index.cfm?uNewsID=57580](http://www.panda.org/about_wwf/what_we_do/freshwater/publication_s/index.cfm?uNewsID=57580)

[http://assets.panda.org/downloads/mountainstothesea\\_july2007.pdf](http://assets.panda.org/downloads/mountainstothesea_july2007.pdf)

# Examples from Germany

---

## Conceptual analysis:

- Sustainable forest management,
- High Mountain Ecosystems / Alpine Convention,
- Freshwater Ecosystems / WFD

([http://www.bfn.de/0502\\_international.html?&no\\_cache=1](http://www.bfn.de/0502_international.html?&no_cache=1))

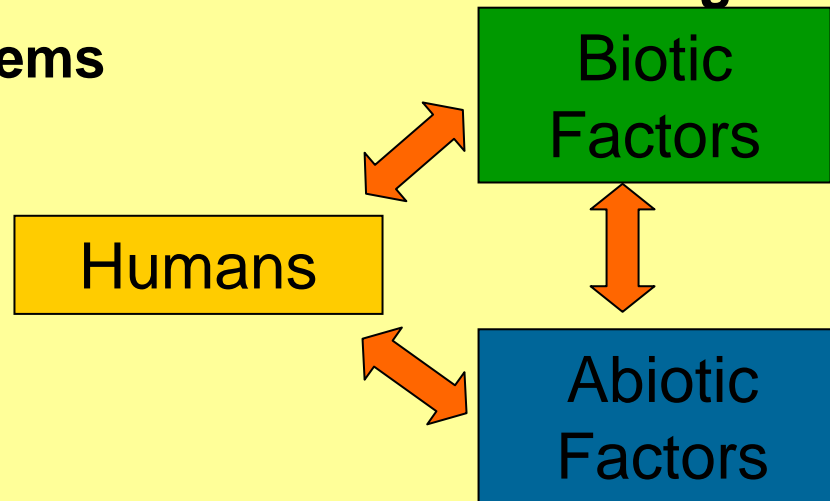
## Implementation / Case studies:

- Application of the ecosystem approach in forest Biosphere Reserves

(<http://www.bfn.de/fileadmin/MDB/documents/skript168.pdf>)

# Summary I

- **Methodological framework for the Management of highly complex systems**



taking into account ecological, economic and social aspects

- **EA requires adaptive management to deal with the complex and dynamic nature of ecosystems and the absence of complete knowledge or understanding of their functioning**
- **The issue addressed determines the scale of analysis and action and who participates in the process**

# Summary II

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- The EA does not preclude other management and conservation approaches, but could rather integrate all these approaches and other methodologies to deal with complex situations.
- There is no single way to apply the EA, as it depends on local, national, regional, global conditions.
- 190 Parties adopted the EA => accepted worldwide, political support
- Need for Promotion of the Concept -> Experience / Case studies



**Thank you for your  
Attention !**



# The Ecosystem Approach under the Convention on Biological Diversity

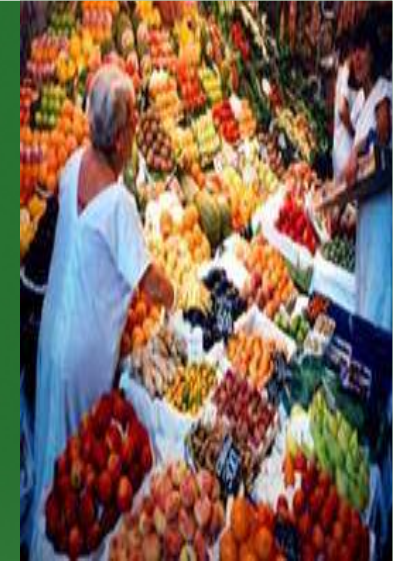
## Is there a case for indicators?

Robert Höft  
Environmental Affairs Officer  
Secretariat - Convention on Biological Diversity

International Workshop "The Ecosystem Approach under the CBD and socio-economic monitoring"

26-28 November 2007, University of Bremen, Germany

21



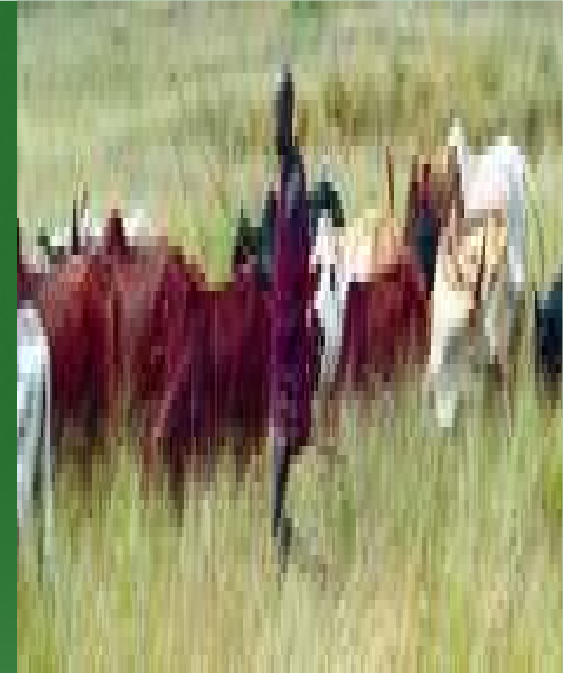
## The Ecosystem Approach

- A strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way
- Helps to reach a balance of the three objectives of the Convention
- The primary framework for action under the Convention





## Guidance on the EA



Rationale for each principle  
in decision V/6

Operational guidance also contained in V/6

Further guidance on implementation in VII/11

Case studies database

EA Sourcebook





## National application of the EA

Difficult: less than 10% of Parties implement/ apply substantive parts of the EA (3<sup>rd</sup> NR)

Capacity-building remains the priority. Needs exist across all sectors, biomes, levels and scales (Rec XII/1 para 1(j)).



## EA indicators



The development of standards and indicators for the application of ecosystem approach is in its infancy and not considered a priority (Rec XII/1 para 1(i)).







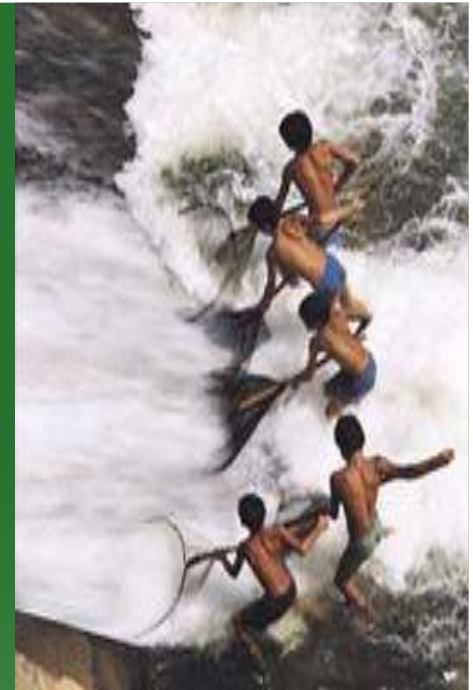
## EA indicators

For whom?

For what purpose?

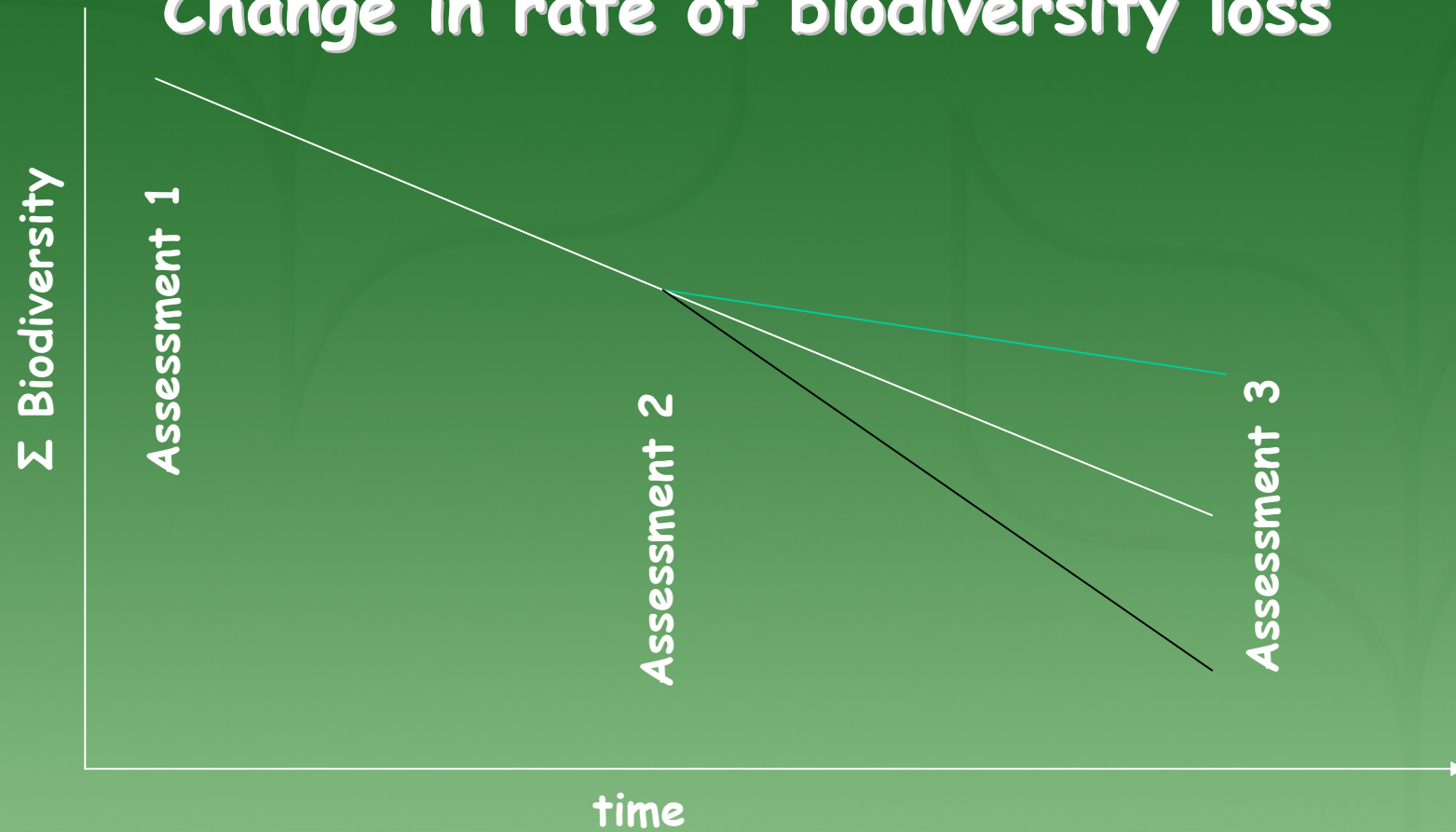
How to develop the indicator(s)?

How to implement the indicator(s)?





## Change in rate of biodiversity loss



# Provisional framework for assessing progress towards the 2010 target

Focal Areas	Goals	21 Targets	Indicators
PROTECT THE COMPONENTS OF BIODIVERSITY	1		
	2		
	3		
SUSTAINABLE USE	4		
ADDRESS THREATS TO BIODIVERSITY	5		
	6		
	7		
ECOSYSTEM SERVICES	8		
TRADITIONAL KNOWLEDGE	9		
ACCESS AND BENEFIT-SHARING	10		
RESOURCES FOR CBD IMPLEMENTATION	11		

# Indicators relevant to EA

## Focal Areas

PROTECT THE COMPONENTS  
OF BIODIVERSITY

SUSTAINABLE USE

ADDRESS THREATS

ECOSYSTEM INTEGRITY,  
GOODS AND SERVICES

TRADITIONAL KNOWLEDGE

ACCESS AND BENEFIT-SHARING

RESOURCES FOR CBD IMPLEMENTATION

## Ecosystem-related indicators

Trends in extent of ecosystems

Coverage in protected areas

Area under sust. management

Human-induced ecosystem failure

Health and well-being

Water quality

Management practices/integrity

?

# Session 2:

## Points of departure (II)

David Vackar (Charles University of Prague)

Heiko Garrelts (artec, University of Bremen)



# Lessons from the CSD process on Sustainability Indicators



Environment Center  
Charles University  
in Prague

David Vackar



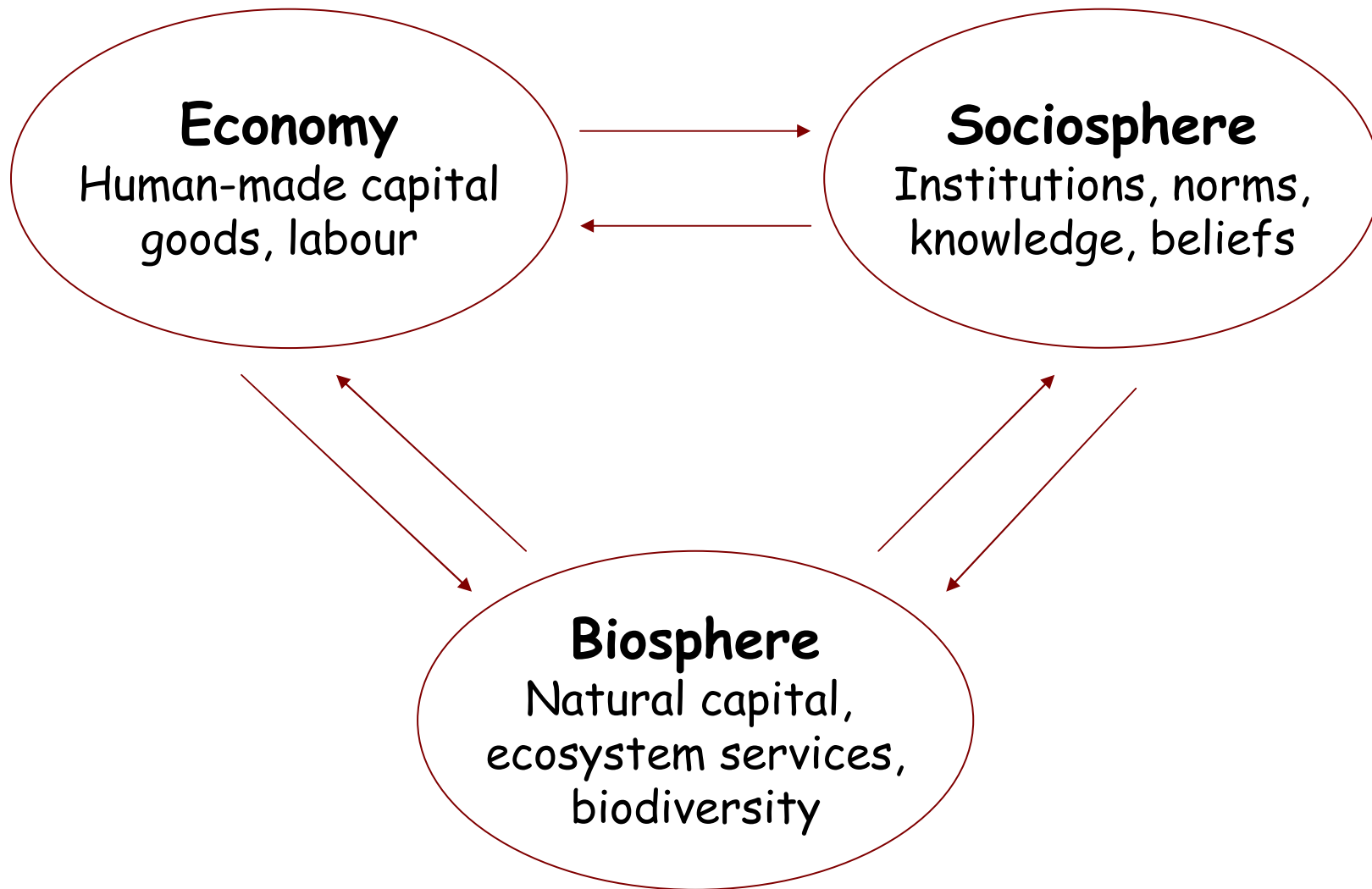


# Sustainability and indicators

We should not ignore or suppress good indicators on the environment - and there are quite a few - simply because they do not make the advocate's case.

*Ian McEwan (The Hot Breath of Civilization, LA Times, 2005)*





# Aspects of sustainable development

Biophysical/environmental

Economic

Social/cultural

Psychological

Governance/institutional



# What to sustain?

Natural processes/ecosystem  
services/biodiversity

Human-made capital (machinery, goods)

Cultural and social values, knowledge

Psychic income

Institutional accountability



# Sustainable Development Indicators

The process of measuring sustainable development calls for simple, elegant and effective measures that do not compromise the underlying complexity

Decision-makers routinely ask for a small number of indices that are easy to understand and use in decision-making



How to address complexity and interlinkages in sustainability?



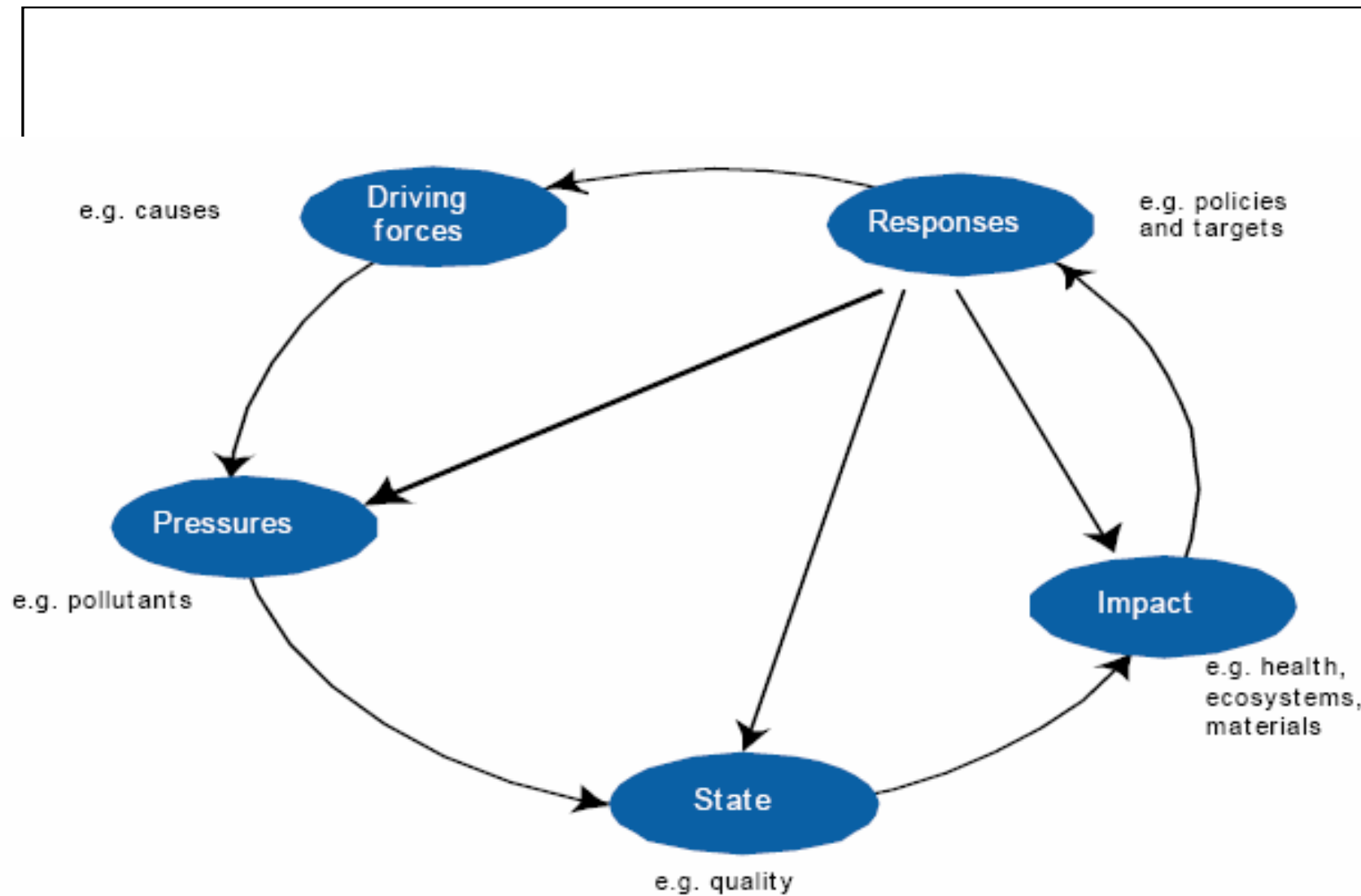
# Pressure-state-response framework of SDI

Implies causal link between indicators

Relation is usually more complex,  
requires complex models

Decoupling analysis links environmental  
pressures and drivers



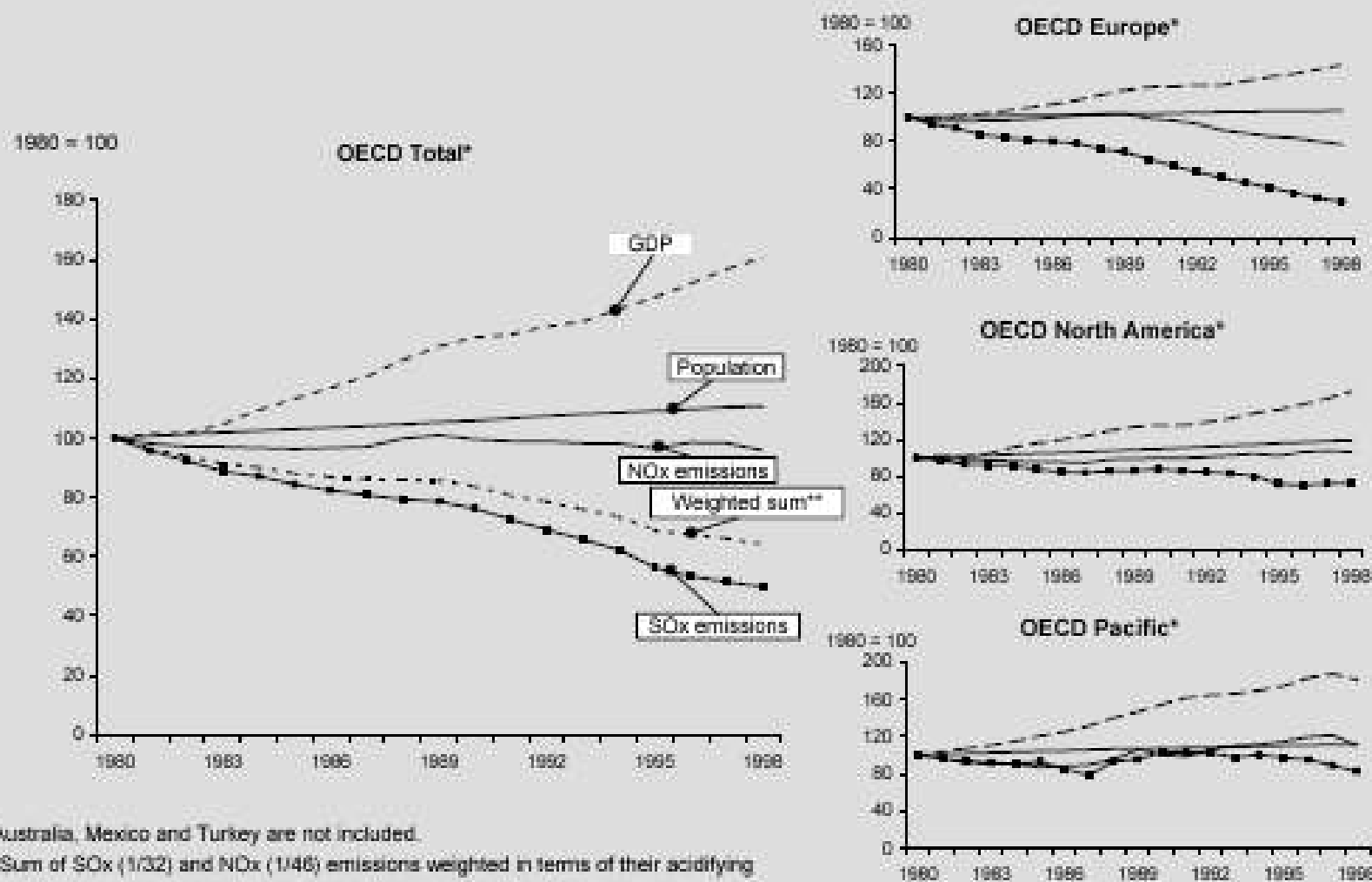


*European Environment Agency*





## Total emissions of nitrogen and sulphur oxides per unit of GDP, 1980-1998



\* Australia, Mexico and Turkey are not included.

