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INDUSTRY, INNOVATION AND INFRASTRUCTURE

Training Session on Economic Valuation

Session 1 Subsession 1: „Introduction and Ecosystem Services“

Training on the systematic integration of economic valuation
of "wet" ecosystem services into the TDA/SAP process





Context: GEF-IW project: Learning Exchange & Resources Network (IW:LEARN 4)

- Component 4: Launch Programmatic Tools to Improve Portfolio Performance and Sustain Project Interventions (IA: UNDP, EA: UNIDO).
- Sub-Component 4.1. Systematic consideration of the economic valuation of natural resources in the TDA/SAP process and targeted learning [based on various previous workshops/conferences, e.g. IWC 7 and 8]
- UNIDO coordinates, Eduard Interwies is the lead consultant.
- UNEP (GRID ARENDAL) contributed studies on value of marine ES/the “adapted” Bakul case study.
- IUCN contributed studies on the value of freshwater ES.
- UNECE contributed information on values of transboundary water cooperation and their communication.





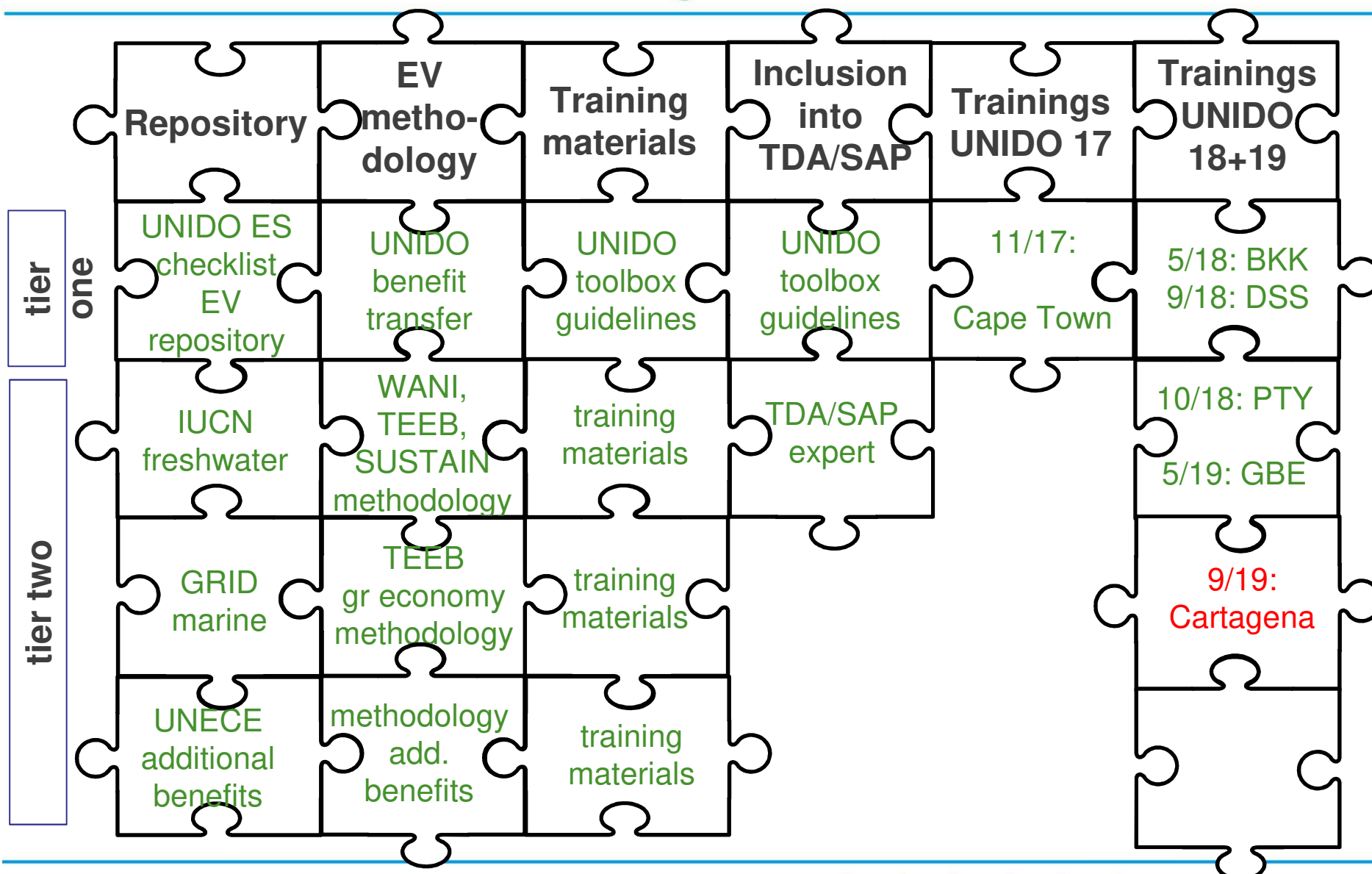
Sub-component 4.1 Activities

- Activity 4.1.1: Repository of EV documents with a focus to establish a sound basis for Benefit Transfers
- Activity 4.1.2: Develop methodologies for EV in ecosystems and for including EV into TDA/SAP Processes
- Activity 4.1.3: Production of training materials and participation of trainers back-to-back with IW meetings

