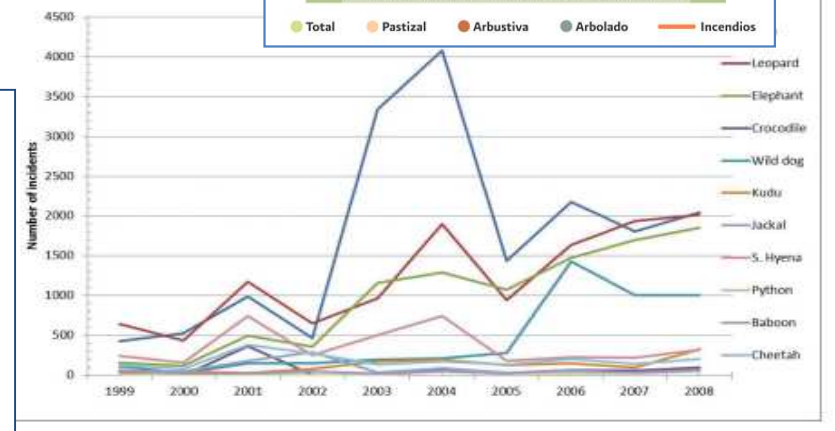
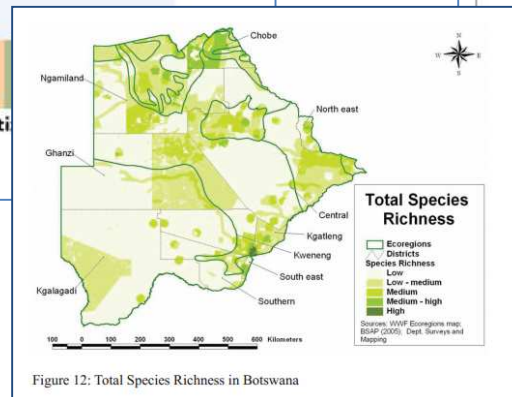
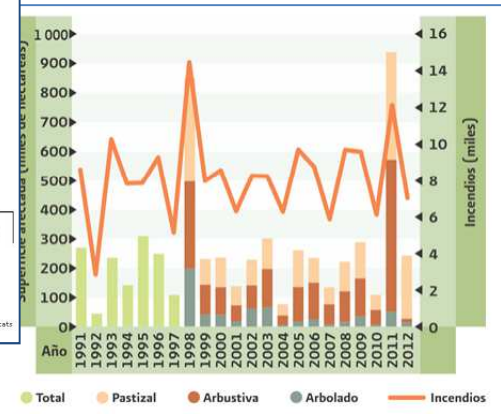
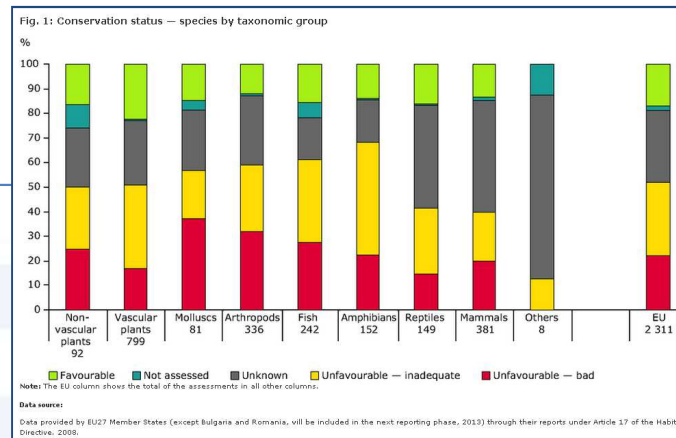
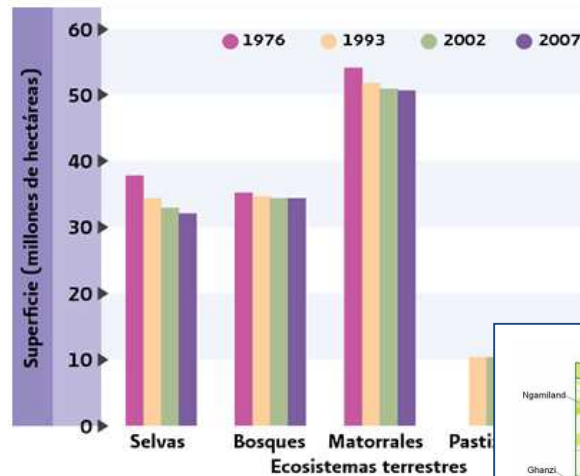