\*\* Sum of SOx (1/32) and NOx (1/46) emissions weighted in terms of their acidifying effect. Data on emissions of ammonia, another significant acidifying gas, are not available.



# CSD indicators framework

Poverty	Natural hazards	Economic development
Governance	Atmosphere	Global economic partnership
Health	Land	Consumption and production patterns
Education	Oceans, Seas and Coasts	
Demographics	Freshwater	
	Biodiversity	



# CSD indicators - examples

Proportion of population living below national poverty line

Life expectancy at birth

Population growth rate

Percentage of population living in hazard prone areas

Gross domestic product (GDP) per capita

Material intensity of the economy

Modal split of passenger transportation

Labor productivity and unit labor costs

Change in threat status of species

Water use intensity by economic activity



# Shortcomings of SDI sets

Indicator sets are not designed to provide a full picture of Economic - Social - Environmental relationships, but rather to capture key trends and draw attention to selected issues

*(C. Stevens, Measuring Sustainable Development, 2005)*



# Interlinkages

Environmental-economic (Resource productivity)

Socioeconomic (Labour productivity, Income distribution)

Socioenvironmental (Environmental health, Common goods)

...

*(Spangenberg & Hinterberger 2002)*



# Lessons from SDI assessment

Conceptual challenges

Methodological challenges

Policy challenges

Hak T., Moldan B., Dahl A.L.,  
Sustainability indicators: a scientific  
Assessment, 2007



# Conceptual challenges

The fundamental challenge is to go beyond a collection of parts and apply a more system oriented approach to consider the sustainability of interacting subsystems with emergent properties

Examples of system properties:  
resilience, carrying capacity,  
socioeconomic metabolism,  
intergenerational knowledge transfer



# Methodological challenges

Transparency of indicator construction  
Level of aggregation

Methodological strenght:

Purpose

Measurability

Representativeness

Reliability and feasibility

Communicability





# Policy challenges

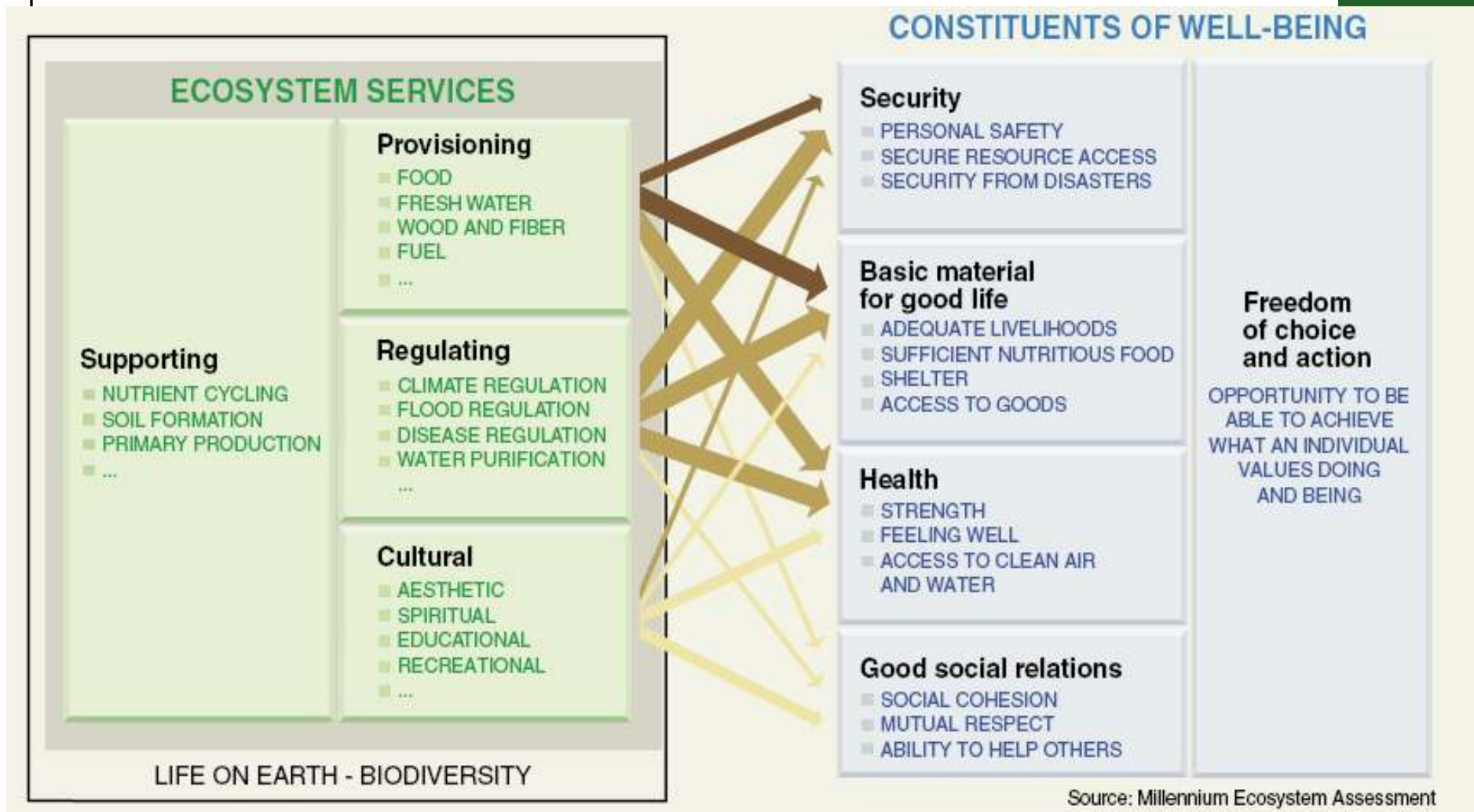
Identification of user categories and needs

Capacity building, communication and participation

Responsiveness to targets



# Coherent sustainability framework? Millennium Ecosystem Assessment



# Indicators for monitoring of the sustainability of nature-society interactions

Composite indices

Material and energy flows

Carrying capacity indicators

Biodiversity indicators

Green GDP and genuine savings



# Composite indices

Environmental Sustainability Index (ESI) is a composite index tracking a diverse set of socioeconomic, environmental, and institutional indicators that characterize and influence environmental sustainability at the national scale.

Environmental Performance Index (EPI) provides benchmarks for current national pollution control and natural resource management results.



# Material and energy flows

Quantify physical exchange between the economy, environment and foreign economies on the basis of material mass flowing across the boundary

Biophysical account and structure of the economy

Must be linked to other SD issues (transport and time use, quality of life, biodiversity...)



# Carrying capacity

## Ecological Footprint

A balance between the available biocapacity and consumption of biological products and land capacity for assimilation of  $CO_2$  emissions

## HANPP (Human Appropriation of Net Primary Production)

Balance of supply and demand of NPP with regard to the potential primary productivity



# Biodiversity indicators

Living Planet Index

Red List Index

Common Birds Index

Natural Capital Index

...

Sustainable use of biological resources

Biodiversity value, biotic integrity and ecosystem health, ecosystem services



# Green GDP and genuine savings

Index of Sustainable Economic Welfare

Genuine Progress Indicator

- estimates of economic, social and environmental benefits and costs applicable to socio-economic process

Genuine savings - sustainability as non-declining capital





# Devising meaningful sustainability indicators

Sustainable development rests in increasing human well-being and psychic income from natural capital and ecosystem services without compromising ecosystem health and biodiversity



# Ecological economic efficiency

$$EEE = \frac{\text{Net psychic income}}{\text{Lost natural capital services}}$$

*Daly 1996, Lawn 2006*



# Quest for SDI

How are the aspects of human well-being dependent on resource flows?

How is the perception and value of nature linked to the trends in ecosystem services?

How are biophysical flows related to the social structure?



# Future prospects

Indicators to monitor complex interdependencies and behaviour of socio-ecological systems (human ecosystems)

„Soft approach“ to sustainability indications

Measures based on aggregated local transactions between society, economy and environment



# Concepts of welfare, goals of societal development and approaches of measurement

International Workshop  
“The Ecosystem Approach under the CBD  
and socio-economic monitoring”

November 26-28, 2007

- **Introduction**
- **Individual quality of life**
- **Societal quality of life**
- **Summary and outlook**

# Introduction

---

- „In order to measure quality of life, one must have a theory of what makes up a good life“ (Cobb 2000)
- „ What does it mean to enjoy good or bad welfare? What kind of welfare should be optimised?“ (Esping-Anderson 2000)

# Individual quality of life

---

- **Broad continuum of concepts - two polar approaches define the extreme poles**
  - **Scandinavian level of living approach**
  - **American quality of life approach**
- **Further conceptualisations**
  - **German quality of life approach**
  - **Basic needs approach**
  - **Capabilities approach**



## Scandinavian level of living approach

---

- **Welfare =**  
„individuals command over, under given determinants mobilisable resources, with whose help he/she can control and consciously direct his/her living conditions“ (Erikson 1974/1993)
- **Resources = money, property, knowledge, psychic and physical energy**
- **Focus on objective living conditions, life chances and their determinants**
- **Use of objective indicators**

# American quality of life approach

---

- **Welfare = subjective well-being**
- **Background Thomas - theorem:**  
„If men define situations as real they are real in their consequences“ (Thomas 1928)
- **Focus on perceptions, use of measures of satisfaction and happiness**  
„The quality of life must be in the eye of the beholder“ (Campbell 1972)

# German quality of life approach (I)

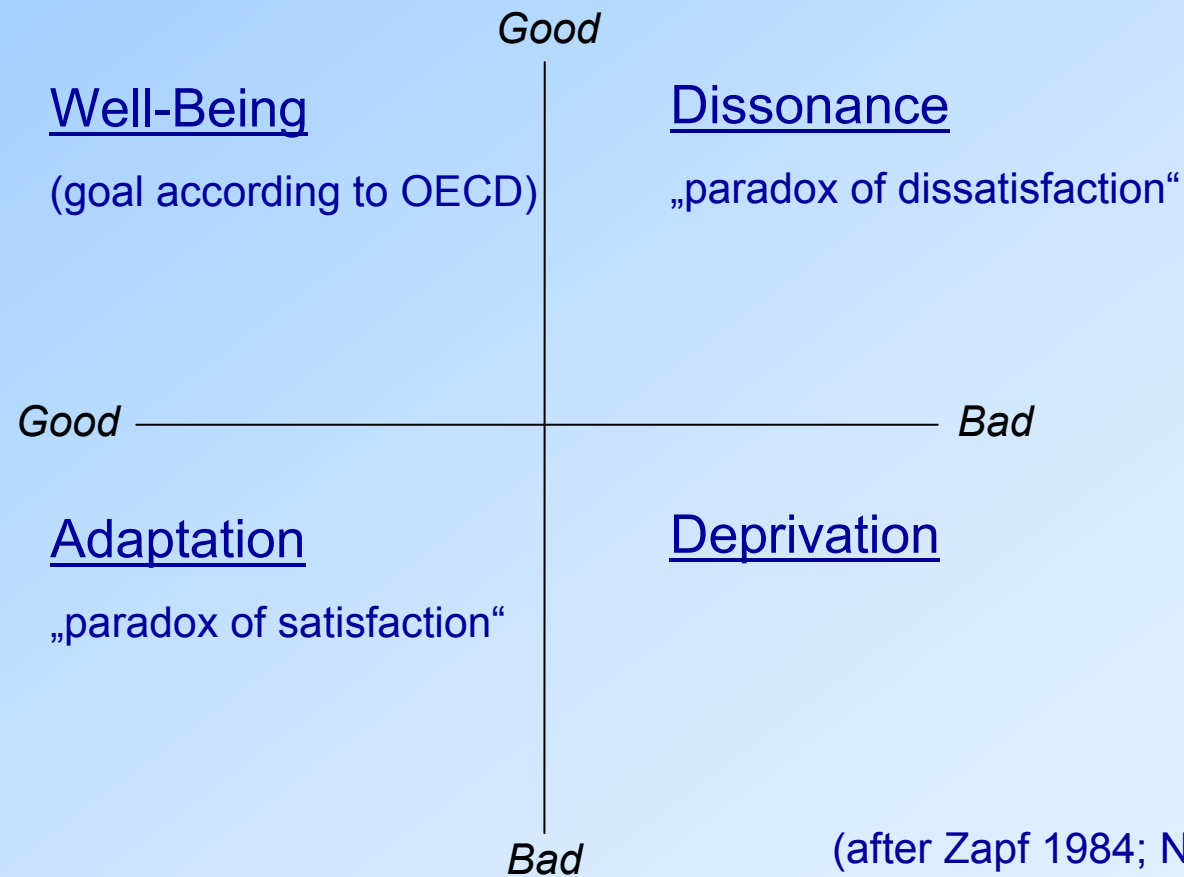
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- **Welfare =**  
„good living conditions which go together with positive subjective well-being“ (Zapf 1984)
- **Similiar living conditions are evaluated differently**
- **Relationship of subjective and objective indicators?**

# German quality of life approach (II)

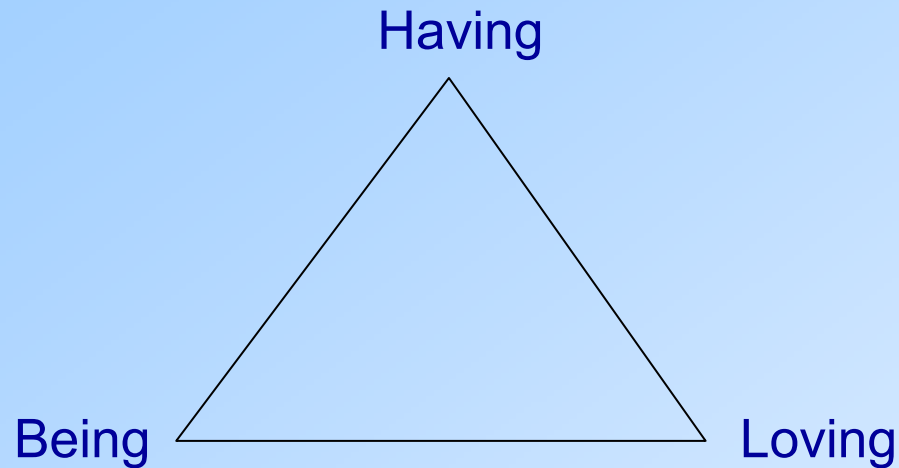
Objective conditions

Subjective well-being



(after Zapf 1984; Noll 2000, 2005)

## Basic needs approach (Allardt 1993)



- **Having: material aspects: living, work, education, environment**
- **Being: participation, self fulfilling**
- **Loving: need for social contacts – family, friendship, neighbourhood, associations**
- **Measurement both subjective and objective**

# Capabilities approach

- **Welfare =**

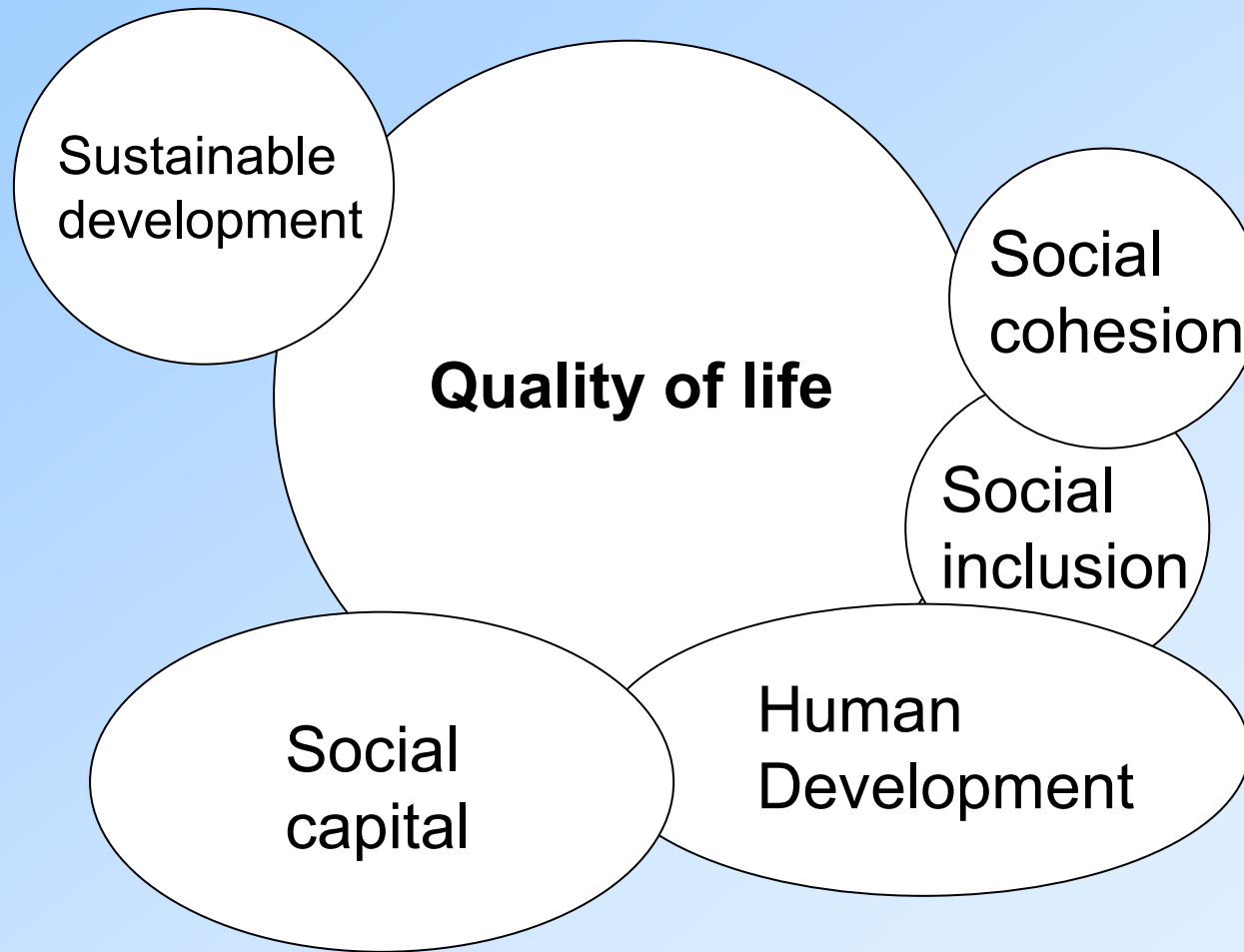
„living as a combination of various doing and beings, with quality of life to be assessed in terms of the capability to achieve valuable functionings“ (Sen 1993)

- **Functionings =**

„parts of the state of a person – in particular the various things that he/she manages to do or be in leading a life...being adequately nourished, being in good health...achieving self-respect, or being socially integrated“ (Sen 1993)

- **„Human Development“ (UNDP)**

# Societal quality of life



# Social cohesion

---

- **Increasing popularity within policy making, due to various rising disparities and inequalities**
- **Two dimensions of societal development:**
  - **reduction of disparities and fragmentations**
  - **strengthening social relations, ties and commitments to and within a society**
- **Focus on shared values, feelings of a common identity, trust, participation**



## Social inclusion / exclusion

---

- **Poverty as point of departure, but focus on**
  - **processes** (not on state)
  - **causes, as also related to failure of institutions**
  - **societies and relations of individuals to society (not on individuals and households)**
- **Exclusion by voluntary choices of individuals**

# Social capital (I)

---

- **Core message: networks matter**
- **Different levels can be distinguished**
  - **micro: recognition, cooperation, personal trust, etc.**
  - **meso: social identity and belonging, inclusion of insiders, organisations**
  - **macro: civic engagement , shared norms and values, systemic trust**

## Social capital (II): Indicators

---

- **Measures of community organisational life**
  - civic organisation per 1000 population
  - mean number of group memberships
- **Measures of engagement in public affairs**
  - turnout in presidential elections
  - attended public meeting on town affairs
- **Measures of community volunteerism**
  - mean number of times worked on community project
- **Measures of social trust**
  - agree that „most people can be trusted“

(after Putnam 1993, 2000)

# Sustainability

---

- **Mostly defined by the three pillar metaphor**
- **Broadening of perspective on quality of life**
  - from today to future
  - from ‚here‘ to people of the entire planet
  - from human beings to their coexistence with the natural environment (Schäfer et al. 2004)
- **Need for indicators highlighted in AGENDA 21 (Chs. 8 and 40)**
- **Many attempts of realisation, for global as well as local level (need for contextualisation!)**

# Summary

---

- **Many approaches to quality of life already exist; many issues are contested (normative, methodological)**
- **However, many approaches today agree to take into account**
  - **both subjective evaluations and objective conditions**
  - **individual and societal concerns**
  - **both global and regional/local concerns („downscaling“ and contextualisation of normative frameworks)**

## Outlook: bridges to the CBD/EA implementation process

---

- **Many of the theoretical considerations can be identified within CBD developments and debates**
  - (e.g.) **Global headline indicators**

## 2010 Biodiversity target: global headline indicators

- Health and well-being of communities who depend directly on local ecosystem goods and services
- Proportion of products derived from sustainable sources
- Ecological footprint and related concepts
- Status and trends of linguistic diversity and numbers of speakers of indigenous languages
- other indicators of the status of indigenous and traditional knowledge
- Indicator of access and benefit sharing
- Official development assistance provided in support of the Convention
- Indicator of technology transfer

## Outlook: bridges to the CBD/EA implementation process

---

- **Many of the theoretical considerations can be identified within CBD developments and debates**
  - (e.g.) **Global headline indicators**
  - (e.g.) **UN Millenium Development Goals**
- **So far: approaches mainly refer to „core“- issues**
- **Issue of special importance: participation (EA principles 1, 2 ,3, 7, 8, 12)**



**Thank You**

# Session 3:

## **Instruments and actors**

Frank Vanclay (Tasmanian Institute of Agricultural Research)

# What can we learn from the thinking in SIA?

Prof Frank Vanclay

Tasmanian Institute of Agricultural Research  
University of Tasmania

PARADISE

# Briefly...

Social impact assessment is analysing, monitoring and managing the social consequences of development.

SIA is impact assessment that focuses specifically on the social considerations, rather than on biophysical (environmental) issues.



## SIA has an effect through:

- reports to regulatory agencies and contributing to the decision making process
- working with the proponent to improve projects through project (re)design, site selection, mitigation measures etc
- working with communities to assist in coping with change and planning for positive futures



# SIA benefits

- **Communities:** more say in decisions, they become revitalised, social capital is built, harmful impacts are avoided, and project benefits are maximised.
- **Government agencies** (competent authorities): better information on which to make decisions.
- **Private sector:** improved relations with local communities, workforces, and important stakeholders; costly mistakes avoided, risk of future compensation payouts reduced; improved siting decisions.

# There is a role for SIA in all four stages in the project cycle

- planning or policy development
- construction or implementation
- operation and maintenance
- closure, decommissioning or abandonment



# Traditional concept of SIA

SIA is the process of assessing or estimating, in advance, the social consequences that are likely to follow from specific project development, particularly in the context of legislation.

(Rabel Burdge)



# Problems of the old approach

- project-focussed rather than policy-focussed
- the regulatory context is adversarial rather than based on negotiation
- focussed on protection of individual property rights rather than social development (ie not goal-oriented)

**SIA** is more than a technique or step, it is philosophy about development and democracy. Ideally SIA considers:

- pathologies of development (i.e. harmful impacts),
- goals of development (clarifying what is appropriate development, improving quality of life), and
- processes of development (e.g. participation, building social capital).