A “tiered approach” for guidelines and toolbox as specific circumstances, resources and data available, and the level of ambition in the project area will vary from project to project

- tier 1 projects: first, “fast” quantification of the overall economic value of ES
- tier 2 projects: more resources, in depth valuations of certain ES







Who is this guidance for?

- GEF International Waters project managers, economic experts and other stakeholders involved in GEF International Waters projects
- More generally: those interested in including the economic valuation of ecosystem services into Transboundary Diagnostic Analyses (TDA) and Strategic Action Programmes (SAP) and linked processes, such as policy and decision makers and environmental and development planners
- But also of use beyond GEF-IW projects and the TDA-SAP process...





Current Status

- **Guidance(s) & Repository: final**
- 4 rounds of commenting by the wider IW-community and many more within the “smaller team”;
- Revision of TDA/SAP manual: ready, includes usefulness of economic valuation of ecosystem services in a stronger/clearer way;
- Training (materials): this is the sixth application;
- Guidance(s) undergone professional lay outing to increase “user-friendliness”

Next steps:

- Up to 2 more trainings in 2019/2020 “back-to-back” with IW-meetings





This training & training materials

Aims:

- Show what economic valuation of ES can be used for
- Present the content of the guidance developed to IW-project managers (and beyond) – to support EV studies to be developed in the future;
- Identify IW-projects (and beyond) that are interested in conducting EV

Materials:

- Guidance document (and accompanying documents), handouts, ppts available at:

www.iwlearn.net/valuation or

www.iwlearn.net/learning/manuals/economic-valuation/



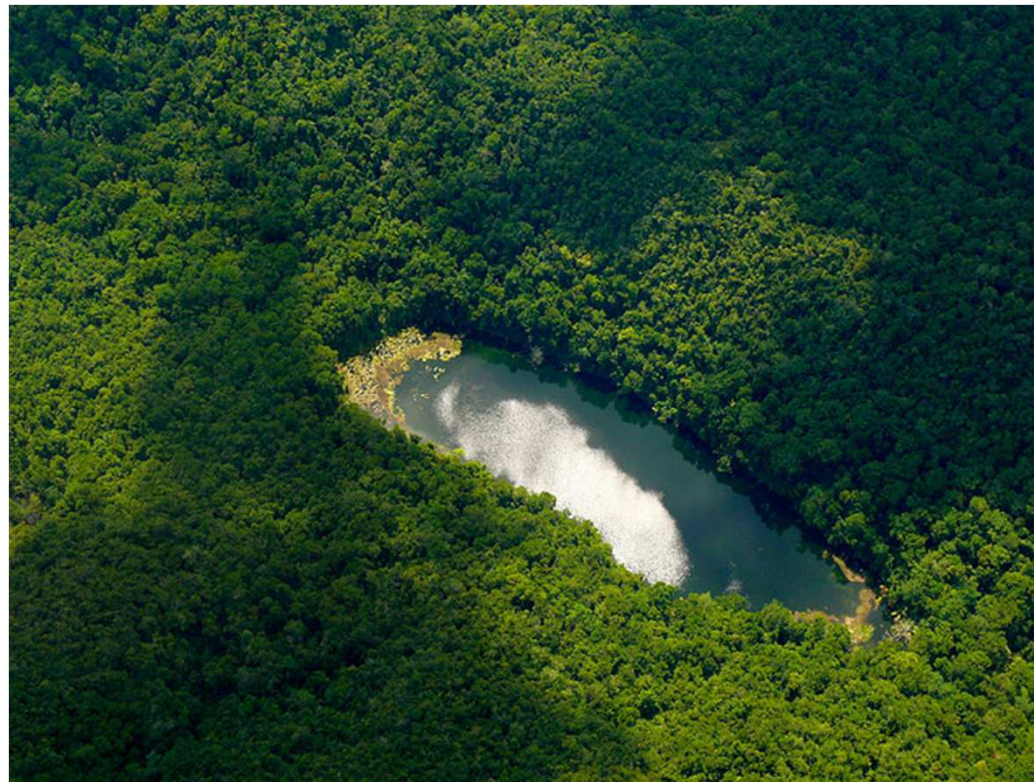


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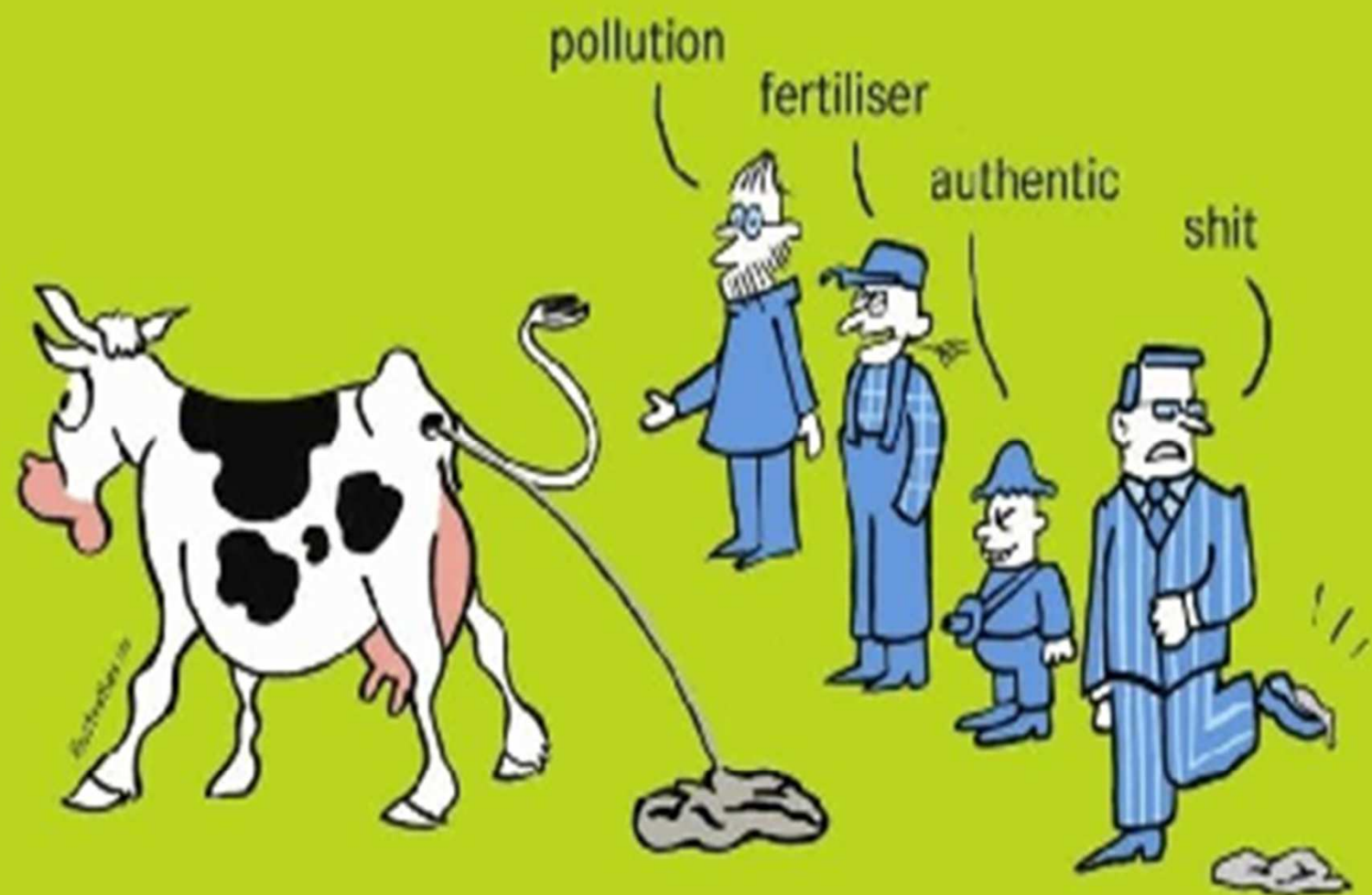
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So – what are “Ecosystem Services”?