# Western Balkans Capacity Building Workshop on Indicators as part of NBSAP Updating

## What is an Indicator and Uses of Indicators





## Being clear about the basics...

### *What is an indicator?*

**“A measure based on verifiable data that conveys information about more than itself”.**

### **INDICATORS ARE PURPOSE DEPENDENT**

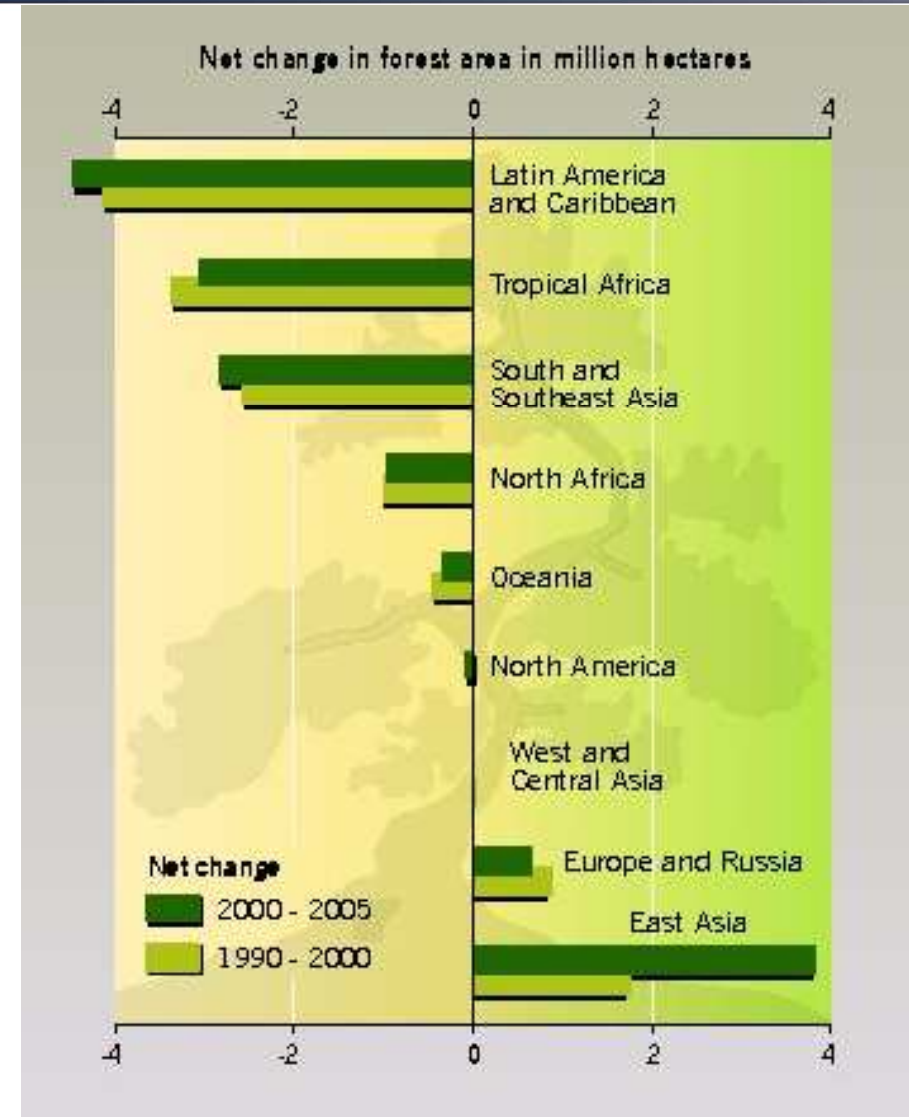
- *the interpretation or meaning given to the data depends on the purpose or issue of concern.*
- *always first determine your purpose.*