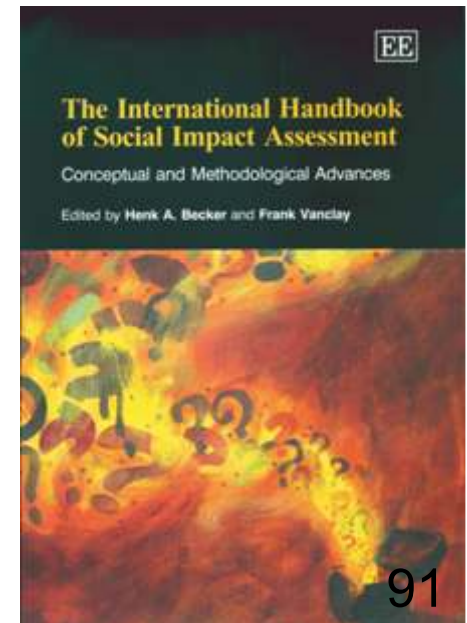
# Levels of SIA

- a discrete step or task within EIA (prediction of social impacts);
- the process of management of social issues relating to a project;
- a paradigm, or field of research and practice, a sub-discipline.

# A new definition

SIA includes the processes of analysing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions (policies, programs, plans, projects) and any social change processes invoked by those interventions.

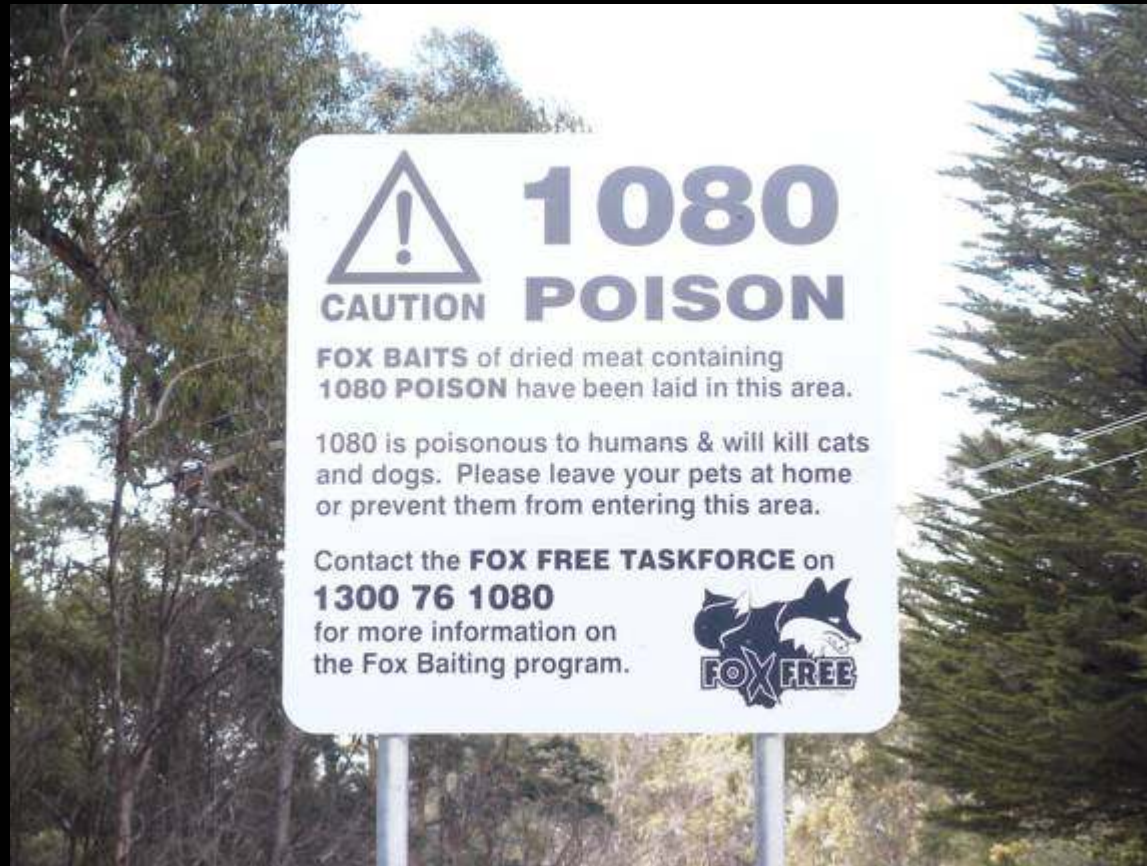
Its primary purpose is to bring about a more sustainable and equitable bio-physical and human environment.



## SIA is an umbrella

- aesthetic impacts (landscape analysis),
- archaeological and heritage impacts,
- community impacts, cultural impacts, linguistic impacts,
- demographic impacts,
- economic, fiscal, institutional and infrastructure impacts,
- gender issues,
- health and psychological impacts,
- indigenous rights,
- political impacts (human rights, democratisation etc),
- poverty assessment,
- resource issues (access and ownership of resources),
- and all other impacts on societies and individuals.

# Impacts and indicators



# Survey of what's on offer

- Reluctance to provide lists
- Many differences
- The lists are dreadfully inadequate (missing items, focus on negative, ethnocentric)
- Many items are not 'impacts' (but indicators of change)

# Interorganisational Committee/ Rabel Burdge's list of 28

## Population characteristics

1. Present population and expected change
2. Ethnic and racial diversity distribution
3. Relocated populations
4. Influx or outflow of temporary workers
5. Seasonal residents

## Community and institutional structures

6. Voluntary associations
7. Interest group activity
8. Size and structure of local government
9. Historical experience with change
10. Employment/income characteristics
11. Employment equity of minority groups
12. Local/regional/national linkages
13. Industrial/commercial diversity
14. Presence of planning and zoning activity

## Political and social resources

15. Distribution of power and authority
16. Identification of stakeholders
17. Interested and affected parties
18. Leadership capability and characteristics

## Individual and family changes

19. Perceptions of risk, health, and safety
20. Displacement/relocation concerns (perceptions)
21. Trust in political and social institutions
22. Residential stability
23. Density of acquaintanceship
24. Attitude toward policy/project
25. Family and friendship networks
26. Concerns about social well-being

## Community resources

27. Change in community infrastructure
28. Native American tribes
29. Land use patterns
30. Effects on cultural, historical, and archaeological resources



We need a theory about  
what is an impact

NO  
HIGHWAY  
THROUGH OUR  
COMMUNITY

C619 (Lucaston C645) 5

Home Hill Winery Restaurant   1

# Social impact

A social impact is something that is experienced or felt, whether in a perceptual or corporeal sense at the level of an individual, economic unit (family/household), social group, or community/society.



# How to conceptualise impacts (Armour 1990)

- People's way of life - how they live, work, play and interact with one another on a day-to-day basis;
- their culture - shared beliefs, customs, values, and language or dialect;
- their community - its cohesion, stability, character, services and facilities;

(nice, but not enough)

# How to conceptualise impacts (2) (Vanclay 1999)

## Also needs to include

- their political systems – extent of participation in decisions affecting their lives, the level of democratisation, and the resources provided;
- their environment – air & water quality; food quality & availability; level of hazard, risk, dust & noise exposure; adequacy of sanitation, physical safety, access to & control over resources;
- their health & wellbeing – health is a state of complete mental, physical and social (and spiritual) wellbeing, not merely the absence of disease or infirmity;
- their personal and property rights – economically affected or personal disadvantage, violation of civil liberties and human rights
- their fears & aspirations – perceptions about safety, fears about future of their community, & aspirations for their future & their children's future.



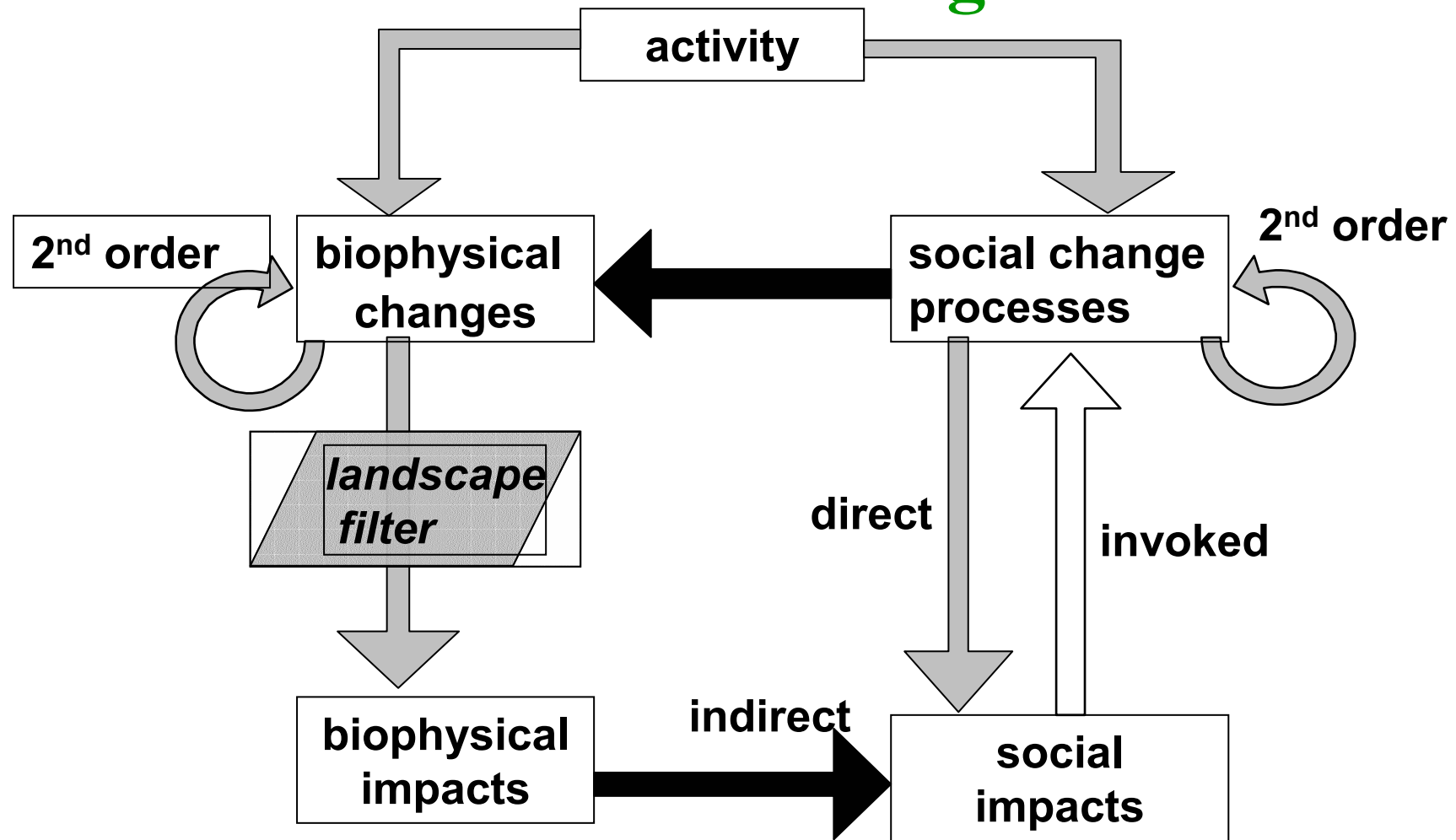
# Impacts depend on the interactions between the:

- Characteristics of the project
  - Characteristics of any mitigation
  - Characteristics of the community  
(vitality, viability, resilience, impact history)
  - Characteristics of individuals
- 
- Impacts are not stable
  - Impacts differentially affect people

## Dimensions of impact

- certainty - the likelihood or probability of occurrence of impact
- frequency - how often the impact will occur
- severity - the magnitude and/or strength of impact
- chronicity - over what time period
- locality - area of impact
- susceptibility and vulnerability - how susceptible is the community/environment to impact
- mitigatability - the potential of the impact to be mitigated
- interactability - symbiotic and/or catalytic potential with other impacts and cumulative potential

# Integrating the biophysical and human settings



(Source: Slootweg, Vanclay & van Schooten, 2001)

**Almost all projects  
almost always cause  
almost all impacts.**

**More important than predicting impacts  
(and having checklists) is having ongoing  
monitoring and adaptive management.**





# Social Change Processes



## **SOCIAL CHANGE PROCESSES: List of categories**

- demographic processes
- economic processes
- geographical processes
- institutional processes
- emancipatory and empowerment processes
- socio-cultural processes

## **LIST OF SOCIAL CHANGE PROCESSES:** **(1 of 6) - demographic processes**

- increase in population size (in-migration)
- decrease in population size (out-migration)
- presence of newcomers  
(perceived or real cultural differences)
- presence of (temporary) construction workers
- presence of seasonal residents
- presence of weekenders
- presence of tourists and daytrippers
- (involuntary) resettlement
- displacement or dispossession
- rural to urban migration
- urban to rural migration
- other processes affecting birth and death rates

## **LIST OF SOCIAL CHANGE PROCESSES:** **(2 of 6) - economic processes**

- conversion and/or diversification of economic activities
- impoverishment
- inflation
- fluctuation in currency
- concentration of economic activity (dependency of singular economic activity)
- economic globalisation (the incorporation of the local into the global) global market-oriented production

## **LIST OF SOCIAL CHANGE PROCESSES:** **(3 of 6) - geographical processes**

- conversion and/or diversification of landuse
- urban sprawl
- urbanisation
- gentrification
- enhanced transportation and rural accessibility
- physical splintering

## **LIST OF SOCIAL CHANGE PROCESSES:** **(4 of 6) - institutional processes**

- institutional globalisation and centralisation  
(the incorporation of the local into the global)  
loss of autonomy of decision making at local level
- decentralisation
- privatisation
- decreasing capacity to enforce the law
- corruption

**LIST OF SOCIAL CHANGE PROCESSES:**  
**(5 of 6) - emancipatory & empowerment processes**

- democratisation
- marginalisation and exclusion
- interest group formation
- capacity building

## **LIST OF SOCIAL CHANGE PROCESSES: (6 of 6) - social-cultural processes**

- **social globalisation**  
(the incorporation of the local into the global)  
loss of cultural identification; macdonaldization, coca-cola development; cultural hegemony
- **segregation**  
(the process of creation of social difference within a community)
- **social disintegration**  
(the process by which community networks breakdown)
- **cultural differentiation**  
(increasing the differences within a community)
- **deviance**



# Identifying impacts



# Impact categories

- health and wellbeing
- quality of the living environment
- economic impacts
- cultural impacts
- family and community impacts
- institutional, political and equity impacts
- gender relations

## **LIST OF IMPACTS:** Health and Wellbeing

Death of self or a family member – personal loss.

Death in the community – loss of human capital.

Nutrition – adequacy, security and quality of food supply.

Actual health and fertility (ability to conceive).

Perceived health and fertility.

Mental health and subjective wellbeing.

Aspirations for the future for self and children.

Autonomy – individual independence or self-reliance.

Experience of stigmatisation or deviance labelling.

Uncertainty.

Feelings in relation to the project.

Annoyance.

Dissatisfaction - failure to deliver promised benefits.

Experience of moral outrage

## **LIST OF IMPACTS:** Quality of the living environment

Environmental amenity value.

Perceived quality of the living and work environments

(dust, noise, risk, odour, vibration, artificial light, safety...).

Actual quality of the living and work environment.

Disruption to daily living practices.

Leisure and recreation opportunities and facilities.

Aesthetic quality – visual impact, outlook, vistas, shadowing.

Perception of the physical quality of housing.

Actual physical quality of housing.

Perception of the social quality of housing.

Availability of housing facilities.

Adequacy of physical infrastructure.

Adequacy of social infrastructure.

Perception of personal safety and fear of crime.

Actual personal safety and hazard exposure.

Actual crime and violence.

## **LIST OF IMPACTS:** Economic impacts

Workload.

Standard of living, level of affluence.

Economic prosperity and resilience.

Income – both cash and in-kind income.

Property values.

Status and type of employment.

Experience of being unemployed.

Level of unemployment in the community.

Loss of employment options.

Replacement costs of environmental functions.

Economic dependency.

Disruption of local economy.

Burden of national debt.

## **LIST OF IMPACTS:** Cultural impacts

Change in cultural values.

Cultural affrontage.

Cultural integrity.

Experience of being culturally marginalised.

Profanisation of culture – the commodification of artefacts.

Loss of local language or dialect.

Loss of natural and cultural heritage.

## **LIST OF IMPACTS:** Family and community impacts

Alterations in family structure.

Changes to sexual relations.

Obligations to living elders.

Obligations to ancestors.

Family violence – physical or verbal abuse.

Disruption of social networks.

Changed demographic structure of the community.

Community identification and connection.

Perceived and actual community cohesion.

Social differentiation and inequity.

Social tension and violence.

## **LIST OF IMPACTS:** Institutional, Political, Equity

Workload on government organisation.

Integrity of government agencies.

Loss of tenure, or legal rights.

Loss of subsidiarity.

Violation of human rights.

Participation in decision making.

Access to legal procedures and to legal advice.

Impact equity.



## **LIST OF IMPACTS:** Gender relations

Women's physical integrity and autonomy.

Gender division of productive labour.

Gender division of household labour.

Gender division of reproductive labour.

Gender based control over, and access to, resources.

Personal autonomy of women.

Political emancipation of women.

# Conclusion

- It is all about PROCESSES
- All indicators are likely to be inadequate
- What do we need indicators for anyway? to track progress, to guide decisions, to satisfy political masters?



**Prof Frank Vanclay**  
**Tasmanian Institute of Agricultural Research**  
**University of Tasmania**

**[Frank.Vanclay@utas.edu.au](mailto:Frank.Vanclay@utas.edu.au)**

# Follow-up readings

- Becker, H. & Vanclay, F. (eds) 2003 *The International Handbook of Social Impact Assessment*, Cheltenham (UK): Edward Elgar. (reprinted in paperback in 2006)
- Vanclay, F. 2004 “The Triple Bottom Line and Impact Assessment: How do TBL, EIA, SIA, SEA and EMS relate to each other?”, *Journal of Environmental Assessment Policy and Management* 6(3): 265-288.
- Vanclay, F. 2004 “Assessing the social consequences of planned interventions”, in White, R. (ed.) *Controversies in Environmental Sociology*, Melbourne: Cambridge University Press, 257-275
- Vanclay, F. 2003 “International Principles for Social Impact Assessment”, *Impact Assessment and Project Appraisal* 21(1): 5-11.
- Vanclay, F. 2002 “Conceptualising social impacts”, *Environmental Impact Assessment Review* 22(3): 183-211.
- Vanclay, F. 2002 “Social impact assessment”, in Tolba, M. (ed.) *Responding to Global Environmental Change*, Chichester: Wiley, 387-393.
- Slootweg, R., Vanclay, F. & van Schooten, M. 2001 “Function evaluation as a framework for the integration of social and environmental impact assessment”, *Impact Assessment and Project Appraisal* 19(1): 19-28.
- Vanclay, F. 1999 “Social impact assessment”, in Petts J (ed.) *Handbook of Environmental Impact Assessment* (Volume 1), Oxford: Blackwell Science, 301-326.
- Vanclay, F. 1999 *Social Impact Assessment*, Briefing paper for the World Commission on Dams, Cape Town: World Commission on Dams.

# Session 4:

## **Getting practical - experiences with social monitoring**

Christiane Gätje (Schleswig-Holstein Wadden Sea National Park)

Silke Peters (Flower Label Program, Germany)

Uwe Kerkow (Social Watch, Germany)





INTERNATIONAL WORKSHOP NOVEMBER, 26-28, 2007 UNIVERSITY OF BREMEN

# Socio-economic monitoring in the Schleswig-Holstein Wadden Sea National Park

Nationalpark  
Wattenmeer



SCHLESWIG-HOLSTEIN

# Socio-economic monitoring (SEM *Watt*) in the National Park Schleswig-Holstein Wadden Sea

- Introduction
- Goals of SEM *Watt*
- Elements of SEM *Watt*
- Some selected results
- Resumé: Benefits of SEM *Watt*,  
Recommendation



**Nationalpark  
Wattenmeer**



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# National Parks in Germany:

14 national parks in Germany covering an area of nearly 10,000 square km

Schleswig-Holstein Wadden Sea National Park  
- largest one in Germany

Nationalpark Wattenmeer



SCHLESWIG-HOLSTEIN





**Nationalpark  
Wattenmeer**



SCHLESWIG-HOLSTEIN



# Facts and Figures:

- **National Park established in 1985**
- **UNESCO Biosphere Reserve since 1990**
- **Marine habitats** like salt marshes, extended tidal areas, open sea, sand banks, beaches and dunes
- **Coastline of mainland and islands: 460 km**
- **Inhabited areas are excluded**
- **Two counties bordering NP - about 300.000 inhabitants**

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Wattenmeer



SCHLESWIG-HOLSTEIN





# Tourism in the National Park Region - important economic sector

- North Sea Coast of Schleswig-Holstein: Traditional recreation area and holiday destination long before designation of National Park
- Nearly 2 million holiday-makers (15 mio. overnight stays\*) and 14 million day trippers\*\*
- Tourism provides 37,5 % of regional income\*\*
- Main activities of tourists: Walking on the beach or on the tidal flats, sun-bathing, bathing, swimming, sailing, surfing, boat trips, enjoyment of Wadden Sea nature, bird watching, cycling
- Mainly tourists from Germany. Visitors from abroad only 1-2 %\*

\* *Statistical data NBV (2006)*

\*\* *dwif (2005)- basic year 2004/In: NBV (2006)*

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## *National Park Law of 17 December 1999*

### *Article 2 (3) Protection and other objectives*

... The conservation of nature by the National Park should lead to an improvement of the living and working conditions of the human population residing within the region, through positive repercussion on tourism and the reputation of the region.

## *Mission statement of National Park Office and National Park Service*

... Man is welcome to the National Park as a guest.

The Schleswig-Holstein Wadden Sea National Park is principally open to anybody. International criteria also demand national parks to provide a foundation for recreational, spiritual, and educational opportunities.



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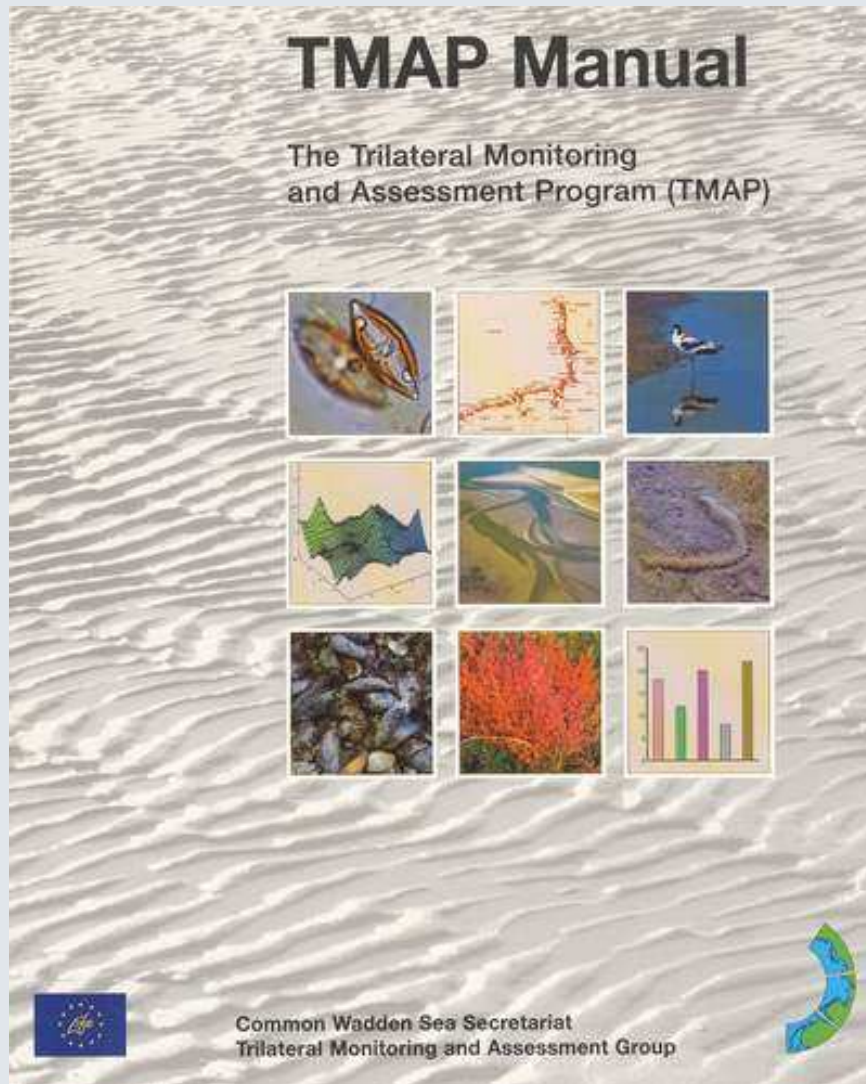
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## Goals of SEM *Watt*

- Record continuously the popularity and adequacy of National Park information and nature experience offers as well as of instruments of nature conservation and visitor management,
- Measure the acceptance of local residents and visitors with respect to the National Park, by surveying their attitudes, opinions and wishes,
- Collect and analyse data on tourism and reveal the effects of the National Park on regional economy in facts and figures,
- Recognize (negative) repercussions and trends in order to react properly and in due time.