Source: Manuel Boissière for CIRAD and CIFOR¹







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Spending \$\$\$ and creating jobs:





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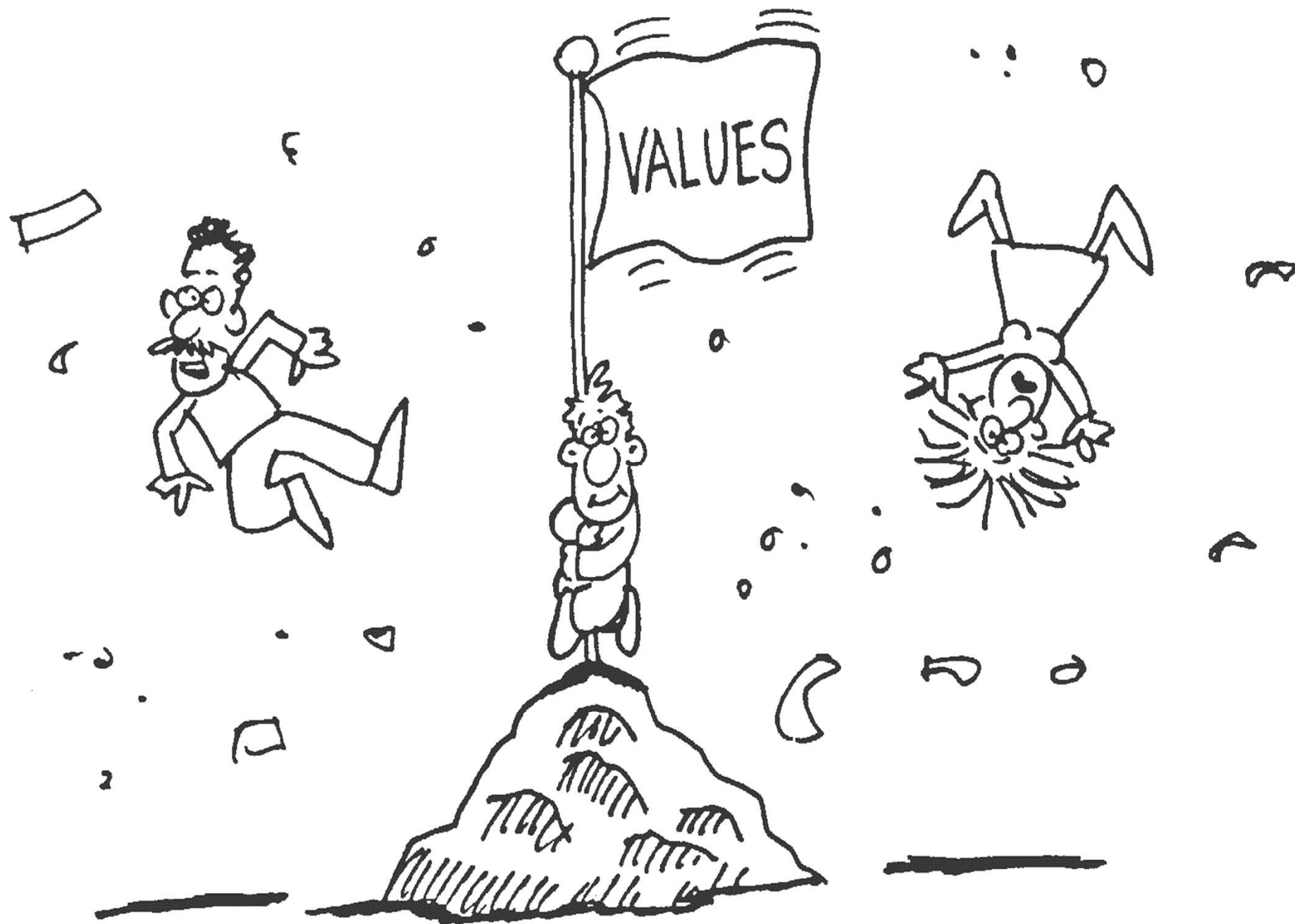
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Yet, this can happen – loss of ecosystem service:











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Paradigm shift from sectoral to ecosystem-oriented management approaches:

In the past, **ecosystem values have been almost ignored** in decision-making.

Reason: **failure of markets** that often do not assign an economic value to the public benefits of ecosystems, but attribute value to the private goods and services, which production may lead to ecosystem damage.

Economic perspective: treat, count and invest in water/marine/coastal ecosystems also as elements of development infrastructure - as a stock of facilities, services and equipment needed for economic growth/for society to develop and function

So: **maintain and improve ecosystems** to meet both today's needs and those of intensifying demands/pressures in the future — just like any other component of infrastructure.

If one does not value ecosystems when taking decisions on allocating land, water and marine resources and investment funds: **far-reaching economic costs possible...**

In addition: **value of ecosystems through their existence** – even if not of economic “use”





An “Ecosystem Services approach” can help to address:

- Human well-being and ecosystems.
- Trade-offs between ES, conservation and other priorities.
- A reduction of uncertainty: decision making is often based on estimates, scenarios and incomplete knowledge; valuation is an additional factor in the attempt to gain a more complete picture.
- Evaluate interactions of ES with other determinants of human well-being.