## *Indicators are purpose dependent*

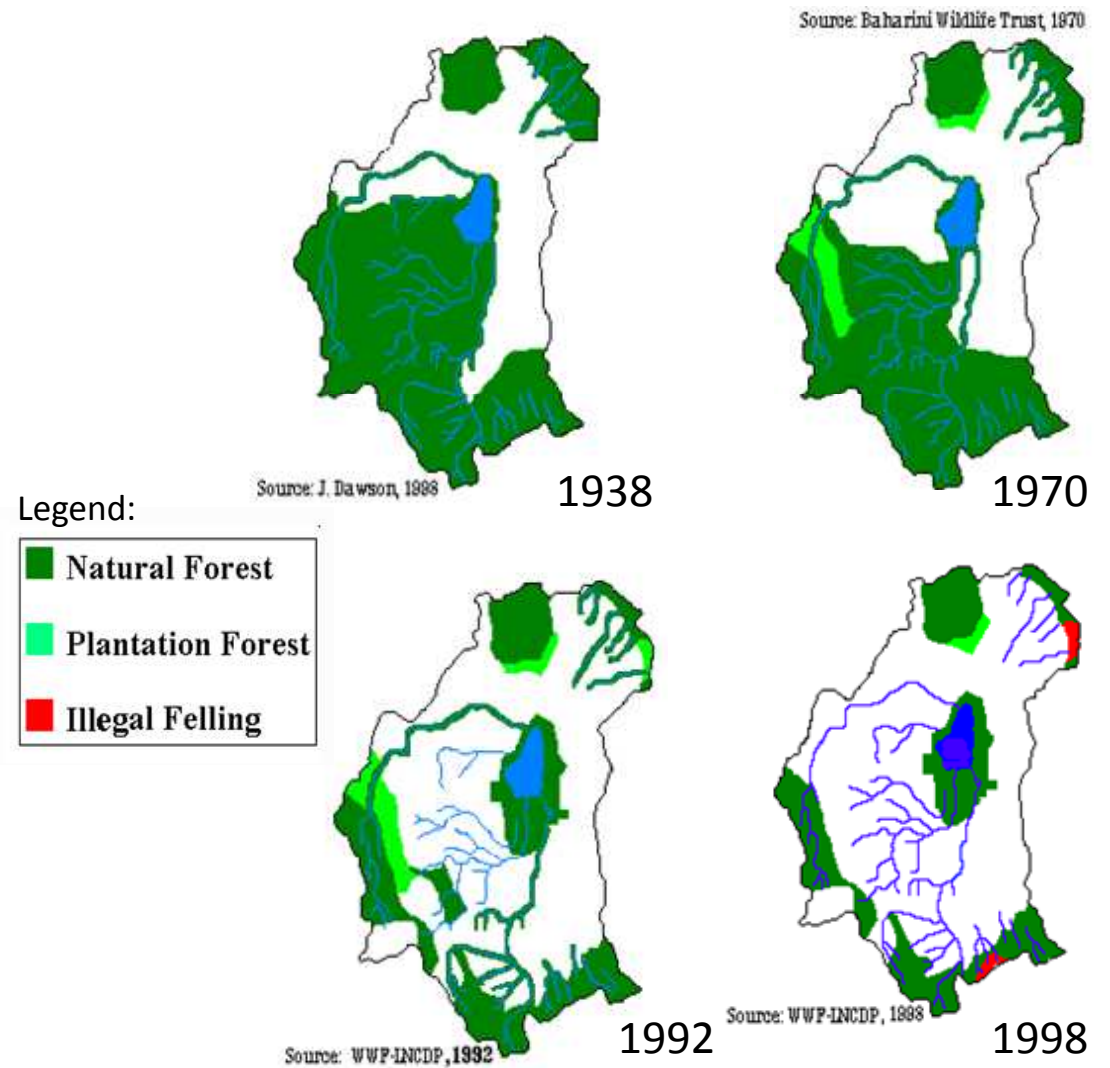
***Net change in forest area over time  
could be an indicator of:***

- availability of forest resources
- progress in forest conservation
- intensity of threats to forest ecosystems
- investment in plantations
- change in soil cover and erosion
- change in forest carbon sequestration
- conservation status of forest-dependent species
- .....