# TMAP – Trilateral Monitoring and Assessment Program



- Danish, German, Dutch Wadden Sea
- Declaration of Trilateral Governmental Conference 1997 in Stade
- Harmonized Monitoring
- Common package of parameters
- Mostly ecological parameters
  
- Few socio-economic parameters:
  - Air traffic
  - Boats at sea
  - No. of guided tours

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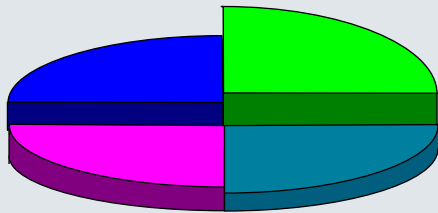


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# SEM Watt

## Elements of socio-economic monitoring



### SEM Regional

Statistics, data, investigations

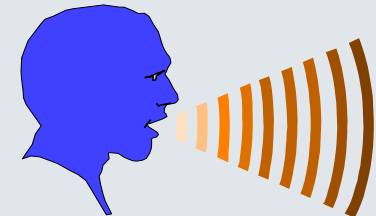
- National Park offers (indoor/outdoor)
- Economic effects of National Park
- Tourism
- Environmental Trends



### SEM Visitors

Carrying-out

- Countings
- Visitor surveys
- Mappings



### SEM Opinion

Surveys of

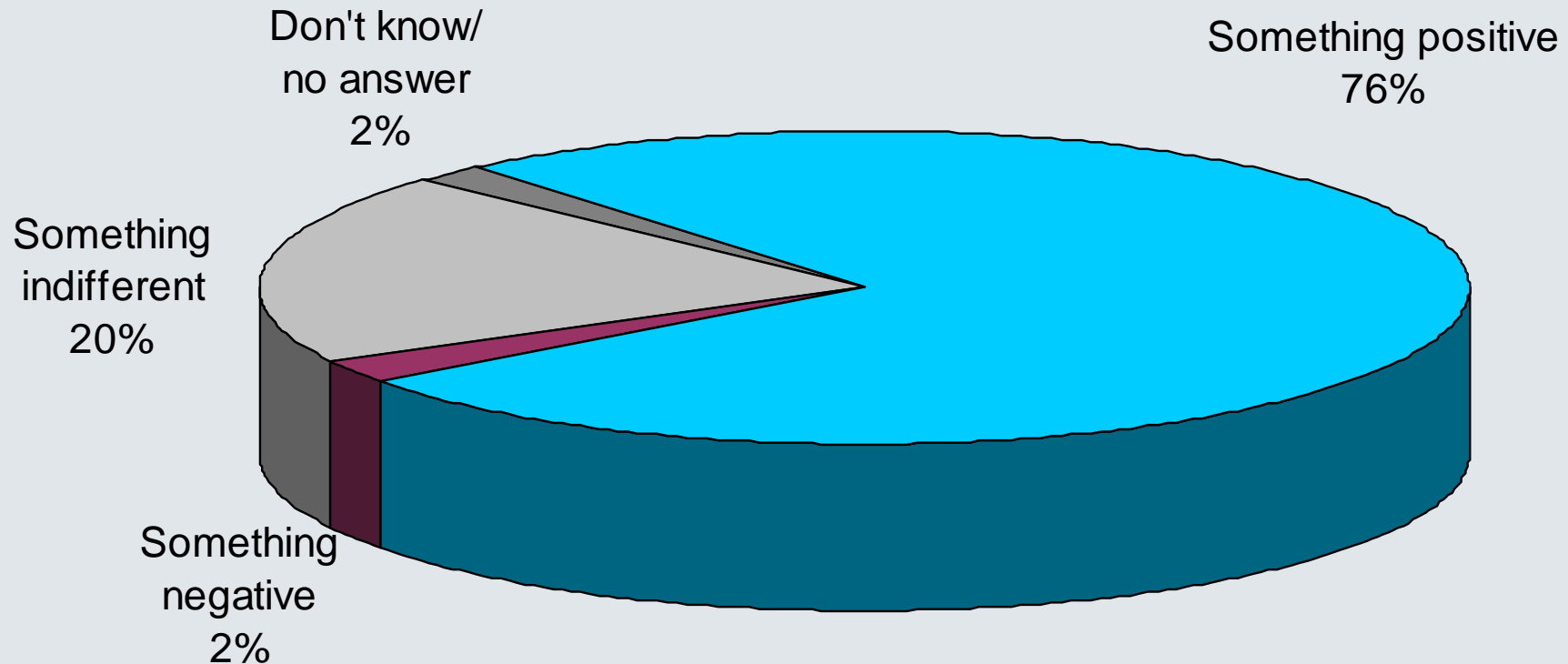
- Lokal residents
- German citizens

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# What do you basically associate with the term ,National Park‘?



Nationwide survey, representative sample n = 1009, February / March 2006,  
USUMA on behalf of National Park Office Schleswig-Holstein Wadden Sea (SEM Watt)

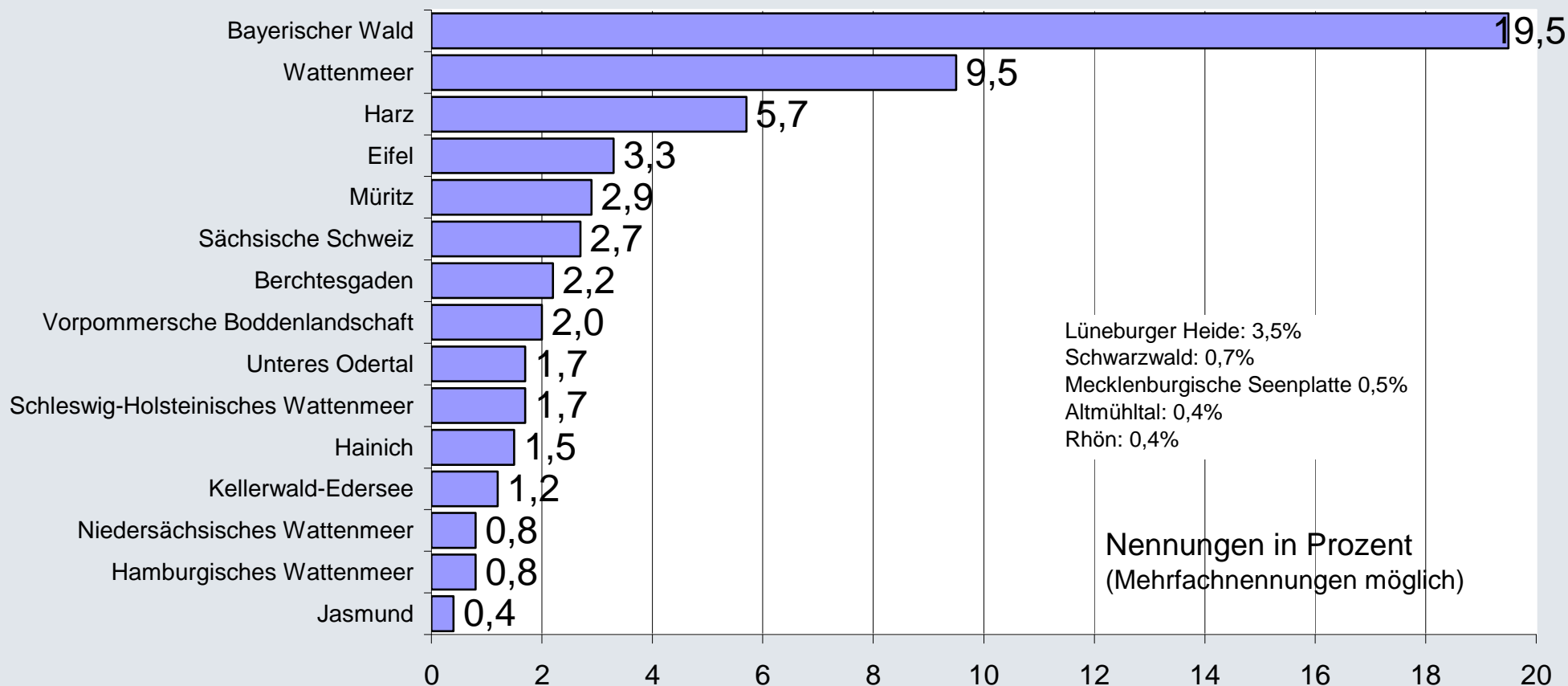
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# Do you know one or more German National Parks by name? Please give me the names of German National Parks you can remember spontaneously.



Nationwide survey, representative sample n = 1012, December 2006,  
USUMA on behalf of National Park Office Schleswig-Holstein Wadden Sea (SEM *Watt*)

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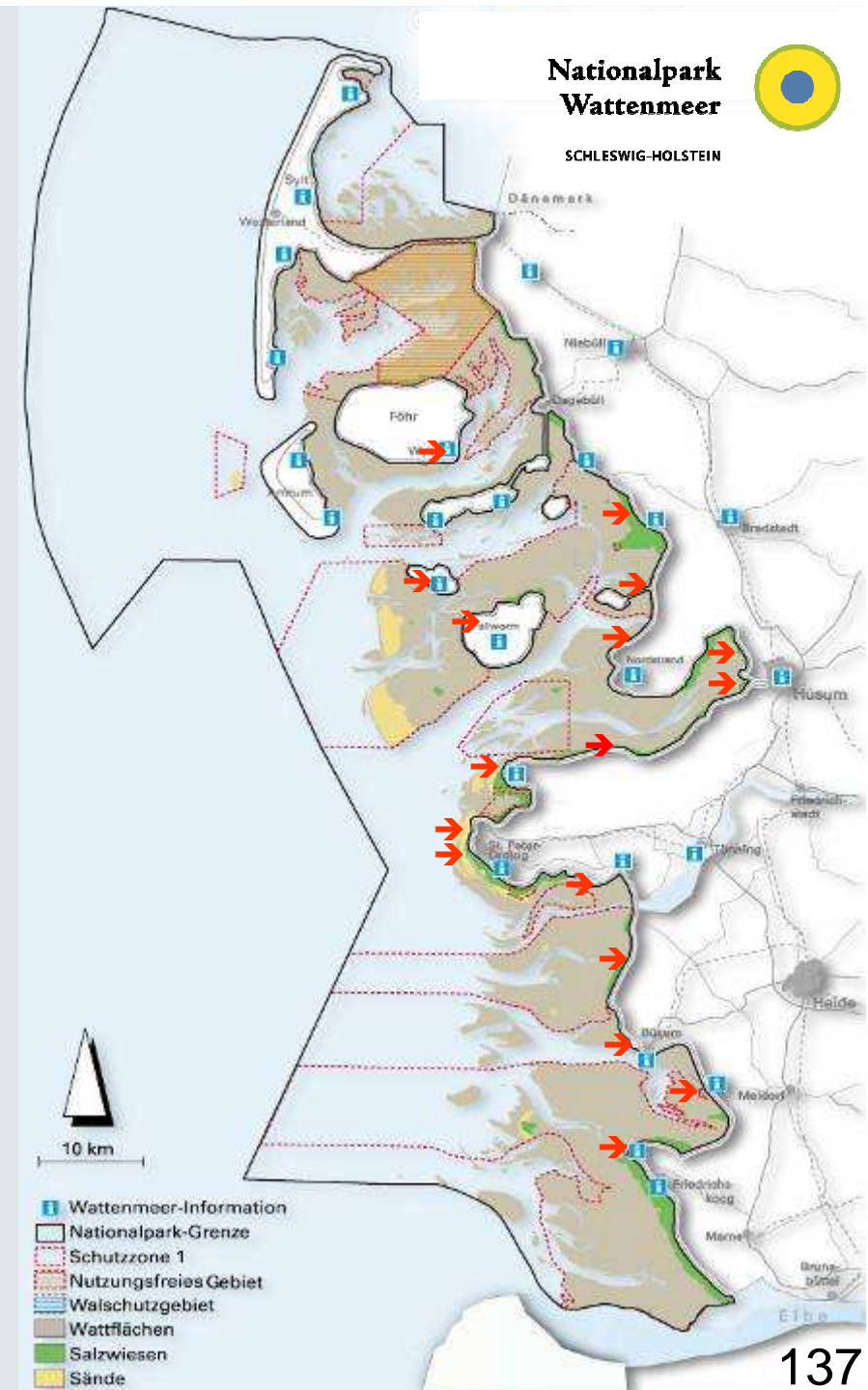
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# SEM *Watt* Visitor Survey

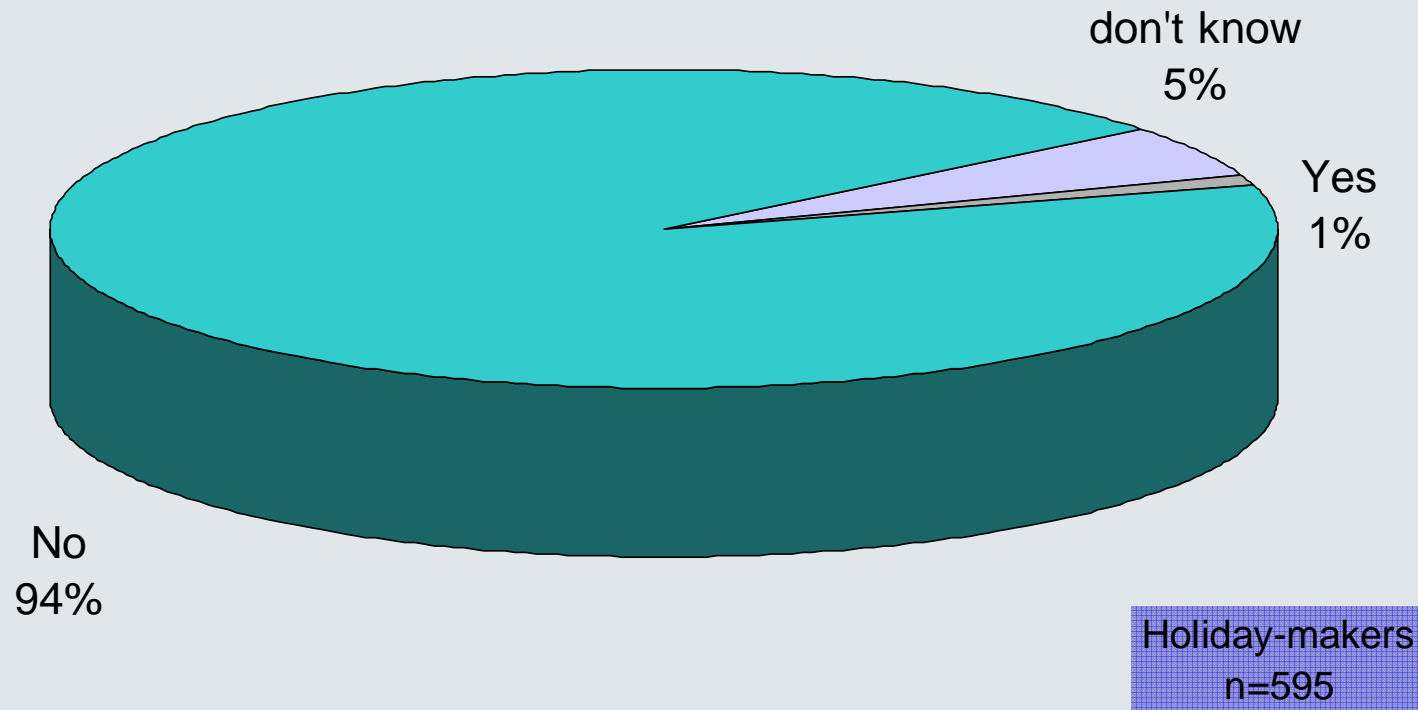
- ➔ Interviews with visitors of National Park on 17 locations by staff of the Nationalpark-Service and of an NGO (Schutzstation Wattenmeer on Hallig Hooge)
- ➔ Countings and short questionnaires to record visitor number and type

## Years 1999-2006

Interviews	about	6.650
Short questionnaire	about	28.500



# Do you feel personally restricted by the National Park?



SEM Watt Visitor Survey 2006 National Park Office/National Park Service

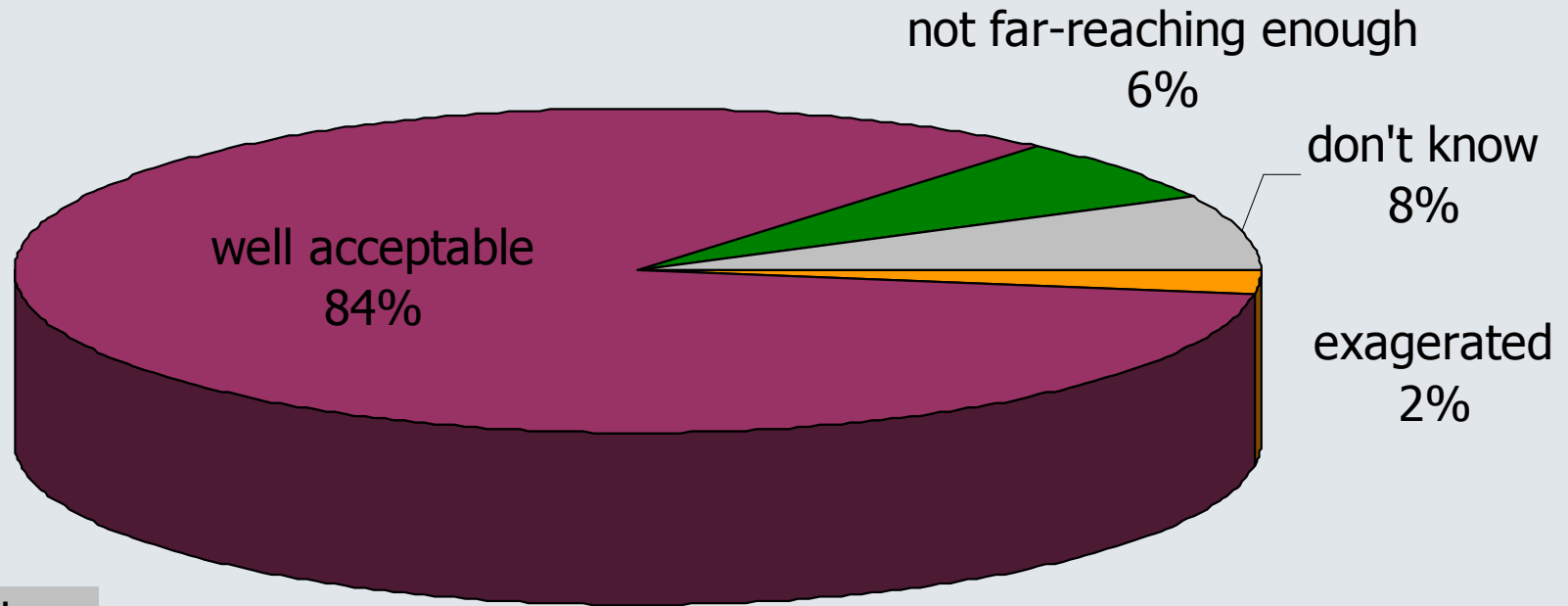
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# What is your opinion about the following protection measures in the National Park?

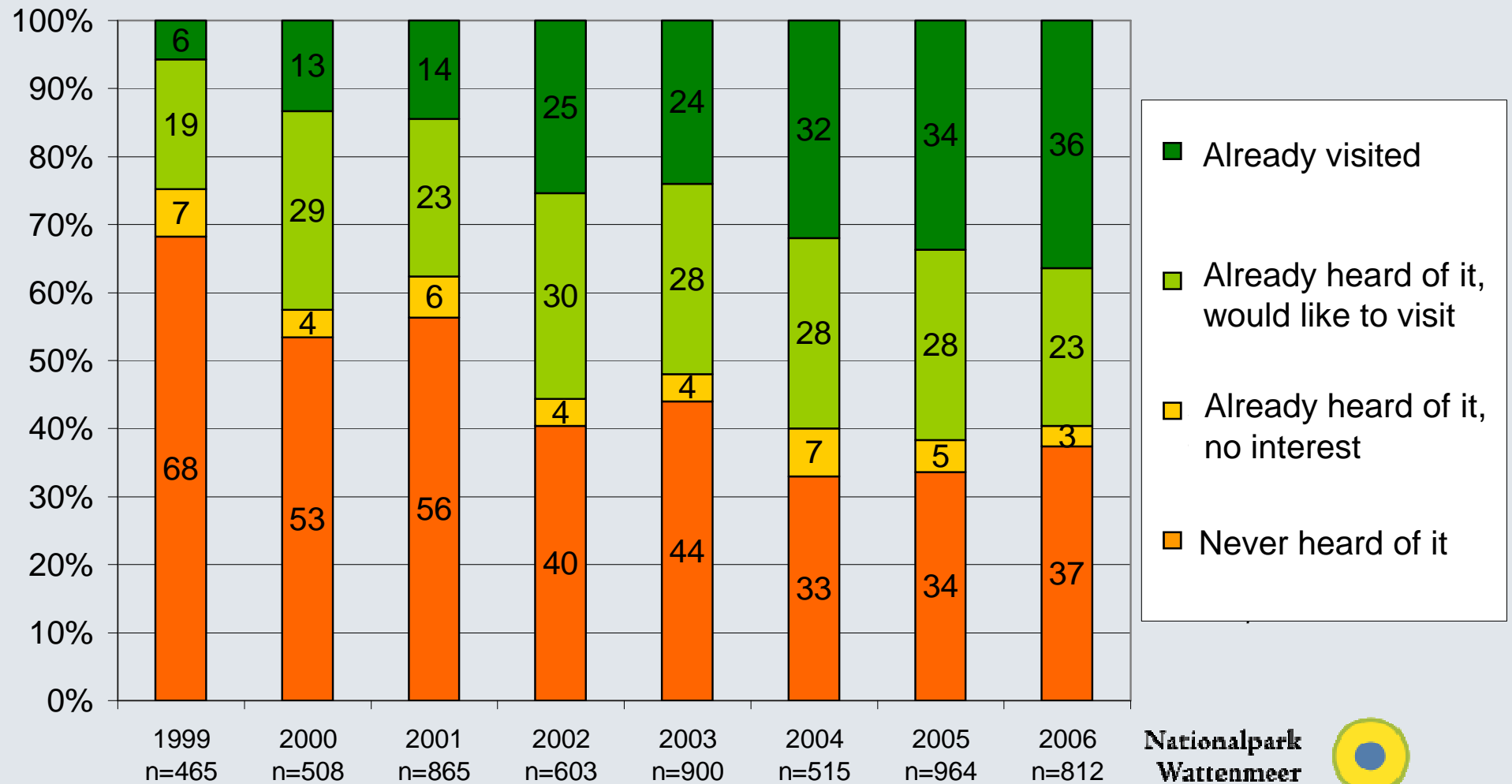
No Entry Areas: Access prohibited in special areas, because of resting seals or breeding birds