There are different “Ecosystem Services”:

- the immediate economic gains („benefits“) of ecosystems (raw materials, food, clean water etc.)...
→ “provisioning services“ or “direct and indirect use values“;
- -...but also benefits that are difficult to evaluate in monetary terms (landscape beauty, optional use for future generations, existence of biodiversity etc.).
→ “option values and non-use values“

Classification used: TEEB (The Economics of Ecosystems and Biodiversity initiative), based on MEA (Millennium Ecosystem Assessment)



	Main service-types
	PROVISIONING SERVICES
1	Food (e.g. fish, game, fruit)
2	Water (e.g. for drinking, irrigation, cooling)
3	Raw materials (e.g. fiber, timber, fuel wood, fodder, fertilizer)
4	Genetic resources (e.g. for crop improvement and medicinal purposes)
5	Medicinal resources (e.g. biochemical products, models & test organisms)
6	Ornamental resources (e.g. artisan work, decorative plants, pet animals, fashion)
	REGULATING SERVICES
7	Air quality regulation (e.g. capturing (fine)dust, chemicals, etc.)
8	Climate regulation (incl. C-sequestration, influence of vegetation on rainfall, etc.)
9	Moderation of extreme events (e.g. storm protection and flood prevention)
10	Regulation of water flows (e.g. natural drainage, irrigation and drought prevention)
11	Waste treatment (especially water purification)
12	Erosion prevention
13	Maintenance of soil fertility (incl. soil formation)
14	Pollination
15	Biological control (e.g. seed dispersal, pest and disease control)
	HABITAT SERVICES
16	Maintenance of life cycles of migratory species (incl. nursery service)
17	Maintenance of genetic diversity (especially gene pool protection)
	CULTURAL SERVICES
18	Aesthetic information
19	Opportunities for recreation & tourism
20	Inspiration for culture, art and design
21	Spiritual experience
22	Information for cognitive development



The TEV framework

- The classification into use and non-use values stems from the TEV (Total Economic Value) framework:

“The concept of the total economic value is a method of creating a single monetary metric that combines all activities within an LME or river basin and to express the levels of each activity in units of a common monetary measure, such as US dollars.”

(Hoagland et al. 2006)