## Multiple purposes of indicators E.g. Policy making cycle



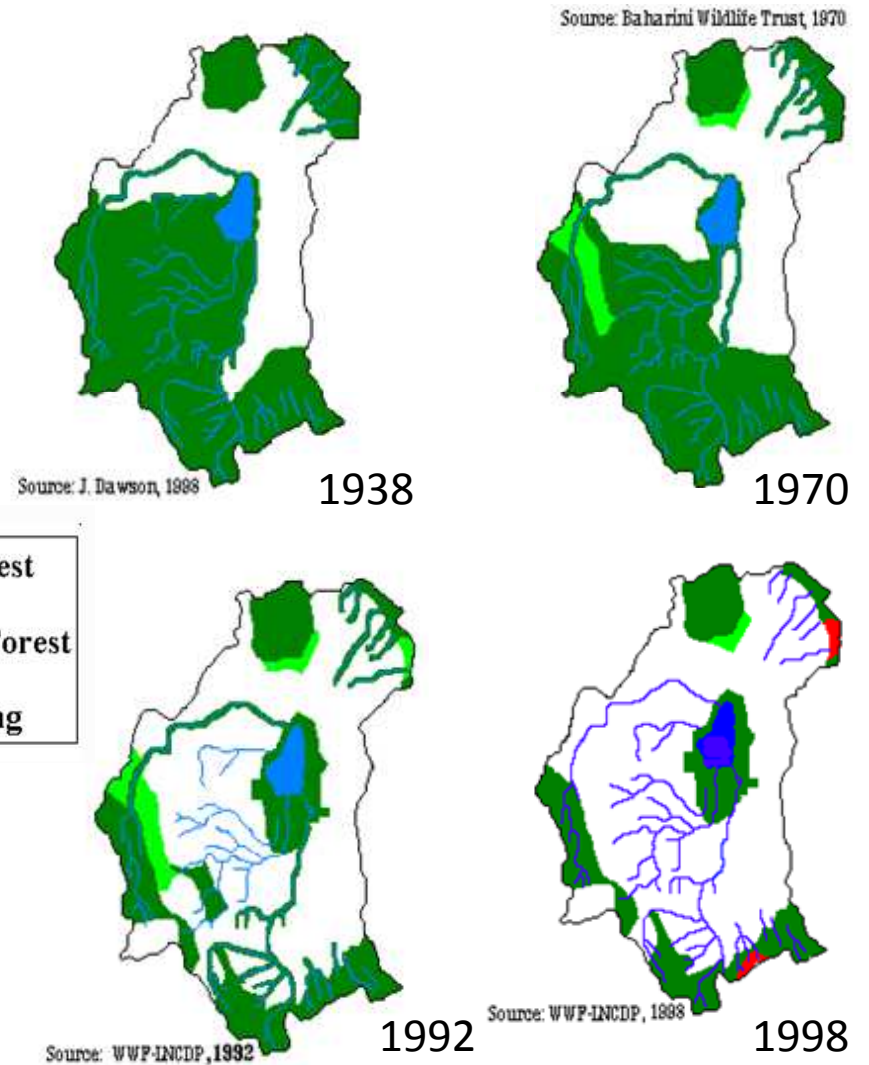




## Multiple purposes of indicators E.g. Policy making cycle

- **Understanding an issue:**  
(Where is the forest?, How much is there?, Change over time? Why is it changing?)
- **Setting Objectives, Targets, Policies**  
(Location and extent of forest & types – conservation or restoration. Protected Areas? By when?)
- **Monitoring progress & outcomes**  
(Forest extent, status of protected area)
- **Communicating, getting support**  
(Stakeholder dialogue, State of Environment Report, lobbying, fund-raising)

Legend:





## Uses of biodiversity indicators:

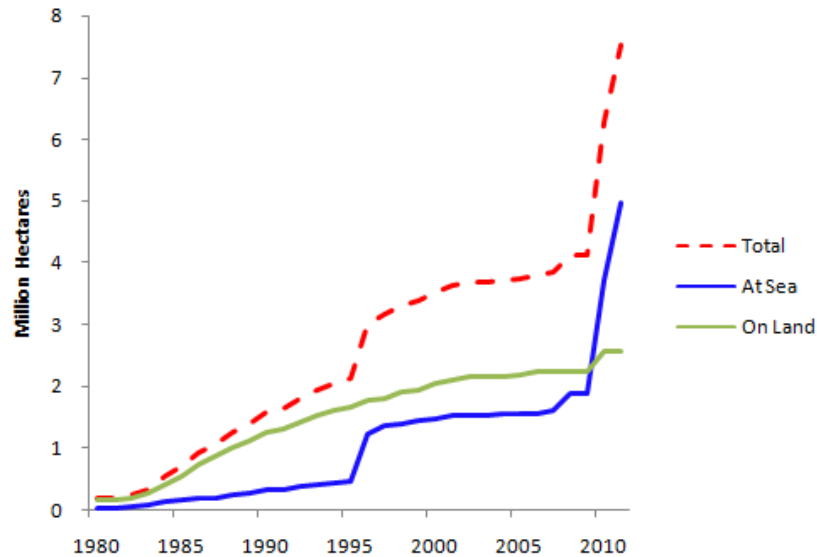
- Track progress in achieving targets
- Guide policy design & implementation:
  - *Highlight where action is needed*
  - *Adaptive management*
- Build support:
  - *Communicate simple messages*



# Indicator or Index?

## Summary

Figure C1i. Extent of UK nationally and internationally important protected areas: (i) total extent; (ii) on land; (iii) at sea, 1980 to 2011.