Holiday-makers  
n=657



# Popularity of National Park Center Multimar Wattforum



SEM Watt Visitor Survey National Park Office/National Park Service

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# Guided tours, tidal flat walks

In 2006:

- Appr. 4.600 guided tours
- Appr. 105.700 participants



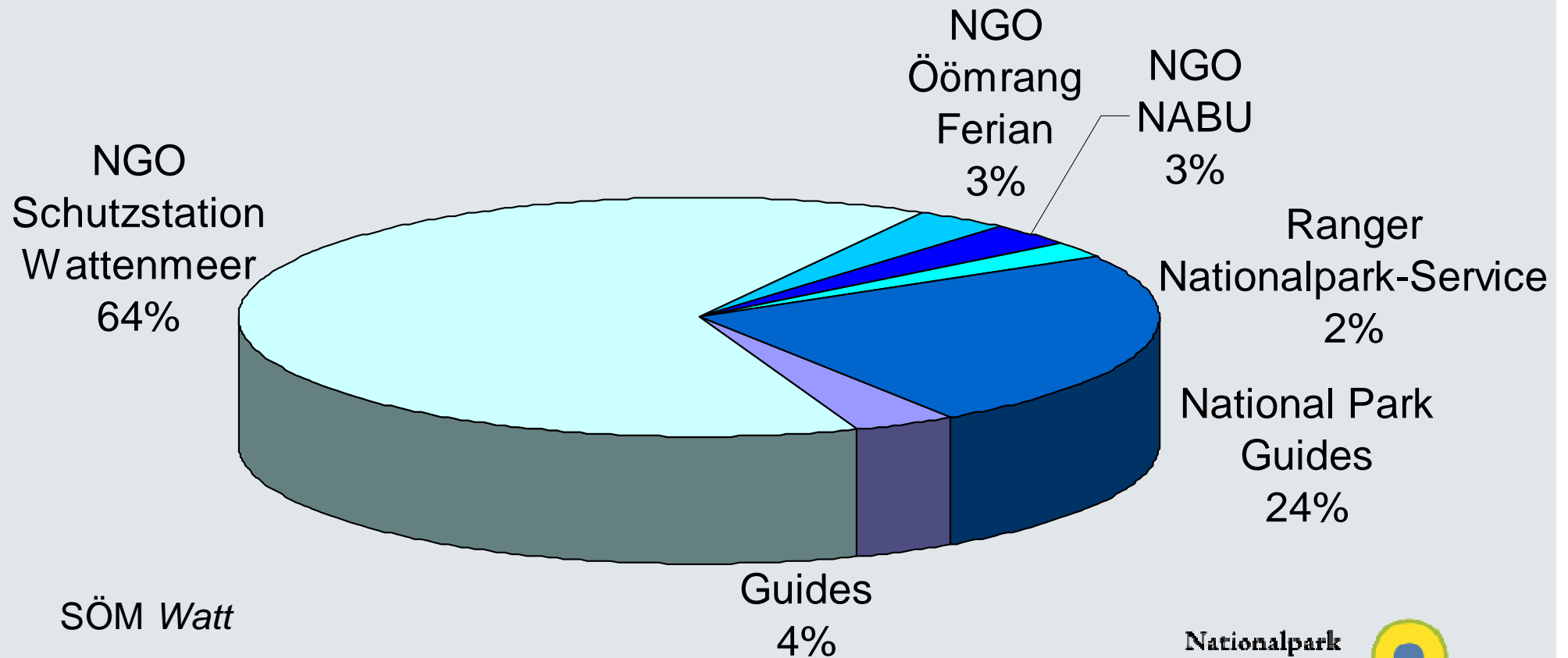
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# Guided tours on tidal flats

4.600 guided tours, 105.700 participants



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Wattenmeer



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# National Park Visitor Centers and Exhibitions

## Nationalpark-Haus in Husum



Gemeinsam  
betrieben von  
Nationalpark-  
Service gmbH



Visitor Center  
Multimar Wattforum



Nationalpark  
Wattenmeer



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# Popularity of National Park attractions



105.700



240.500



634.000

105.700 people participated in guided tours in 2006

240.500 people visited information centers of National Park in 2006

634.000 people visited exhibitions of NGOs or others which deal with the topics of Wadden Sea and National Park

In 2006 almost **1 million people** in the coastal region of Schleswig-Holstein have received information about the National Park and the Wadden Sea

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# National Park tourism as a regional economic factor

Results of a diploma thesis

Data: Katja Korff, University of Dresden



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Wattenmeer**



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# Object of research

- Consideration:

Regional businesses benefit from tourist spending

- Objective:

Determination of the economic effect based on the spending behaviour of all tourists which indicated the National Park as an important motive for their visit to the region.



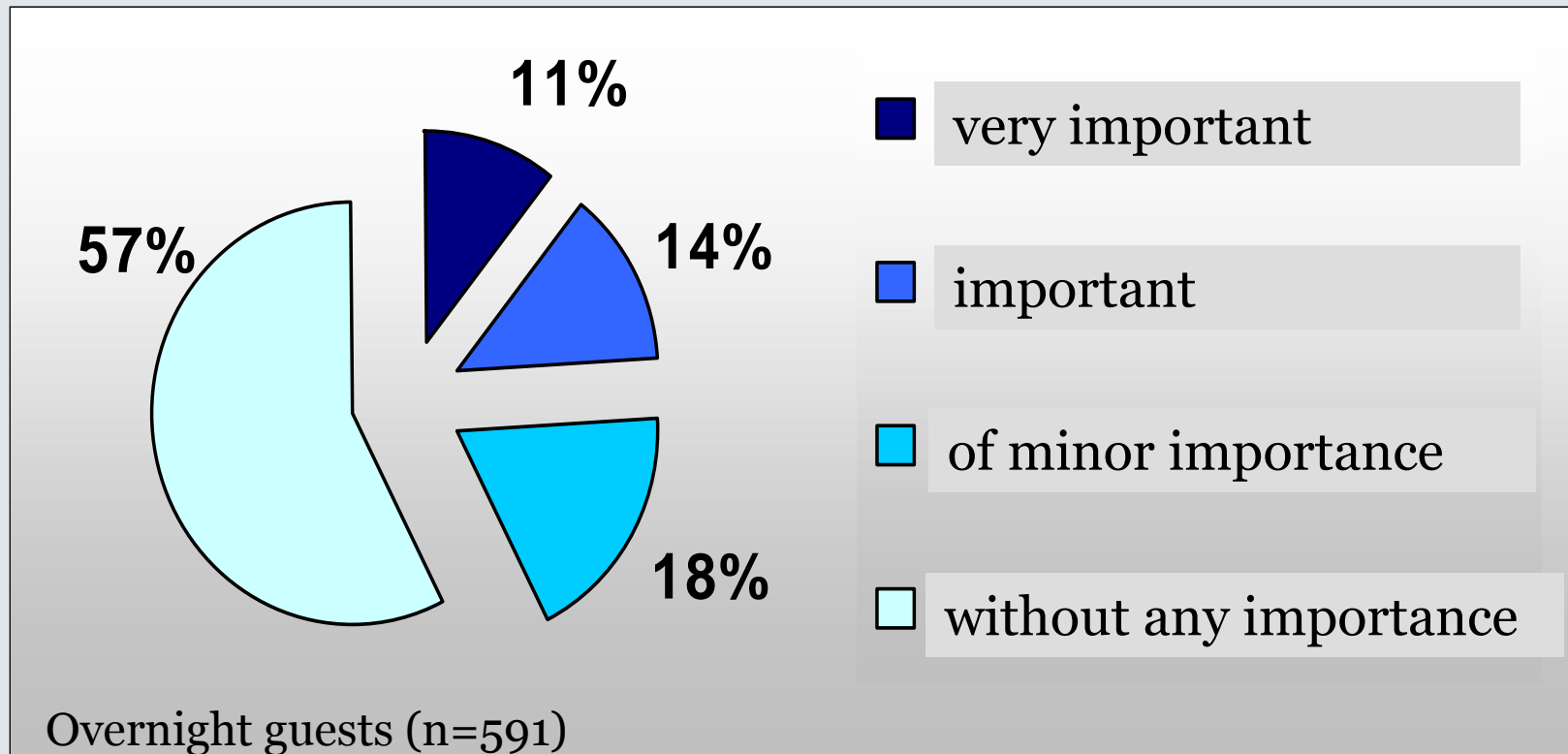
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The Schleswig-Holstein Wadden Sea is protected as a National Park since 1985.

## How important was the fact that the Wadden Sea is a National Park when you decided for your visit here?



Data: Korff (2004)

Nationalpark  
Wattenmeer



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# Results of survey



- **National Park tourists in narrow sense**

For 1,4% of the guests with overnight stay the **National Park was the exclusive motive** to visit the region

**Gross value added:** 6,4 Mio. Euro = 280 jobs

- **National Park Tourists in broader sense**

25 % of the guests with overnight stay indicated the **National Park as a strong motive** for their visit

**Gross value added:** 131 Mio. Euro = 5.900 jobs

Nationalpark  
Wattenmeer



SCHLESWIG-HOLSTEIN

Data: Korff (2004), basic year 2003

# Conclusions of the survey



- The quantitative importance of the National Park tourism for the regional economy was calculated and turns out to be considerable.
- However, the National Park also generates positive qualitative effects
  - Unique selling position for the National Park region in competition with other regions / gain of image
  - Enhancement of tourism infrastructure
  - The various offers and opportunities to experience nature increase the diversity of tourism products and services and raise the attractiveness of the destination

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# SEM Watt residents' survey



Selected results of a representative telephone residents' survey



Where: Dithmarschen and Nordfriesland  
Sample of 600 respondents

When: Since 2000 annually

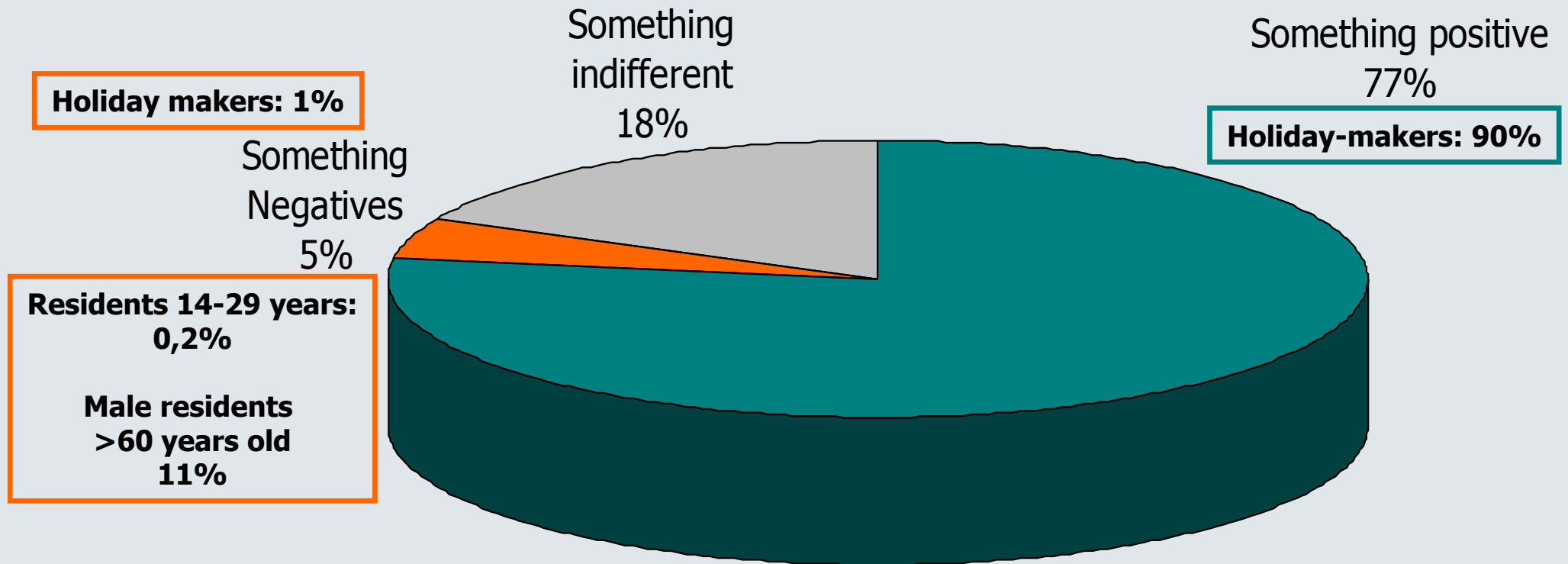
Who: inspektour GmbH/FH Westküste  
on behalf of National Park Office

Nationalpark  
Wattenmeer



SCHLESWIG-HOLSTEIN

# What do you basically associate with the term 'National Park'?



SEM Watt Residents' Survey (Dithmarschen and Nordfriesland)  
November 2006, n=600 inspektour/FH Westküste on behalf of National Park Office

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## SEM *Watt Residents' Survey*



### Question:

The Schleswig-Holstein Wadden Sea is protected as a National Park.

Which significance do you attach to having a National Park on your doorstep?

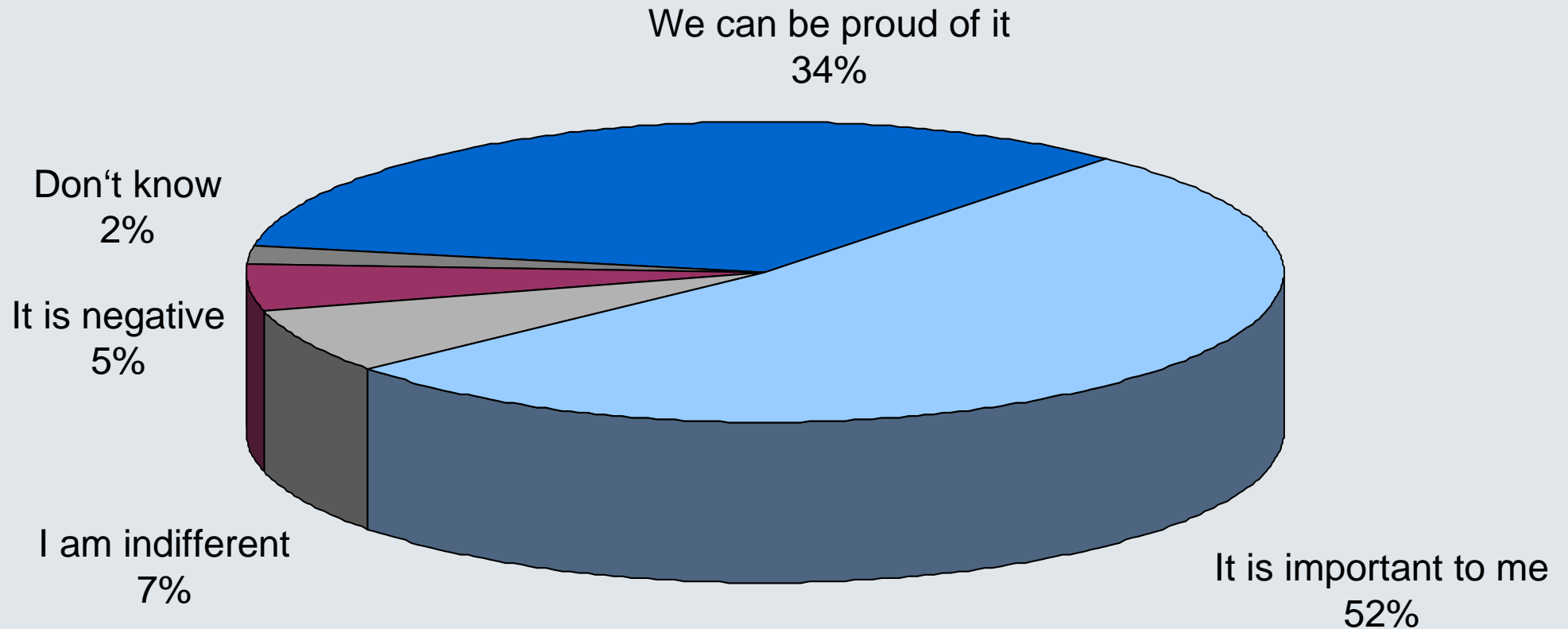
- o We can be proud of it
- o It is important to me
- o I am indifferent
- o It is negative
- o Don't know

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SCHLESWIG-HOLSTEIN

# Which significance do you attach to having a National Park on your doorstep?



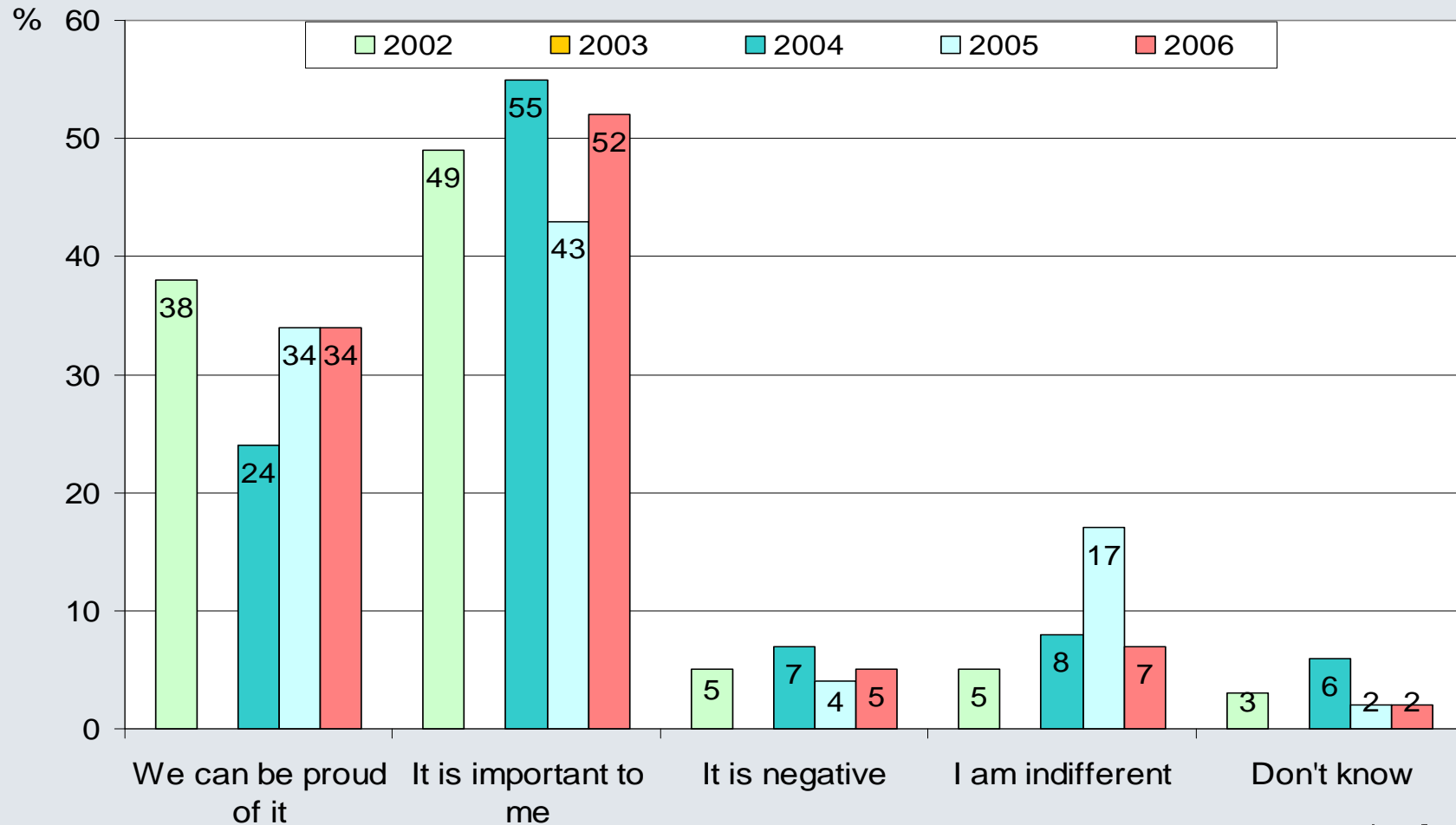
SEM Watt Residents' Survey (Dithmarschen und Nordfriesland)  
November 2006, n=600 inspektour/FH Westküste on behalf of National Park Office

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# Which significance do you attach to having a National Park on your doorstep?



SEM *Watt* Residents' Survey (Dithmarschen und Nordfriesland)  
 2002-2006, annually n=600 inspektour/FH Westküste on behalf of National Park Office

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## Resumé: Benefit of SEM *Watt*

- The results of the SEM *Watt* serve as a barometer and give feedback about the perception of the NP in the public (local residents, potential and actual visitors). They provide valuable arguments for the political discussion and help to optimize the protected area management.

### Recommendation

- Medium-term goal should be to develop and to implement a harmonized socio-economic monitoring as a constitutional element of a comprehensive (sustainability) monitoring in protected areas like national parks and biosphere reserves.

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**Thank you for your attention!**

**[www.wattenmeer-nationalpark.de](http://www.wattenmeer-nationalpark.de)**

**Nationalpark  
Wattenmeer**



SCHLESWIG-HOLSTEIN



## Socio-economic monitoring and indicators in Flower Label Program's framework

Silke Peters, FLP e.V.



## Flower Label Program

Structure  
Standard  
Audits  
Indicators  
Monitoring  
Certification

1. Structure - What is FLP?
2. Standard – Who set the standard?
3. Audits: Procedure and Methods
4. Indicators: Social and technical
5. Monitoring: Who guarantees independence?
6. Certification: Who decides? How are the standards kept?







## Flower Label Program

Structure

Standard

Audits

Indicators

Monitoring

Certification

## 1. Structure

- Multistakeholder project (NGOs, Trade Unions, Flower Traders, Flower Producers)
- Independent Charity Association
- Financed by memberfees
- Aim: Improvement of social and environmental conditions in *worldwide* flower production > Sector specific instrument of CSR







## Flower Label Program

Structure

Standard

Audits

Indicators

Monitoring

Certification

# 1. Structure

Instruments:

— Consultation and certification

— flower label

— information in demand markets (demand is crucial for impact; incentive for producers to join the programme)



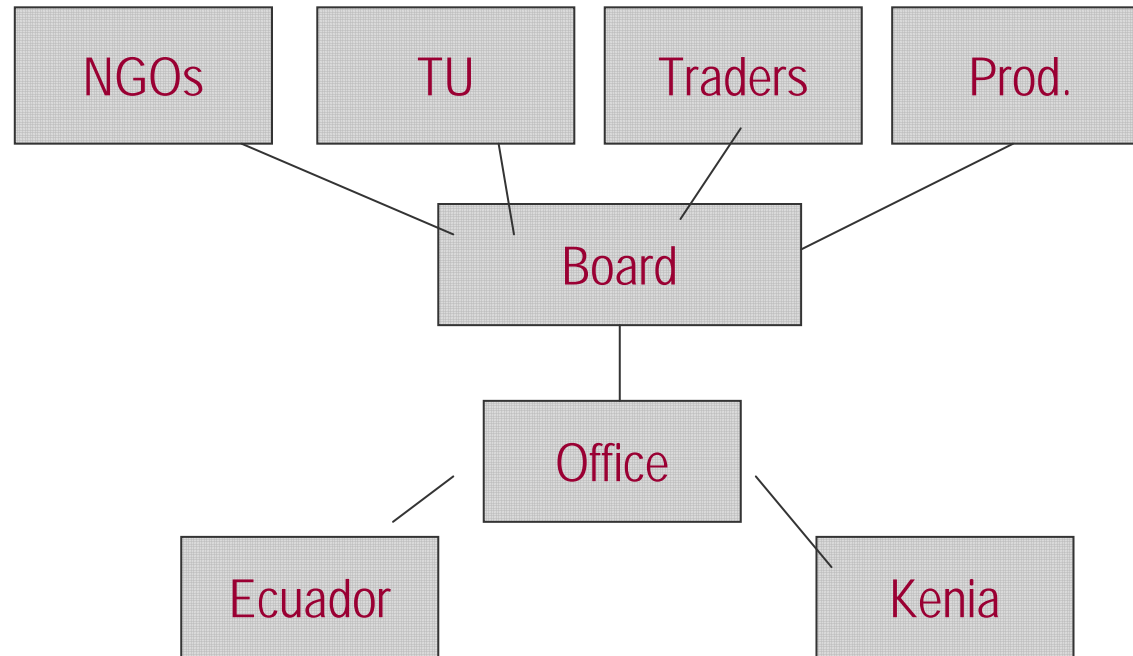


## Flower Label Program

### Structure

- Standard
- Audits
- Indicators
- Monitoring
- Certification

## 1. Structure





## Flower Label Program

Structure

Standard

Audits

Indicators

Monitoring

Certification

## 1. Structure

— Currently there are 56 FLP certified farms in Ecuador, Kenya, South Africa and Portugal.