The total economic value of ecosystems

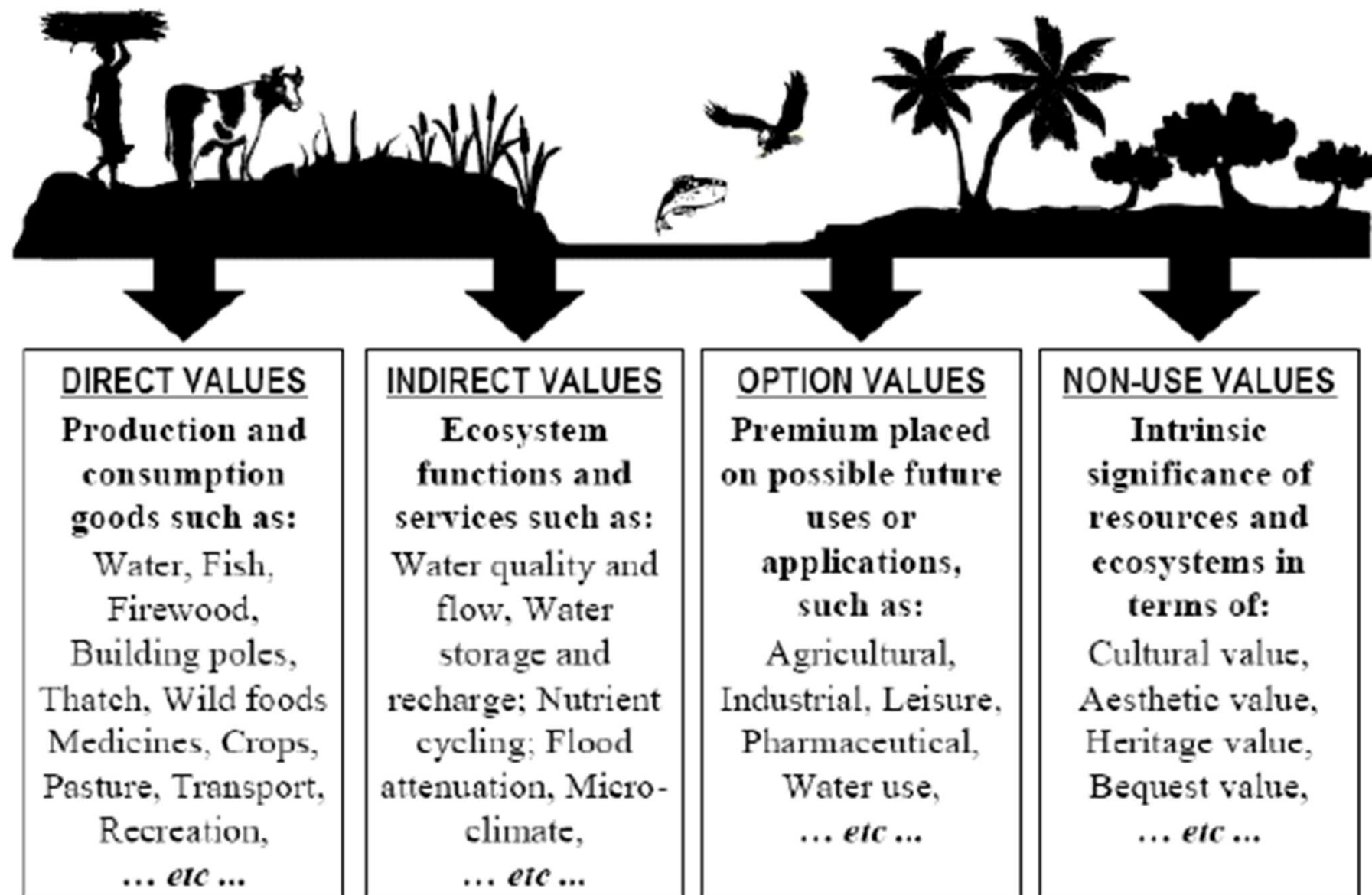


Figure 2: The total economic value of ecosystems (source: Emerton, 2005)



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Mineral Resources and Ecosystem Services

Generally, economic valuation of ES assesses the values derived *from the existence and functioning* of the relevant ecosystems. Therefore:

- Economic Activities not relying on the functioning or existence of healthy ecosystems are not considered ES
- To be excluded: extraction and mining of mineral resources, e.g. oil and sand
- Also, activities that endanger the health of the ecosystems: to be included as long as sustainable (e.g. fisheries, hydropower or agricultural water use).
- Of course, all activities to be considered when performing a socio-economic assessment of an LME/RB or a cost-benefit analysis of different options „beyond“ ecosystem services (see: environmental economics too).



Source: Paul Lowry²





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Sustainability of hydropower projects

- Limited 2-step approach could be considered to help with a quick analysis of the sustainability of one or several dams.
- Based on the WCD policy principles.

Step 1 – Look for documentation and evidence of dams' sustainability in the basin: available or not?

- two key questions.

Step 2 – Check the evidence and respond to the key questions against the WCD "Strategic priority 4 – Sustaining Rivers and Livelihoods"

- six key questions.

If the answers cannot be "Yes" for all of the related questions and the evidence is missing, then the dams cannot be considered as sustainable and the relevant hydropower production values not be considered to be ecosystem services.





Questions?

Exercise on identifying ES in Bakul
(see Handout “Introduction to Bakul Country”,
containing information to be used in various specific
exercises throughout the training):

- Which ecosystems and which ecosystem services might be present in Bakul?
- To which TEV and TEEB categories might these relate to?





Introduction to Bakul country

CREDITS:

- The Bakul “virtual” Case Study was initially developed by GIZ and GRID-Arendal, as part of the “Integrating ecosystem services into marine and coastal development planning Training Workshop”. For more information, please visit www.bluesolutions.info or contact christian.neumann@grida.no
- This Case Study has been adapted for the purpose of this training by GRID-ARENDAL and InterSus/Eduard Interwies