Source: UK  
Biodiversity  
Indicators in Your  
Pocket, 2012

## Notes:

1. The demarcation between the protected areas on land and at sea is mean high water (mean high water spring in Scotland). The calculations to create the indicator split the terrestrial and marine components of coastal sites between the 'on land' and 'at sea' lines shown.
2. Based on calendar year of site designation.

**Source:** Joint Nature Conservation Committee based on its own data and data from the Countryside Council for Wales, Natural England, Northern Ireland Environment Agency and Scottish Natural Heritage.

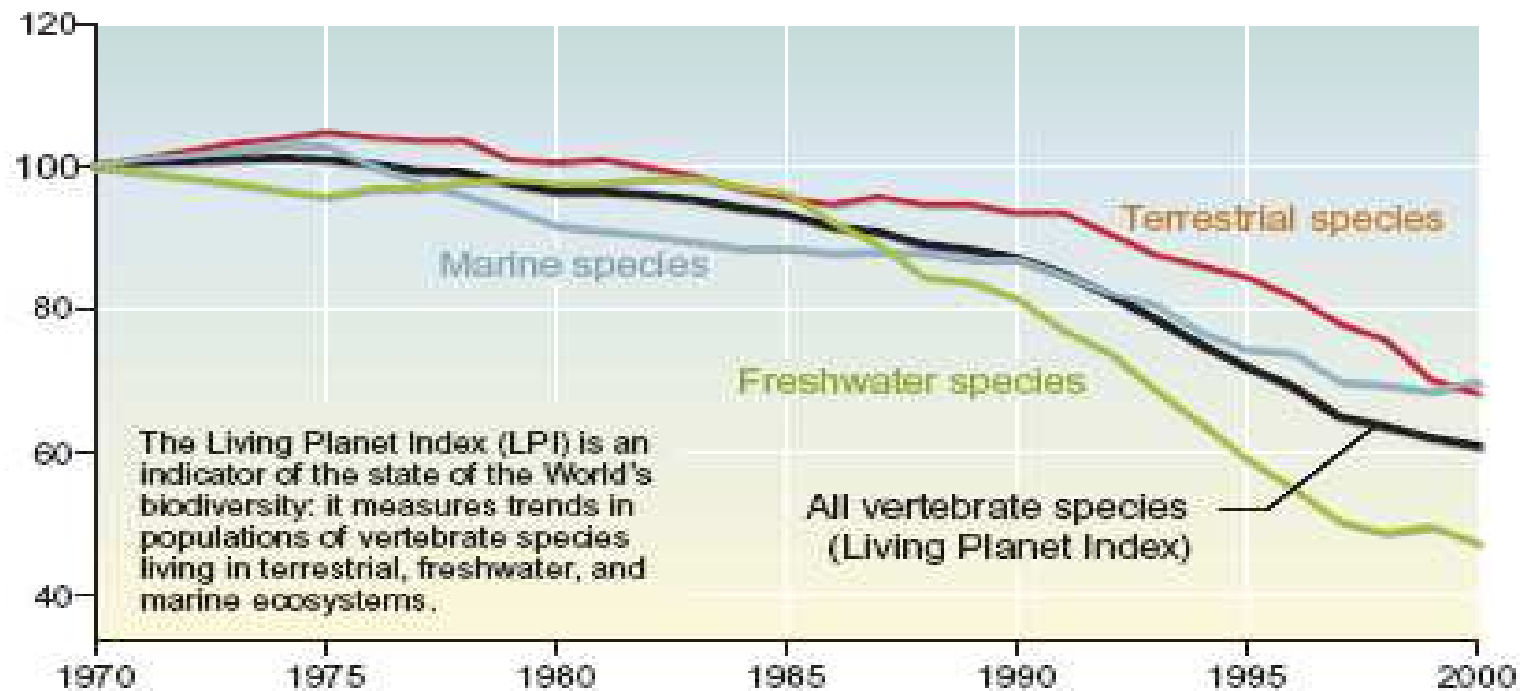




## Indicator or Index?

**An index is a numerical scale used to compare variables with one another or with some reference number.**

Population Index = 100 in 1970



Source: WWF, UNEP-WCMC; Living Planet Report 2004.