— FLP reaches approx. 15.000 workers

— Approx. 1.000 hectares are certified

— The biggest import companies of Germany are member

— More than 1.300 florists support the approach







## Flower Label Program

Structure

Standard

Audits

Indicators

Monitoring

Certification

## 2. Standard

—Main Criteria:

- Freedom of Association
- Living Wages
- Non-Discrimination
- Health and Safety
- Ban on Child Labour
- Ban on Highly Toxic Pesticides
- Responsible Use of Natural Resources





## Flower Label Program

Structure

Standard

Audits

Indicators

Monitoring

Certification

## 2. Standard

—Bases on ILO Konvention,  
Classifications of WHO and EPA-List

—Bases furthermore on *International Code of Conduct for the Production of Cutflowers* that was formulated by international NGOs and Trade Unions

—Is regularly updated by FLP Certification Committee (NGO-members and pesticide experts)





## Flower Label Program

Structure

Standard

Audits

Indicators

Monitoring

Certification

### 3. Audits

- Conducted by independent third party organisations
- Take place regularly once per year (announced, one day, mixed team)
- Completed by unannounced spot checks







## Flower Label Program

Structure

Standard

Audits

Indicators

Monitoring

Certification

### 3. Audits: Auditmethods

#### a) Technical:

- Checklists (warning signs, organisation of pesticide store, status of workers clothes and masks, shower and toilets, canteen, etc.)
- Document check (pay rolls, overtime registration, files of pregnant and breastfeeding workers, protocols of meetings, order lists and existing pesticides, documents on pesticide use and sprayer rotation)
- Residue and water analysis





## Flower Label Program

Structure  
Standard

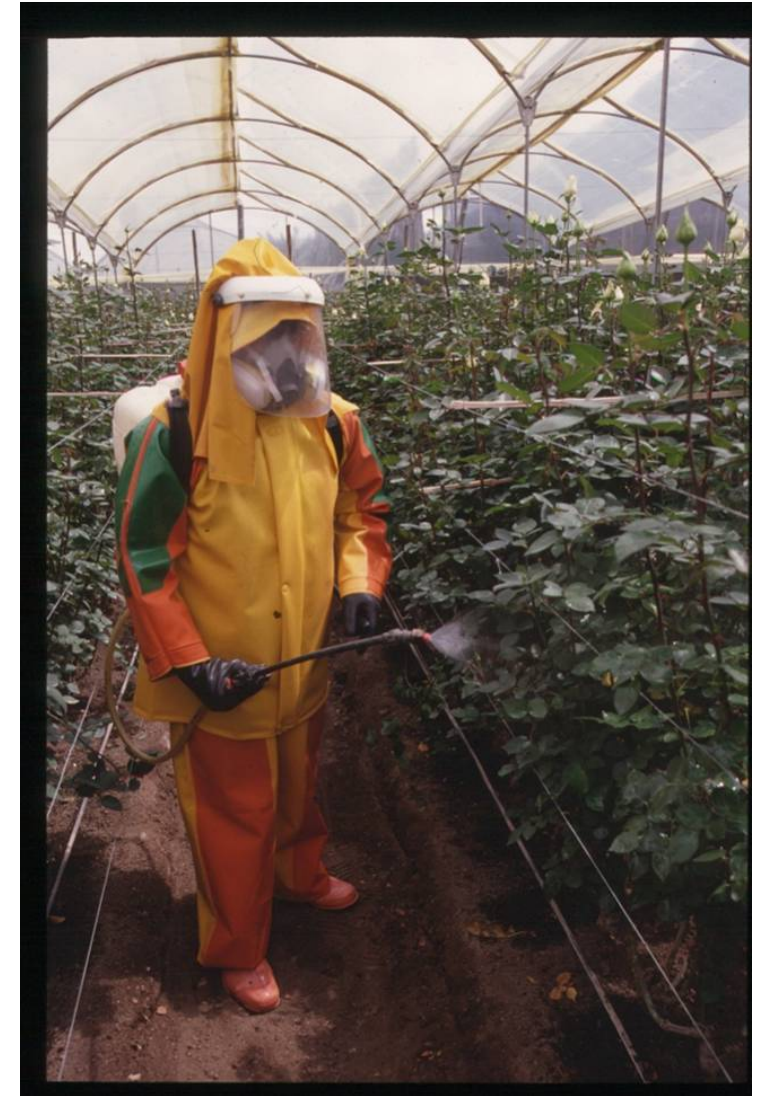
Audits

Indicators

Monitoring

Certification

## 3. Audits:







## Flower Label Program

Structure

Standard

Audits

Indicators

Monitoring

Certification

### 3. Audits: Auditmethods

#### b) Instruments of participatory audits:

- Random interviews
- Walk through the farm (observation)
- Group meetings (f. ex. with the workers committee, canteen staff, drivers, spayers)
- Role plays





## Flower Label Program

Structure  
Standard

**Audits**

Monitoring

Certification

## 3. Audits:







## Flower Label Program

Structure

Standard

Audits

Monitoring

Certification

## Example Social: Indicators of Living Wage

### Guideline Point 3.2:

Management should develop with the union committee a plan (...) to increase salary and other social benefits, like seniority, production or qualification bonus, assistance for the school career of the workers children, canteen, training courses, etc. to reach living wage.





## Flower Label Program

Structure

Standard

Audits

Indicators

Monitoring

Certification

## Indicators:

	Yes	No	Costs	Subsidies
Breakfast				
Lunch				
Little Meal				



### Transport:

- One way    -return    -subsidies    - % of net income

### Education

-Subsidies    -credit    -no support

Kindergarden, Pharmacy, Shop on the farm,..





## Flower Label Program

Structure

Standard

Audits

Indicators

Monitoring

Certification

## Example Technical: Indicators for Minimized Pesticide Use

### Guideline Point 6.2:

The most appropriate combination of organic, cultural, mechanical and chemical methods shall be used. Organic methods should replace pesticide treatment where ever possible. (...)







## Flower Label Program

Structure

Standard

Audits

Indicators

Monitoring

Certification

## Indicators:

Intergrated Pest Management:

- Strategies -Documentation -Avoid of resistances

Toxicity of used products

-Red -Yellow -Green -Organic

Scout training

National registration of product





## Flower Label Program

Structure

Standard

Audits

Monitoring

Certification

## 4. Monitoring

\_\_\_ Farm receives report three month after the audit (including a summary of the findings combined with recommendation)

\_\_\_ Shortcomings are highlighted. A time frame is given in which they have to be tackled. Ecuador: Farm has to hand in an implementation plan.

\_\_\_ Copy of the report is given to the workers committee (watch dog)





## Flower Label Program

Structure

Standard

Audits

Monitoring

Certification

## 4. Monitoring

\_\_\_Coordinator, NGO and Trade Union members have the right to „shadow“ the audit and to visit the farm at any time.

\_\_\_Unannounced Spot Checks

\_\_\_Residue analysis and water check

\_\_\_Participation of workers and background information through workers education programme

\_\_\_Complaint structure







## Flower Label Program

Structure  
Standard  
Audits  
Monitoring  
Certification

## 6. Certification

- \_\_\_ Decision taken by Certification Committee (NGO members and pesticide experts)
- \_\_\_ Certificate valid for one year
- \_\_\_ Certificate is precondition for label use
- \_\_\_ Certified farms are member in FLP Association





Flower Label  
Program

Thank you for your  
attention.

[www.fairflowers.de](http://www.fairflowers.de)

[www.flowerlabel.org](http://www.flowerlabel.org)



# Social Watch profile



- To promote the political will needed for United Nations promises to become a reality, **Social Watch was created in 1995** by a group of civil society organizations, with the aim of **reminding governments of their commitments** and independently **tracking their implementation**, country by country and at the international level.
- Since then, Social Watch has published a **yearly report on progress and setbacks in the struggle against poverty and for gender equality**
- Today the network has **members in over 70 countries** on every continent.
- The Social Watch **secretariat** is based in Montevideo, Uruguay.
- Social Watch has **advisory status at UN's ECOSOC.**

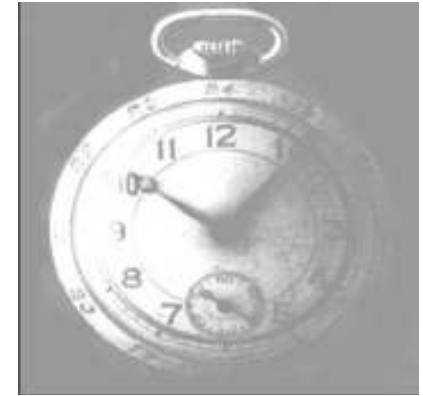
# Social Watch Memorandum of Understanding



1. Coalitions must be **based in the country** and be **active in social development issues** in that country (not exclusively as academics or consultants).
2. Their basic commitment to the international network is to **provide a national report**, with their own conclusions and determination of priorities, to be included in the annual publication.
3. They are expected to **use their national report and the global report in lobbying** activities at national level.
4. They must be open to the incorporation of other organizations, work actively to broaden awareness of Social Watch and encourage the participation of other organizations.
5. They are **responsible for raising funds for their activities**. National coalitions are not dependent for funds on, or financially accountable to, the Secretariat or any other international Social Watch entity.
6. **Each coalition determines its own organizational structure.**
7. **Social Watch membership and the exercise of governmental functions are absolutely incompatible.**
8. Cooperation with other national platforms should be encouraged at sub-regional, regional and global levels.



# Social Watch Germany



- **Social Watch Germany has 29 member organisations. Those that edit the Social Watch Report Germany are** Asienhaus Essen; Brot für die Welt; Caritas International; DGB-Bildungswerk; Diakonisches Werk (from 2008 onwards); Evangelischer Entwicklungsdienst; Friedrich-Ebert-Stiftung; Global Policy Forum Europe; IG-Metall; Pax Christi; terre des hommes; World Economy, Ecology and Development (WEED); Werkstatt Ökonomie; WOMNET.
- **The prevailing political and strategic stance is the human rights approach with specific emphasis on economic, social and cultural rights.** This is a broad consensus and applies probably for all of the national Social Watch coalitions and certainly for the international secretariat.
- **What makes the Social Watch Report Germany unique, is the fact that it integrates reporting on social issues in Germany** (human rights obligations of the German government towards its citizens) **and on development issues** (extra-territorial state obligations).



# The Basic Capabilities Index, BCI: What is it?



The formula is simple:

$$\frac{\text{attended births} + \text{under 5 mortality} + \text{children finishing 5}^{\text{th}} \text{ grade}}{3}$$

- percentage of births that are attended by professional health workers or doctors; (basic health care)
- percentage of children that do not survive their first five years; (basic health care, nutrition)
- percentage of children who are able to finish primary schooling successfully [out of the group that was enrolled] (basic education).



# The Basic Capabilities Index, BCI: What is it?



All data are computed to fit into the interval 0 – 100.

- Thus a descriptive index is created that comprises the most basic – and important – categories of social functions a society should comprise.
- The values that are generated range from BCI 43,0 in Chad via 70,0 for Tanzania and 80,2 for Bolivia up to 99,9 for Japan.
- A BCI below 70 is termed as “critical”, below 80 as “very low”, below 90 as “low” and below 98 as “medium”. Above that the BCI is “acceptable”.

# BCI: Pragmatism rules!



The BCI was constructed in a way that

- it can be used locally, nationally as well as for international comparison,
  - the data needed are provided by virtually every government on the planet,
  - it is possible for civil society groups to collect data independently if they are well organised,
  - the chosen variables give a maximum information on the social situation especially in developing countries,
  - the computing of the results can be done locally and do not require an university education.
- **Thus the ownership of the whole process remains with the people who undertake the measurement.**

# Philippines: The origin of the BCI and its use



- The BCI was created in the Philippines in 2001.
- The BCI is a derivative of UNDP's Capability Poverty Measure (CPM) as proposed by Amartya Sen.
- Though it aims mainly at the Millennium Development Goals
- its benchmark is UNDP's Human Development Index (HDI).

# Philippines: BCI, HDI and income



**Table 5**  
QLI and HDI by Income Group

Income Bracket	Ave. QLI 1999	Ave. QLI 1997	Ave. HDI 1997	Ave. Real per Capita Income 1997
First Quintile (Poorest 20% of Provinces)	0.601	0.606	0.592	10,340
Second Quintile	0.610	0.599	0.641	12,622
Third Quintile	0.628	0.615	0.641	14,078
Fourth Quintile	0.637	0.640	0.671	16,448
Fifth Quintile (Richest 20%)	0.802	0.802	0.716	23,532

- The table shows the clear positive correlation between the BCI (QLI), HDI and the income distribution (by province in the Philippines). (For details see “An Alternative Measure of Poverty and Human Capability - Introducing the Quality of Life Index” by Rene R. Raya, Social Watch Report, Philippines, 2001; [http://www.socialwatch.org/en/informeImpreso/pdfs/articlei2001\\_phi.pdf](http://www.socialwatch.org/en/informeImpreso/pdfs/articlei2001_phi.pdf)) Originally the index was christened the “Quality of Live Index” (QLI) and in the Philippines this name is still in use.)

# Philippines: Many more indicators in use (I)



**Poverty:** Per Capita Poverty Thresholds; Per Capita Food Thresholds; Poverty Incidence of Families and Population; Poverty Gap Ratios; Gini Concentration Ratios

**Endowment:** Families That Obtain Water from a Safe Water Source; Families With Sanitary Toilet; Families With Electricity in Their Homes; Families With Access to Health Facilities; Families With Owned or Owner like Possession of Housing Unit and Lot They Occupy; Families with Housing Units Made of Strong Materials;

**Employment:** Families with Gainfully Employed Heads; Families with Members 18 Years Old and Over Gainfully Employed; Percent of Families with Children 6-12 Years Old in Elementary Grades; Families with Children 13-16 Years Old in High School; Families with Working Children 5-17 Years Old;

Families with at Least One Family Member Who is a Member of Any People's Organization;  
Social Weather Indicator: Self-Rated Poverty;  
Human Development Index;

# Philippines: Many more indicators in use (II)



**Health:** Number of Doctors;  
Number of Licensed Hospitals and Bed Capacity;  
Live births by Attendance;

**Nutrition:** Vitamin A given to Children and Lactating Mothers and Women given Iodized Oil Capsule;  
Prevalence of Underweight Among Children 0-5 yrs. Old;  
Prevalence of Vitamin A Deficiency, Anaemia and Iodine deficiency;  
Fully Immunized Children;  
Child and Maternal Mortality Rates;

**Education:** Gross and Net Enrolment Ratios in Primary Education in Public Schools;  
Gross and Net Enrolment Ratios in Secondary Education in Public Schools;  
Simple Dropout Rate (Public Schools only) in Elementary Level;  
Simple Dropout Rate (Public Schools only) in Secondary Level;

Status of Irrigation Development;  
Status of Land Classification.

# Philippines: Many more indicators in use (III)



**Environmental Degradation:** Ambient Total Suspended Particles level;  
No. of highly polluting vehicles on Metro Manila roads;  
contamination of ground water;  
No. of closed/abandoned mines;  
mercury levels in surrounding and downstream water bodies;

**Environmental Technology:** percentage of industrial waste treated;  
percentage of waste recovered for recycling;  
percentage of residual waste disposed of in environmentally sound manner;

**Natural Resources (land):** percentage of forest cover; annual rate of reforestation;  
yield / hectare; soil erosion and flooding;  
No. of rare, threatened and endangered wildlife species;  
percentage of watersheds considered degraded;

**Natural Resources (sea):** mangrove cover;  
percentage of coral reefs in excellent condition; sea grass cover;  
fishery production from municipal waters;

ozone depleting substances consumption (metric tonnes)



# Philippines: How the BCI is used



- The Social Watch Coalition in the Philippines probably is the strongest of the 70 coalitions worldwide. Their lobbying agenda concentrates on **budget monitoring** – on national, province and partly local level - where they have had some major successes. Within this context the BCI is mainly used as **lobbying tool** rather than for research purposes.

# The use of the BCI at Social Watch (internationally)



- In 2004 it was introduced in the international Social Watch Report and succeeded a very complex aggregation of data from various thematic areas.
- Karina Batthyány, head of the statistics team at the Social Watch secretariat at that time describes the Index: “The BCI is an approach for measuring poverty and welfare based purely on capabilities since all its component indicators refer to outcomes and not simply means for reaching the goals of development. The index is therefore based on indicators directly linked to development goals and excludes variables relating to **income.**” (For details see “General classification of countries: situation by thematic area and Quality of Life Index (QLI)” by Karina Batthyány, Daniel Macardar and Mariana Cabrera, International Social Watch Report 2004; [http://www.socialwatch.org/en/informeImpreso/pdfs/qli2004\\_eng.pdf](http://www.socialwatch.org/en/informeImpreso/pdfs/qli2004_eng.pdf))

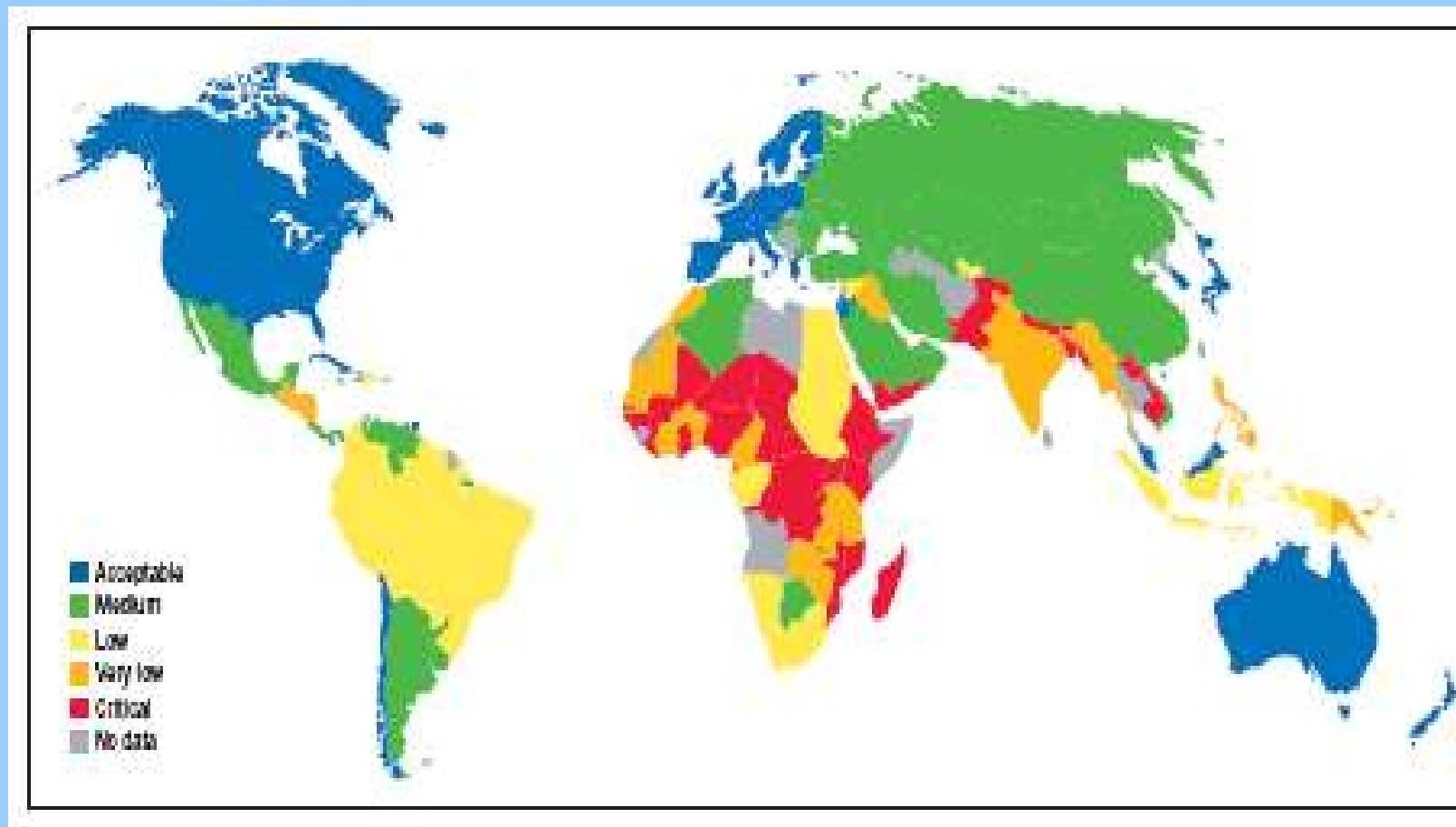
# BCI indicators comparison



	HDI	LIFE EXPECTANCY	ILLITERACY (AGES 15-24)	ENROLMENT IN PRIMARY EDUCATION	ENROLMENT IN TERTIARY EDUCATION	GDI 2001
QLI	0.90	0.79	-0.77	0.64	0.70	0.62
Under-five mortality rate	-0.92	-0.90	0.73	-0.70a	-0.66	-0.58
% births attended by skilled health personnel	0.85	0.72	-0.74	0.61	0.63	0.55
% children reaching 5th grade	0.71	0.64	-0.58	0.40	0.59	0.59

Karina Batthyány shows that the BCI indicators are clearly correlated to other important social indicators.

# BCI-ranking worldwide



# Another index used by Social Watch



## **Gender Equity Index (GEI)**

- **Empowerment**

(% of women in technical positions, % of women in management & government positions, % of women in parliaments, % of women in ministerial posts).

- **Economic activity**

(income gap, activity rate gap).

- **Education**

(literacy rate gap, primary school enrolment rate gap, secondary school enrolment rate gap, tertiary education enrolment rate gap).

# Other indicators used by Social Watch (1)



- **Food Security**  
percentage of undernourished in the total population; percentage of newborns weighing less than 2.500 grams; under-5 child malnutrition (underweight for age, %)
- **Education**  
Literacy (15-24 years old); Primary school enrolment ratio (net); **Children reaching 5th grade of primary school**; Secondary school enrolment ratio (net); Tertiary education enrolment ratio (gross)
- **Information, Science and Technology**  
Internet users; Personal computers; Telephone mainlines; Scientists and engineers in research and development; Information and communication technology expenditure (% of GDP); Research and development expenditure (% of GDP)
- **Public Expenditure (in percent of GDP)**  
Public health; Public education; Total debt service; Military expenditure
- **Development Assistance (in percent of GDP)**  
(DAC Countries; no Asian countries or new EU members)

# Other indicators used by Social Watch (2)



- Water and Sanitation  
Population with access to sanitation; Population with access to improved water sources
- Health  
Malaria Cases; Tuberculosis cases; People living with HIV/AIDS (15 – 49 years old); Infant mortality; **under-5 mortality**
- Reproductive Health  
Women aged 15-49 attended at least once during pregnancy by skilled health personnel; **Births attended by skilled health personnel**; Estimated maternal mortality ratio; Contraceptive use among women currently in union aged 15-49
- Gender Equity (education)  
Literacy ratio gap; Net primary enrolment ratio gap; Net secondary enrolment ratio gap; Gross tertiary enrolment ratio gap
- Gender Equity (economic activity and income)  
Activity rate gap (women/men); Estimated earned income ratio (women/men)
- Gender Equity (empowerment)  
Female professional and technical workers); Female legislators, senior officials and managers; Women in decision-making positions in governmental ministerial level; Seats in parliament held by women



# Other indicators used by Social Watch (3)



- **Status of ratifications of fundamental ILO Conventions**

C87: Freedom of Association and Protection of the Right to Organise Convention, 1948.