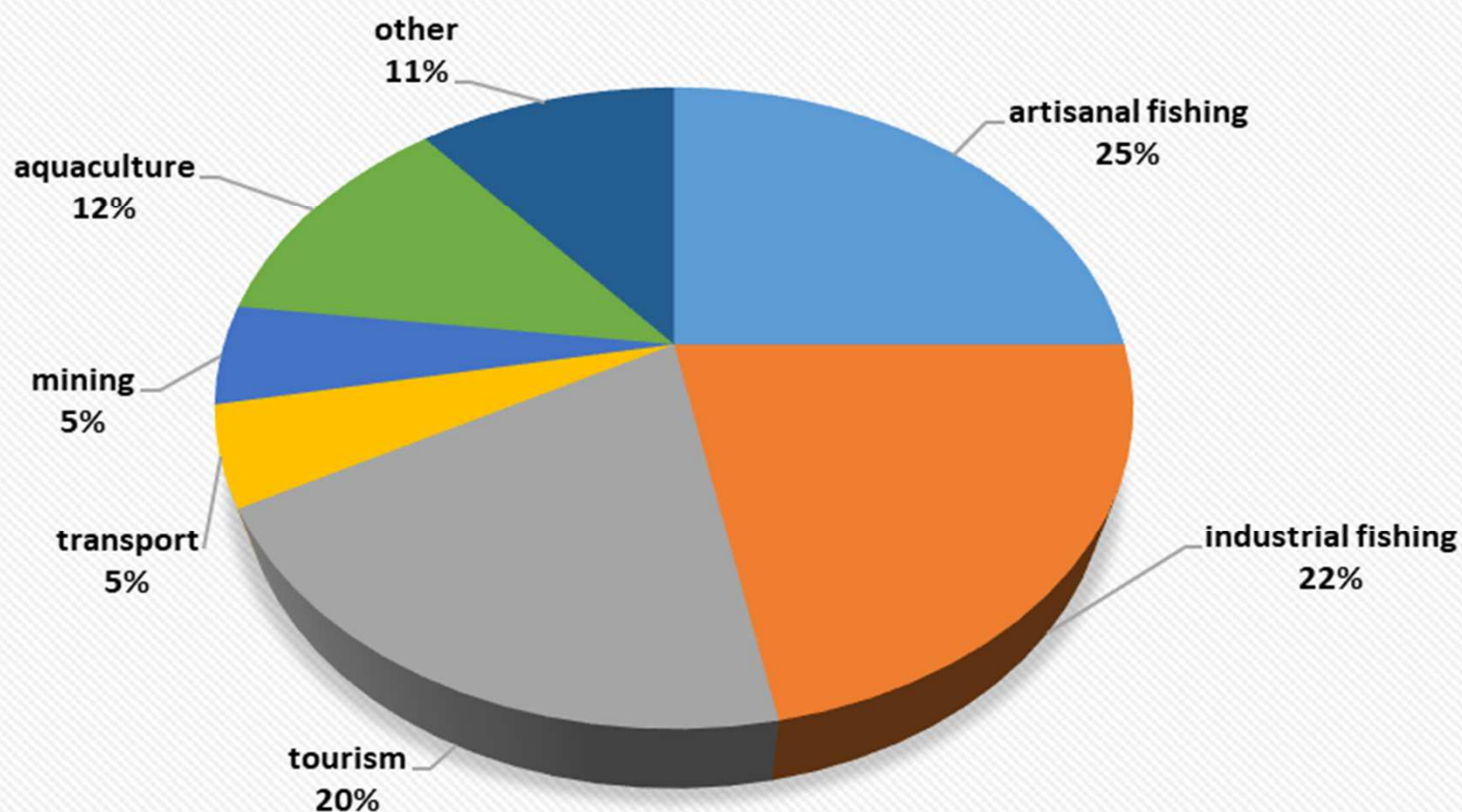
Introduction to Bakul country

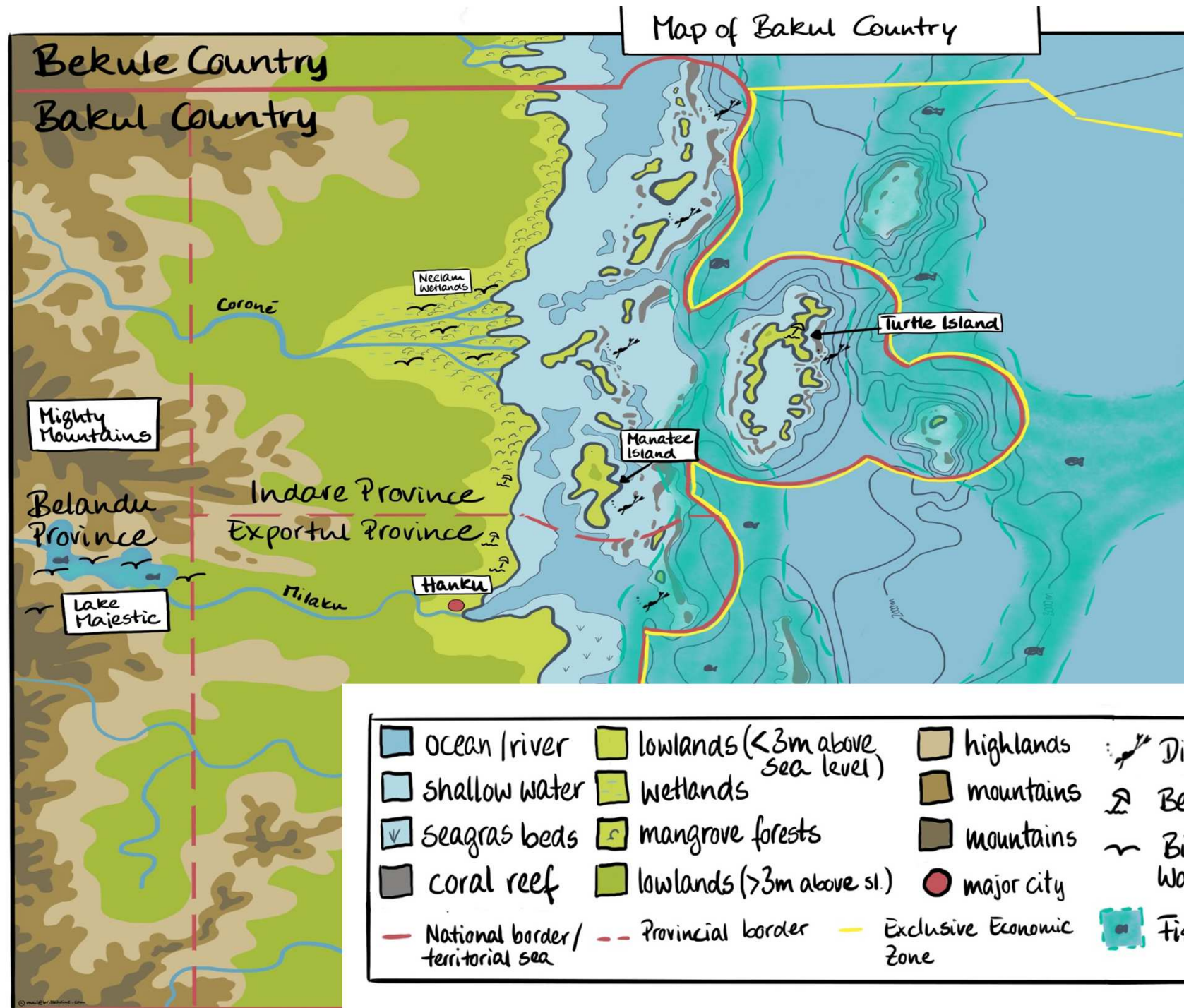
- The Republic of Bakul is a tropical developing country, covering an area of 130,000 km².
- Famous for: beautiful beaches and islands, the world-famous Bakul Barrier Reef and the Coroné Delta in northeastern Bakul, and the Lake Majestic.
- Bakul is divided into three provinces: the coastal provinces Indare and Exportul, and the highland province Belandu.
- Its major cities are located near the coast: Hanku (the capital) and Moneila city (the economic centre of the country).