C98: Right to Organise and Collective Bargaining Convention, 1949.

C100: Equal Remuneration Convention, 1951.

C105: Abolition of Forced Labour Convention, 1957.

C111: Discrimination (Employment and Occupation) Convention, 1958.

C138: Minimum Age Convention, 1973.

C182: Worst Forms of Child Labour Convention, 1999.

- **Status of ratifications of human rights international treaties**

International Covenant on Economic, Social and Cultural Rights (CESCR), 1966.

International Covenant on Civil and Political Rights (CCPR), 1966.

International Convention on the Elimination of All Forms of Racial Discrimination (CERD), 1965.

Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), 1979.

Convention Against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (CAT), 1984.

Convention on the Rights of the Child (CRC), 1989.

Convention on the Prevention and Punishment of the Crime of Genocide, 1948.

Convention Relating to the Status of Refugees, 1951.

International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families (MWC), 1990.

# Social Watch on the Millennium Development Goals

or:

Back to the BCI and  
what the clock is about:

[click here](#)



# Session 6:

## **The role of contextualization in indicator design and use**

Nancy Holman (London School of Economics)

Olli Salmi (Helsinki University of Technology)

# Promoting Action for Sustainability Through Indicators at the Local Level in Europe

*Project Contact*

*Dr. Nancy Holman*

The London School of Economics

 +44 20 7955 7343

# Initial Project Goals

- To analyse the implementation of local sustainability indicators in a variety of contexts
- To understand the opportunities for and constraints on sustainability indicators affecting decision-making at the municipality level
- To develop models, methods and techniques to ensure that indicators impact on decision-making at the municipality level

# The Consortium

- London School of Economics
- London Borough of Southwark
  
- Vienna University of Technology
- Institute für Grundlagen der Verfahrenstechnik und Anlagentechnik, Graz
- Magistrat der Stadt Wien
  
- Centre d'études sur les réseaux, les transports, l'urbanisme et les constructions publiques (CERTU)
- Ecole Nationale des Travaux Publics de l'Etat (ENTPE)
- Communauté Urbaine de Lyon
  
- Zurich University of Applied Sciences, Winterthur
- Stadt Winterthur

# Key Features of Pastille

- Uses a Case Study approach
  - Vienna, Austria
  - le Grand Lyon, France
  - Winterthur, Switzerland
  - Elephant & Castle area, London, UK
- Municipalities are involved as full partners
- Action Research/ Interactive Research/ HIR



# Key Features of Pastille

- Focuses on indicator-type tools:
- Indicators + indices + indicator targets + criteria
  - Klimaschutz Program and LA21
  - Air Quality Indicators, including RESPECT
  - Sustainability Barometer and Key Indicator Set
  - Sustainability and Quality of Life criteria

# Theory, Method and Analysis

# Theoretical Approach

- Existing literature focuses on indicator development = Purpose + Audience + Design + Consultation
- Indicators are seen as external to the local context and as an input into a decision-making process
- Contested nature of SD is side-lined

# Theoretical Approach

- *Pastille* approach takes a social constructivist framework
- It focuses on urban governance processes
- It highlights conflict, co-operation and contested meanings rather than policy implementation *per se*

# Theoretical Approach

- Indicators are not generalized tools to be redesigned for better implementation
- They can only be understood in context of relationships between policy actors
- They are part of the institutions of governance
- They are contested discourses about SD
- They are an opportunity for new knowledge, ideas and information to be constructed

# Methodological Approach

- The Action Research approach is linked to this view of indicators as contextualised, dynamic and contested
- It provides access to the detail of governance
- It is part of the ongoing processes
- It involves reflexivity on the part of policy actors
- It is contested itself



# Methodological Approach

- *Pastille's* empirical work involved:
  - semi-structured interviews
  - document analysis
  - non-participant observation
  - workshops
  - participant observation
  - practitioner input



# Empirical Results

- Main early empirical results concerned the very limited role that indicator-type tools played:
  - side-lined by the bureaucracy in Vienna
  - given little weight in Southwark
  - little used in Winterthur
  - never fully developed in Lyon
- Why?

# Institutions and Decision-Making

- SD requires new institutions
- At the local level, new institutions can be prompted by crises/problems, but ...
- SD has non-local roots
- SD at local level requires
  - new discourse, and
  - new organisational arrangements

# Institutions and Decision-Making

- But ... existing norms, routines & socialization
- The role of indicators is affected by:
  - existence of Fordist pol-admin systems
  - the growth of NPM practices
  - centralism vs decentralisation tensions
  - political ideology
  - culture of conflict avoidance
  - relationships between tiers of government

# Legitimation and Trust

- Indicators operate in the context of processes of justification/persuasion
- In terms of the policy agenda, legitimation operates on different levels:
  - international
  - national
  - local
- Indicators can be used to justify action & inaction at all these levels

# Legitimation and Trust

- In terms of the policy networks, indicators are involved in the relationships between actors
- This means:
  - a focus on trust and conflict
  - within the administration, between departments
  - between the administration and stakeholders
  - between technicians/bureaucrats and politicians
  - between the administration and communities
- These all affect the way indicators work



# Knowledge and Expertise

- Indicators are a way of constructing knowledge about SD
- They act as a reduction or simplification
- Therefore involved in relationship between, but also definition of 'lay' and 'expert'
- Indicators, therefore, also construct relationships between actors

# Conclusions



# Conclusions of Analysis

- Indicator-type tools are socially constructed and an expression of urban governance processes
- Need to pay attention to:
  - organisational structure and institutional norms
  - relationships of conflict and trust
  - modes of legitimation
  - role of expertise

# Conclusions of Analysis

- Some of the factors that, in some contexts, reduced the influence of indicators:
  - lack of clarity over role
  - lack of political will
  - lack of local salience of topics covered
  - absence of a policy champion
  - linking the indicators to a locally contested and unresolved issue ...

# Conclusions of Analysis

■ ...

- absence of a specific responsible unit
- allocation to a low status unit
- conflict between departments where indicators were measuring performance
- lack of linkage between indicators and incentives or sanctions that influence decision, and
- fears about poor performance being revealed.

# Conclusions of Analysis

- In specific circumstances, nuanced recommendations for policy practice can be made
- Generalised outputs are likely to highlight issues for self-diagnosis not prescriptions
- Practitioners' Guide includes a self-assessment test for indicator programmes
  - qualities + management + stakeholders + incentives

# Cultural contextualization of indicators of human-environment interaction

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# Introduction: Indicators and the limits of science

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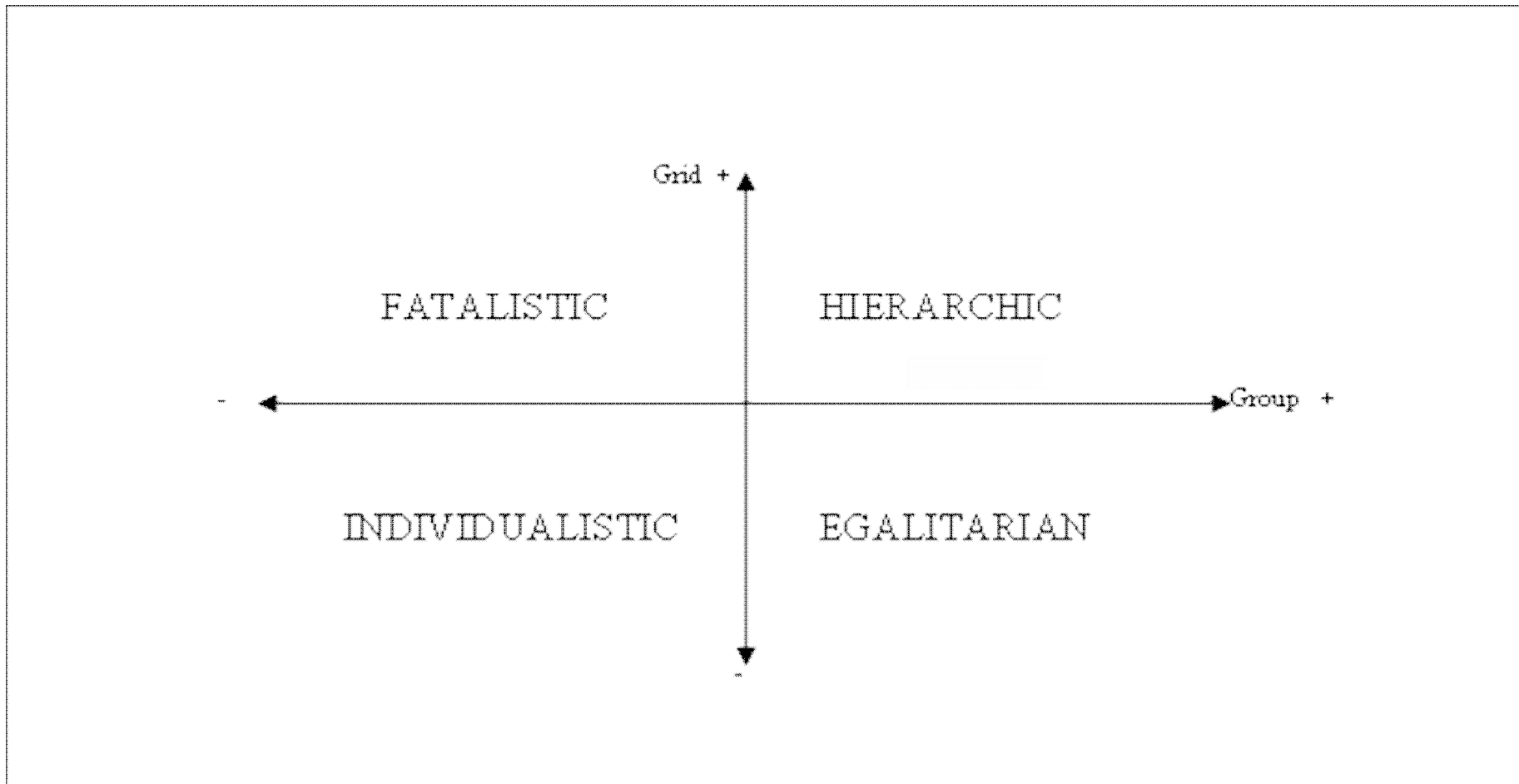
- The core dilemma: sustainability indicators do not articulate much about sustainability because
  - Ecosystems have several stable states that can be considered sustainable
  - Sustainability is temporally conditioned
  - Sustainability is culturally constructed
  
- Consequently, they are
  - “limited by the lack of agreement on what to develop, what to sustain, and for how long” (National Research Council 1999: Our common journey: a transition toward sustainability. Washington D.C, National Academy Press, pp. 243)

# Key concepts in cultural contextualization

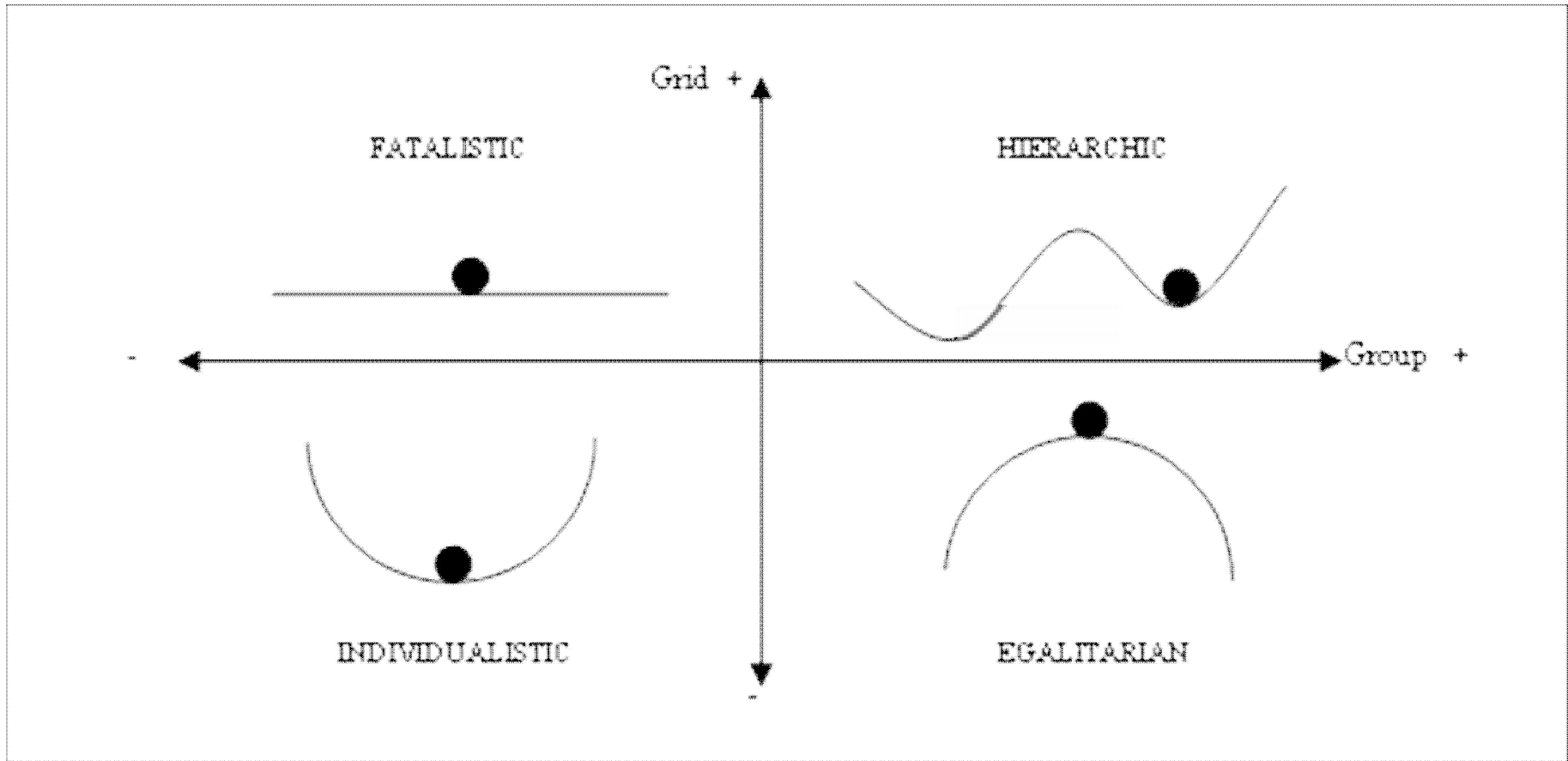
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- Storylines as interpretive frameworks:
    - n Narratives with a beginning, middle, and end
    - n Describe the social reality by combining elements from many different domains
    - n Provide actors on a policy issue with symbolic references that suggest a common understanding
  - Indicators:
    - n Repeated observations and measurements of the economy, human well-being, and impacts of human activities on the natural world
    - n Sound alarms, define challenges, and measure progress
    - n PSR as a storyline
-





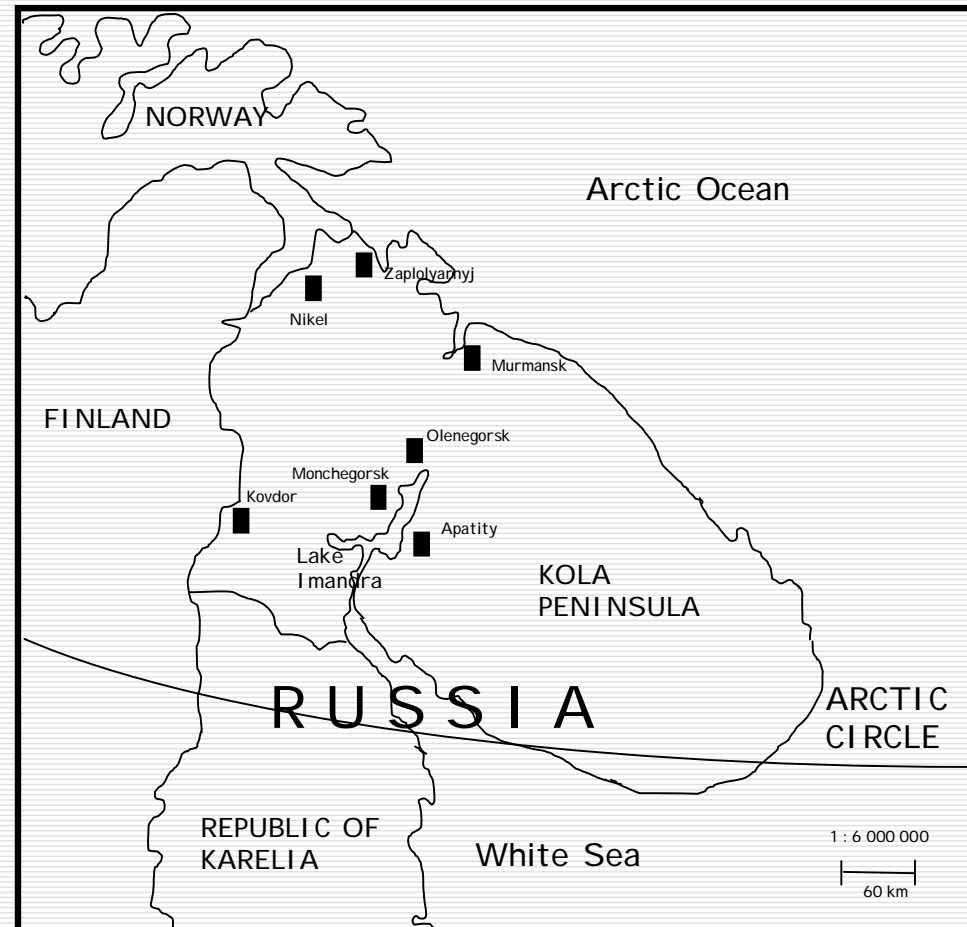
Source: Douglas, M. 1982. In the active voice. London: Routledge.

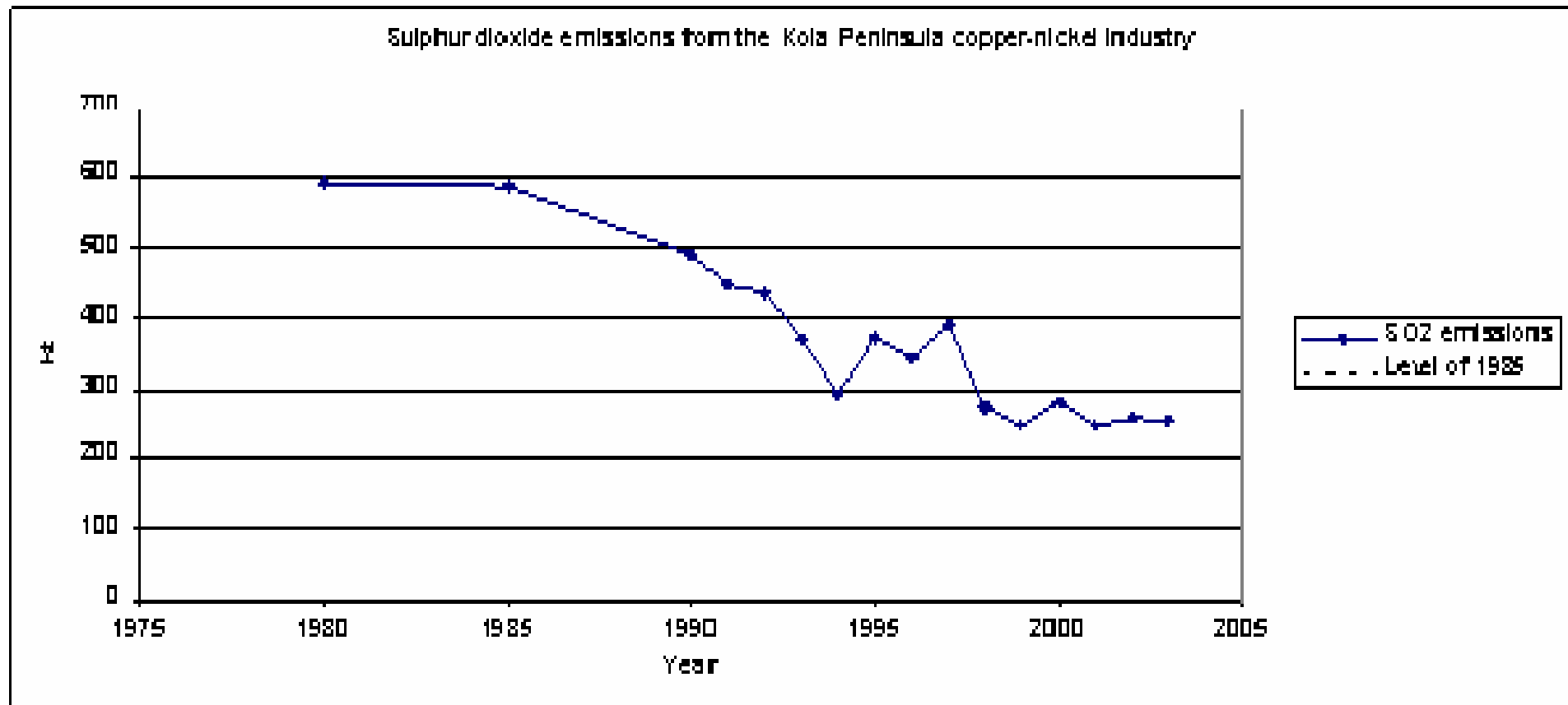


Source: Schwarz M, Thompson M. 1990. Divided we stand. Redefining politics, technology and social choice. Hertfordshire: Harvester Wheatsheaf.

# Case Study: Kola Peninsula mining industry

- Mineral reserves utilized from the 1930s
- Severe decline in biota in Western parts from the 1960s
- Environmental policy from the 1970s
- High visibility of environmental issues in the early 1990s, decentralization since then
- Recentralization in the 2000s?