- Market-oriented economy, with the main exports fish and shrimp, palm oil and, to a lesser degree, timber.





Sector-wise contribution to GDP in Bakul



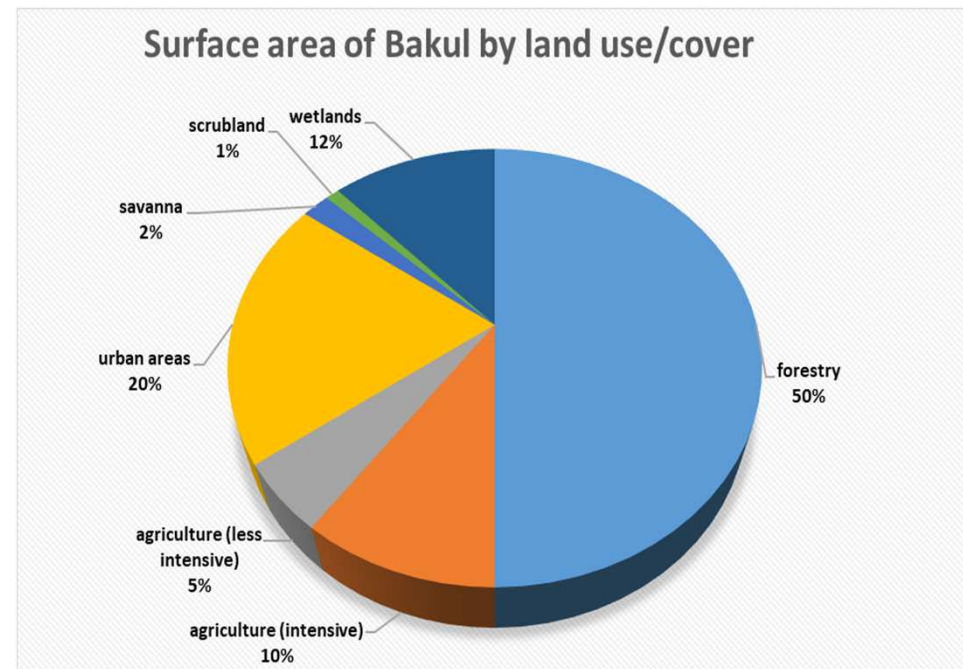




Bakul:

Ecosystems:

- Rivers, lakes and wetlands.
- Mangroves.
- Sandy beaches and dunes.
- Coral Reefs.
- Seagrass beds.
- Paradise for birdwatchers.
- Recreational fishing is also booming.





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Thank you!

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