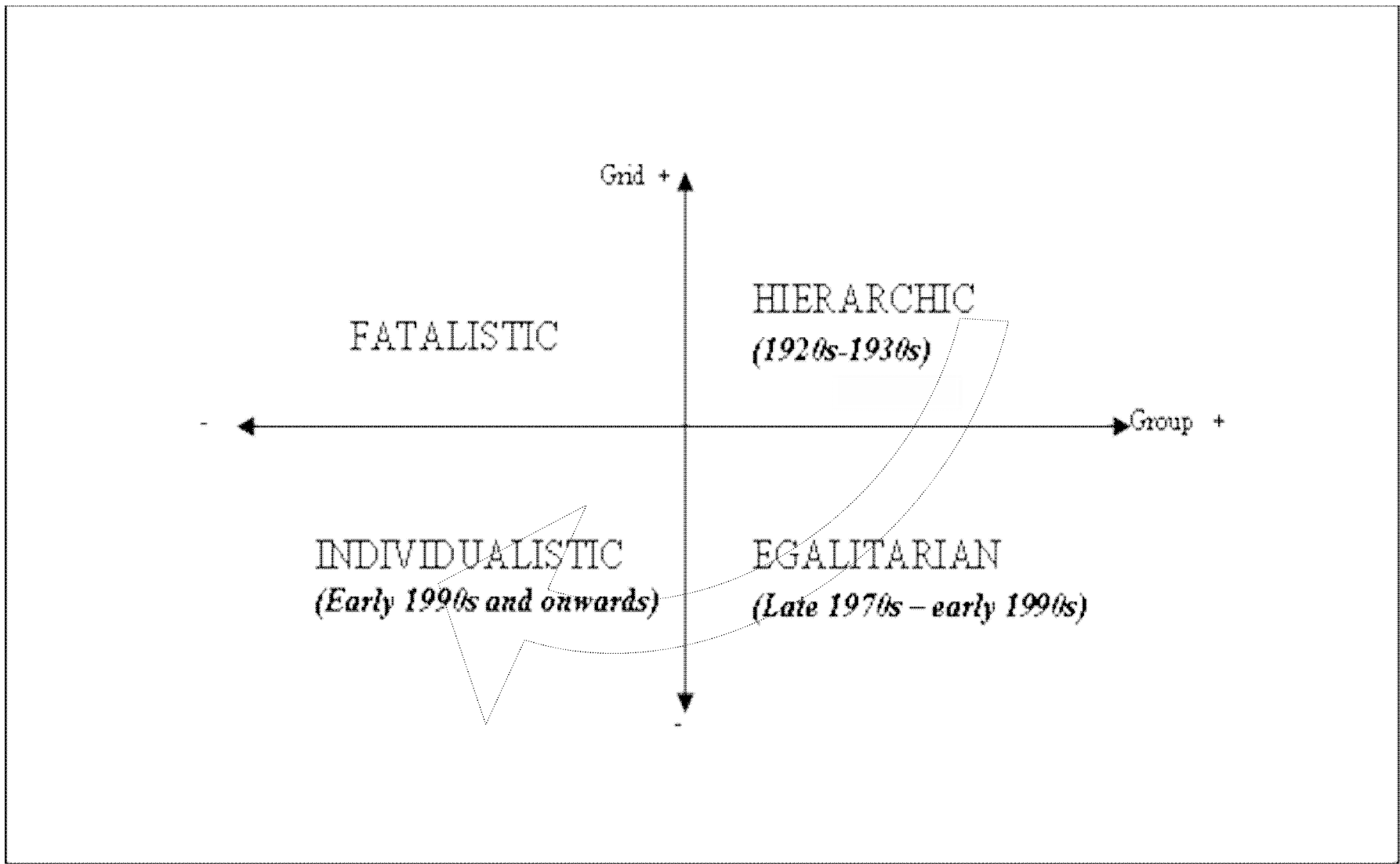
Adapted from: Salmi, O. 2007. Eco-efficiency and industrial symbiosis – a counterfactual analysis of a mining community. *Journal of Cleaner Production* 15:1696 – 1705.

<b>Hierarchic cultural storyline (1920s to 1930s)</b>	<b>Indicator</b>	<b>Value range</b>
<ul style="list-style-type: none"> <li>- Nature is tolerant and can be preserved in nature reserves separate from intensive mining regions</li> </ul>	<ul style="list-style-type: none"> <li>- Area of protected nature reserves versus area of intensive mining</li> </ul>	<ul style="list-style-type: none"> <li>- Laplandsky, Kandalaksha and Lake Mogil'noe Zapovednik reserved for nature protection</li> <li>- Khibiny mountains, Monchegorsk mountains, Kovdor region, Pechenga region reserved for mining</li> </ul>
<ul style="list-style-type: none"> <li>- Planning with perfect prediction</li> </ul>	<ul style="list-style-type: none"> <li>- Degree of waste utilization</li> </ul>	<ul style="list-style-type: none"> <li>- Tight range due to assumption of near perfect knowledge</li> </ul>

<b>Egalitarian cultural storyline (late 1970s to early 1990s)</b>	<b>Indicator</b>	<b>Value range</b>
<ul style="list-style-type: none"> <li>- Integrated mining production and nature protection through complex utilization</li>   <li>- Planning with sensitivity to environmental risks</li> </ul>	<ul style="list-style-type: none"> <li>- Degree of pollution feedback into production</li>   <li>- Level of emissions</li>   <li>- Indicators for environmental and technological disruption</li> </ul>	<ul style="list-style-type: none"> <li>- High degree of pollution feedback</li>   <li>- Low level of emissions with tight range</li>   <li>- Tight range due to high-risk industrial activities</li> </ul>

<b>Individualistic cultural storyline (since the early 1990s)</b>	<b>Indicator</b>	<b>Value range</b>
<ul style="list-style-type: none"> <li>- Complex utilization subject to global market constraints</li> </ul>	<ul style="list-style-type: none"> <li>- Level of emissions</li> </ul>	<ul style="list-style-type: none"> <li>- Low level of emissions with loose range</li> </ul>
<ul style="list-style-type: none"> <li>- Adaptation to global market</li> </ul>	<ul style="list-style-type: none"> <li>- Extent of profit from waste utilization on changing market</li> </ul>	<ul style="list-style-type: none"> <li>- Loose range due to market uncertainties</li> </ul>

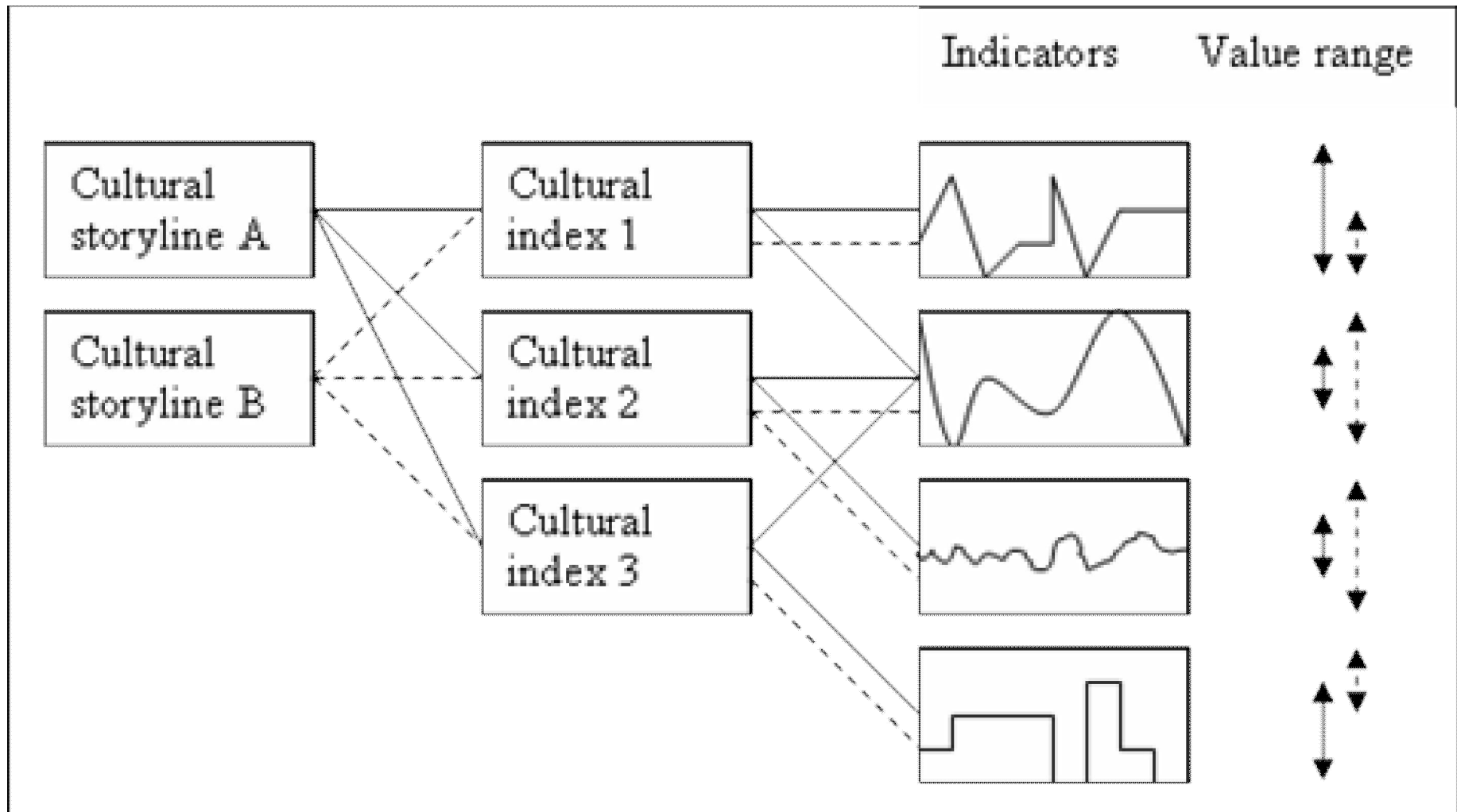




# Illustration: Pechenganikel restructuring

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- Three competing strategies with distinctive technical fixes and policy networks
  1. Complex utilization
  2. End-of-pipe
  3. Eco-efficiency
- 1. Federal government; private and public Russian research organizations, management of the mining companies
- 2. Western government officials and engineers (Russians as financiers)
- 3. Norilsk Nickel and NIB



<b>Index</b>	<b>Indicator</b>	<b>Measure</b>
Myth of Nature	<p><b>Resilience indicators:</b></p> <p>I. The distance between desirable and non-desirable configurations of the system (margin for safe operation)</p> <p>II. The number of alternative desirable configurations towards which a system is allowed to move.</p> <p>III. The amount of accumulated exergy in a system</p>	<ul style="list-style-type: none"> <li>• Unit of disturbance (e.g. nutrient levels)</li> <li>• Unit of time</li> <li>• Number of system configurations</li> <li>• Unit of exergy (kJ/kg)</li> </ul>
View of Resources	<p><b>Scarcity indicators:</b></p> <p>I. Unit cost</p> <p>II. Price</p> <p>III. Biophysical models</p>	<ul style="list-style-type: none"> <li>• Unit cost index</li> <li>• Real price index</li> <li>• Unit of exergy (kJ/kg)</li> </ul>
Scope of Knowledge	<p><b>Integrated assessment indicators:</b></p> <p>I. Degree of uncertainty</p> <p>II. Degree of value conflict</p> <p>III. Degree of societal control</p>	<ul style="list-style-type: none"> <li>• high / low</li> <li>• high / low</li> <li>• high / low</li> </ul>

# Session 7:

**Concluding Panel: Socio-economic monitoring and  
biodiversity. The road forward.**

**Short comments from invited guests.**

Cornelia Ohl (UFZ Leipzig-Halle)

Diana Gallego Carrera (University of Stuttgart)

Nancy Holman (London School of Economics)

# Perspectives of Socio-Economic Monitoring and Indicators under the Ecosystem Approach (EA)

**Selective Summary - Subjective Recommendations**

Dr. Cornelia Ohl, Department of Economics

# Selective Summary and Subjective Recommendation (I)

- **What are we monitoring for which purpose and for whom?**

=> **Monitoring activities should pre-select critical issues**

=> What is a critical issue? - The possibility to shift a CBD/EA relevant problem - i.e. a problem that touches the *interplay* of ecological and social system - across scales (in terms of time and space) and/or different groups of people

=> **Monitoring activities should pre-select the purpose of observation**

=> What are possible purposes? - Information on impacts, controlling of policy success, exploring of opportunities ...? - The success of using the EA to reach the goals of the CBD

=> **Monitoring activities should pre-select the addressee**

=> Who are possible user groups? - Scientific community, policy makers, stakeholders, affected groups of people, public ...? - COP



# Selective Summary and Subjective Recommendation (II)

- **Conflict is a constituting element of the EA under the CBD (see principle 10)**

=> Focus of monitoring activities should be on conflicts; how conflicts depend on the social structure of local communities, the availability of natural resources, etc.

## Rationale:

Conflicts are a source of uncertainties and most often a cause of change - modes of conflict resolution are thus an important trigger of environmental change and should consequently be a focus of monitoring activities under the EA/CBD

# Selective Summary and Subjective Recommendation (II)

- **People in the concrete situation have to manage the conflicts (i.e. seek for conflict resolution on the local level) - How can this be addressed by (harmonized) indicators?**

## **Why should this be indicated?**

Conflict resolution on the local level may pose problems on a different spatial scale/ a different point in time (e.g. relation spread of air pollution – height of chimneys)

- => Monitoring activities and indicator design should thus enable learning processes on the interplay of scales (as e.g. driven by spill-overs from local modes of conflict resolution)

# Selective Summary and Subjective Recommendation (III)

- **Objective versus subjective indicators?**

Pre-selection of issues, purpose of monitoring, etc. (*i.e. the framing of the monitoring problem*) is always a subjective choice; depends e.g. on the social context, the availability of monitoring technologies and techniques

=> Monitoring activities are subjective per se - are better classified in terms of quantitative and qualitative

Mix of quantitative and qualitative indicators depends on the purpose of monitoring (*e.g. number of phones in a considered area gives no information on the function of phones while monitoring the frequency of using a phone may*)

=> Indicator selection should consider the function of the EA for implementing the goals of the CBD

# Selective Summary and Subjective Recommendation (IV)

- **Indicators are always inadequate for the reflection of processes which have no beginning and end**

Indicators are social constructs/heuristics to reduce complexity and consequently normative (e.g. by defining the baseline scenario - i.e. the beginning of process observation)

- => Indicators are not inadequate but only make sense in a specific point in time, a specific cultural context, etc. - their adequacy has to be judged in relation to the purpose behind

It is true that e.g. we can debate at which point in time life starts - with birth, fertilization, when a couple decides to have a child - but this does not imply that we can not agree on a common starting point for observation

- => Indicators need to be reconsidered (like the basket of representative goods for measuring inflation rates)

# Selective Summary and Subjective Recommendation (V)

- **Is there a need for harmonisation? - Why are indicators used?**

Indicators guide the analysis of cases and extract results of analysis in form of a summary - With it indicators create a form of certainty (by e.g. showing a deviation from the baseline)

=> Benefit of harmonisation is that if a set of indicators is accepted we share a specific world view and language (a common “grammar” and “vocabulary” as a pre-requisite for discussing mutual relevant issues)

# Selective Summary and Subjective Recommendation (VI)

- **Conflict resolution at the lowest appropriate level and top down indicators - a contradiction?**

What is the most appropriate level? - Depends on the willingness to take responsibility

e.g. SO<sub>2</sub>-Emissions crossing national boundaries (Russia-Finland)

Dependent on the chosen property rights regime Russia could

- unilaterally take care for emissions reductions

- wait for Finland to pay compensation for emission reductions

The first choice requires the involvement of Finland the second does not.

Is a set of commonly accepted indicators a top down approach? - It is the outcome of a participatory approach at a specific governance scale.

Is there a contradiction? - Only if there is a mismatch of scales; i.e. if top down indicators would hamper local modes of conflict resolution

# Selective Summary and Subjective Recommendation (VII)

- **Can we measure appropriate levels of participation?**

We can at least determine some criteria for it.

Dependent on the severity of a problem (the damage it creates, the number of economic and social sectors it affects ...) may be used as a starting point for indicator definition.

E.g.: The more people are affected the higher the level of required participation; the higher the number of economic and social sectors affected the more diverse the group of participating stakeholders should be ...



# Selective Summary and Subjective Recommendation (VIII)

No Agreement on the necessity and usefulness of indicators, doubts on their adequacy resist - *What now?*

Long Term Socio-Ecological Research (LTSER) sites –  
A field for testing indicators?

# LTSER in Europe – Characteristics of research sites

## (1): INCOME

- Measurable in different sectors

## (2): DEMOGRAPHY

- Existence of Migration or Mobility

## (3): LAND USE

- Presence of at least three different types of land

## (4): POLICY

- Existence of site-specific biodiversity relevant policies/investments and ability of stakeholder participation

## (5): SOCIAL STRUCTURE

- Conflicting biodiversity relevant goals; availability of socio-economic data (e.g. on employment, education, cultural diversity)

## LTSER-sites in Europe (selected by ALTER-Net - “A Long-Term Biodiversity, Ecosystem and Awareness Research Network”)

- Aberdeenshire (Scotland, UK)
- Nora (Sweden)
- Veluwe (The Netherlands)
- Pilica river catchments (Poland)
- Pleine Fougères (France)
- Eisenwurzen (Austria)
- Area of Lake Balaton (Hungary)
- Braila islands (Rumania)
- Donana (Spain)
- **Leipzig-Halle (Germany)**

# Leipzig-Halle Site



## UFZ Activities in Leipzig-Halle area

TERENO - *Terrestrial Observatories for Environmental Research*

Designed as a network of sites with long term and interdisciplinary focus – LTSER Leipzig-Halle is also a TERENO-site with focus on:

- (1) Gradients and boundaries in terrestrial systems under Global Change;
- (2) Challenges and opportunities for responses on regional scale

# Measuring Platforms

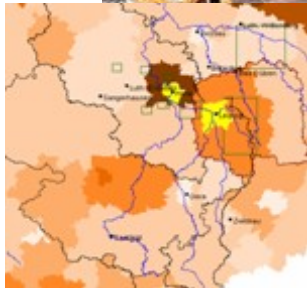
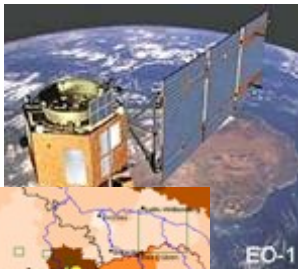
satellite borne

airborne

ground-based



**Satellite data**  
**Socio-economic data**



**Validation**  
**Calibration**  
**Algorithms**

**Aerial photography**  
**Spectral analyses**



Microlites

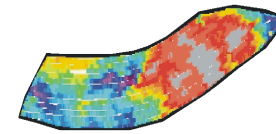


Drones



ECO-Dimona

**Areal**



geophysics



Climate stations



Eddy-covariance

**Point to**  
**Field scale**



lysimeter



Sensor networks  
Field spectrometer

Radiometer

...



# Purpose of data collection

- Scientific contribution towards sustainable protection of natural resources on which life depends with special respect to Global Change
- Contribution to fulfill the tasks of other networks, like ALTER-Net
  - e.g. the monitoring of socio-economic drivers and anthropogenic pressures of biodiversity change by developing criteria-based risk profiles (*regarding e.g. the damage potential and the visibility of drivers/pressures*) ....



... and may also be used to test the usefulness of indicators.

**THANK YOU FOR ATTENTION!**

## **Diana Gallego Carrera (University of Stuttgart): Closing statement**

My closing statement addresses social indicator research and its relevance for the ecosystem approach. As the ecosystem approach is a scientific strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way, it is clear that human beings are an integral component of the ecosystem.

Therefore the question arises how it is possible for humans to live their life in a sustainable way and under adequate conditions? This means, being satisfied with living conditions and not to lack basic needs but also living without destroying fundamental resources for current and following generations.

I want to stress the importance of integrating social impact research within the ecosystem approach. Past scientific experiences showed us that the separation of human development and environmental protection did not lead to satisfactory results. Therefore it is the aim to treat human development and the connected impact as an integral part of the ecosystem.

Social impacts on the ecosystem can be best assessed through the use of social indicators. The use of indicators is a common way to describe and monitor complex systems, and to provide information to decision makers and the public. Generally, indicators have three important functions in sustainability assessment:

1. Description of the existing conditions and performance of a system.
2. Measurement of the effectiveness of actions and policies to move a system towards a more sustainable state.
3. Indicators allow the users to detect changes in economic, environmental, social and cultural systems.

In the discussion paper, which was provided by the project team I read that socio economic parameters for the measurement of social impacts on the environment are not as well developed as ecological or economic parameters. Let me elaborate on the reasons for this and how I think we should deal with the problem.

One crucial problem concerning the measurement of social impacts on environment is that social indicators cannot be derived from an overarching societal theory. A widely accepted theory for the measurement of social impacts does simply not exist. Of course there are different concepts or models like the quality of life concept, lifestyle or cultural and value related concepts but no fundamental theory, which allows to derive social indicators and can claim universal validity. Social concepts and models always relate to specific actors, institutions or other parts of the meso- or microlevel without claiming universal validity.

The lack of theoretical agreement is accompanied by a lack of empirical strategies to identify basic functional requirements through observation and experimentation. It is often said that the development of social indicators is somewhat arbitrary and results are not comparable.

There is no final strategy to solve these problems. But it is clear that scientist try to use social indicators in a methodologically and theoretically comprehensive way. Therefore it is often focused on participative or recursive analysis, making sure that peoples attitudes and actions are considered in a broad and profound way.

First of all, before starting to develop social indicators, there must be an agreement upon the definition of “social indicator”. The workshop on the “ecosystem approach under the CBD and socio economic monitoring” showed it ones again: different scientists are using different definitions. Just when we agree upon a certain indicator definition, the development and measurement of an indicator can be successful. Indicators for the measurement of social impact should be based on a stringent framework, which implies that they have to meet a number of requirements. Indicators should for example meet the following requirements:

- **Being measurable and quantifiable:** indicators need to reflect the measured phenomenon in an adequate way,
- **being meaningful:** indicators should be appropriate to the needs of the user,
- **being clear in value:** Which direction is considered as clear and comprehensive (this raises the problem of ambiguity),

- **being clear in content:** indicators have to be measured in understandable units that make sense,
- **being relevant:** indicators should be relevant for all stakeholders involved,
- **being comprehensive:** the indicator set should sufficiently describe all aspects of the system under study.

Of course this list of requirements is not comprehensive when developing social indicators but they are fundamental. The development of social indicators poses a big challenge due to the mentioned lack of theoretical and methodical strategies and the fact that many social indicators are not directly quantifiable. It is all the more important to be careful and avoid mistakes such as overaggregation, measuring unimportant parameters, dependence on a false model or merely incompleteness of necessary parameters.

For the measurement of social impact on the ecosystem we need to deal with social indicators. Social indicators help to learn about citizens' perception and acceptance of certain sustainability strategies and they help researchers to discover values, opinions and attitudes that affect citizens' acceptance of strategies.

Another question, which was also part of the workshop, was if it is possible to develop core indicators, this means to develop indicators, which are valid in an overarching way. Personally, I think that we can develop core indicators to be used on a local, regional or even national level. Core indicators to be adopted on a national level are already developed and used for example within the Eurobarometer or Eurostat Survey. These surveys show us that it is possible to use core indicators, even for measuring societal aspects. Things are getting difficult on a global level. Indicators, which are very useful for the measurement of social aspects in industrialized countries, cannot be initiated for developing countries – and the other way around. Good examples are the CSD poverty indicators: for developing countries it is important to ask for access to drinking water or access to energy, in industrialized countries this questions are obsolete.

Never the less, I think that if really necessary, global core indicators can be developed on a very basic and fundamental level.

## **Nancy Holman (London School of Economics): Reflections on the meeting**

Several things struck me about the meeting as a whole. I was first very impressed by my first exposure to the Ecosystem Approach (EA), which to me has both strength and beauty not only as a system of ecosystem management but also (and I must say for me very importantly) as a system for capacity building and institutional development. Its utility here seems to be bound up with its flexibility and adaptability to local context as expressed in principles 1, 2, 7, 11, and 12.

- Principle 1: The objectives of management of land, water and living resources are a matter of societal choice involving all relevant sectors of society.
- Principle 2: Management should be decentralised to the lowest appropriate level.
- Principle 7: The Ecosystem Approach should be undertaken at the appropriate spatial and temporal scales.
- Principle 11: The Ecosystem Approach should consider all forms of relevant information including scientific and indigenous and local knowledge, innovations and practices.
- Principle 12: The Ecosystem Approach should involve all relevant sectors of society and scientific disciplines.

These five principles by their nature encourage discourse between actors in the form of negotiation and knowledge transfer. This dialogue can lead to the development of trust, organisational norms, routines and policy practice and the development of both local and non-local networks. In turn these networks, which link actors across policy scales, can serve to embed notions of sustainable development and bio-diversity into the policy process.

For me this is where the role of indicators could have particular utility. Throughout the meeting we saw how indicators could be used not only to monitor progress but to also open dialogue between actors (specifically here I am thinking of Uwe Kerkow's presentation on the Basic Capabilities Index where this very simple indicator actually had political affect as it 'encouraged' governments to discuss issues of poverty and development with Social Watch). I would propose that this is an often overlooked but

supremely important facet of indicator use. Perhaps in some respects more important than the area of scientific monitoring because when presented as perfect, objective tools parachuted into the policy process to fix, monitor, or improve policy outcomes, indicators often prove themselves to be disappointing or unfit for purpose. However, when seen in the light of instruments that can open up discussions between groups, build trust and capacity between actors, and create new routines and practices around a policy area, indicators can have far more positive outcomes.

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**"The Ecosystem Approach under the CBD**  
**and socio-economic monitoring"**

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