# Pressures – State – Benefits – Response Framework

To assist identifying key questions and interpreting indicators

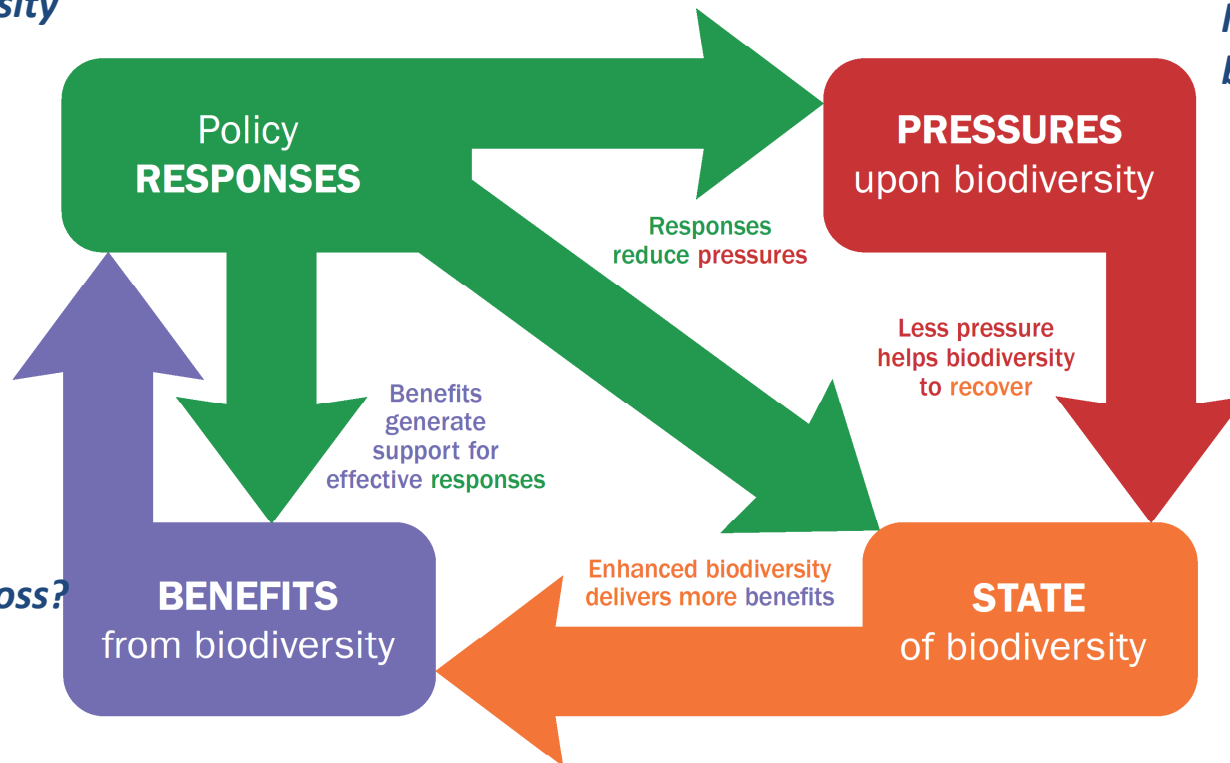
## Pressure-State-Benefits-Response Framework

*What do we do  
about biodiversity  
loss?*

*Why are we  
losing  
biodiversity?*

*What are the  
implications  
of biodiversity loss?*

*How is the status  
of biodiversity  
changing?*



iversity  
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# What is a successful indicator?

**Scientifically valid** – theory of relationship between the indicator and its purpose (what change in the indicator means) + reliability of the data

**Based on available data** – over time (monitoring)

**Responsive to change in the issue of interest**

**Easily understandable** – conceptually + presentation + interpretation

**Relevant to user's needs**

**It is used!**

(for measuring progress, early-warning, understanding an issue, awareness-raising, ...)



## Some key messages for using indicators:

### Understand your data:

their strengths, their limitations, where they come from.

Always put your indicators in **context**.

Don't try to answer everything at once: *one indicator will **never** tell you **all you want to know**.*



## Some key messages for using indicators:

What ***story*** are you trying to tell?!



## Some key messages for using indicators:

Indicators should lead on to **other things**  
– *they are not ends in themselves.*





## Distinctions between Targets and Indicators

### *National Target:*

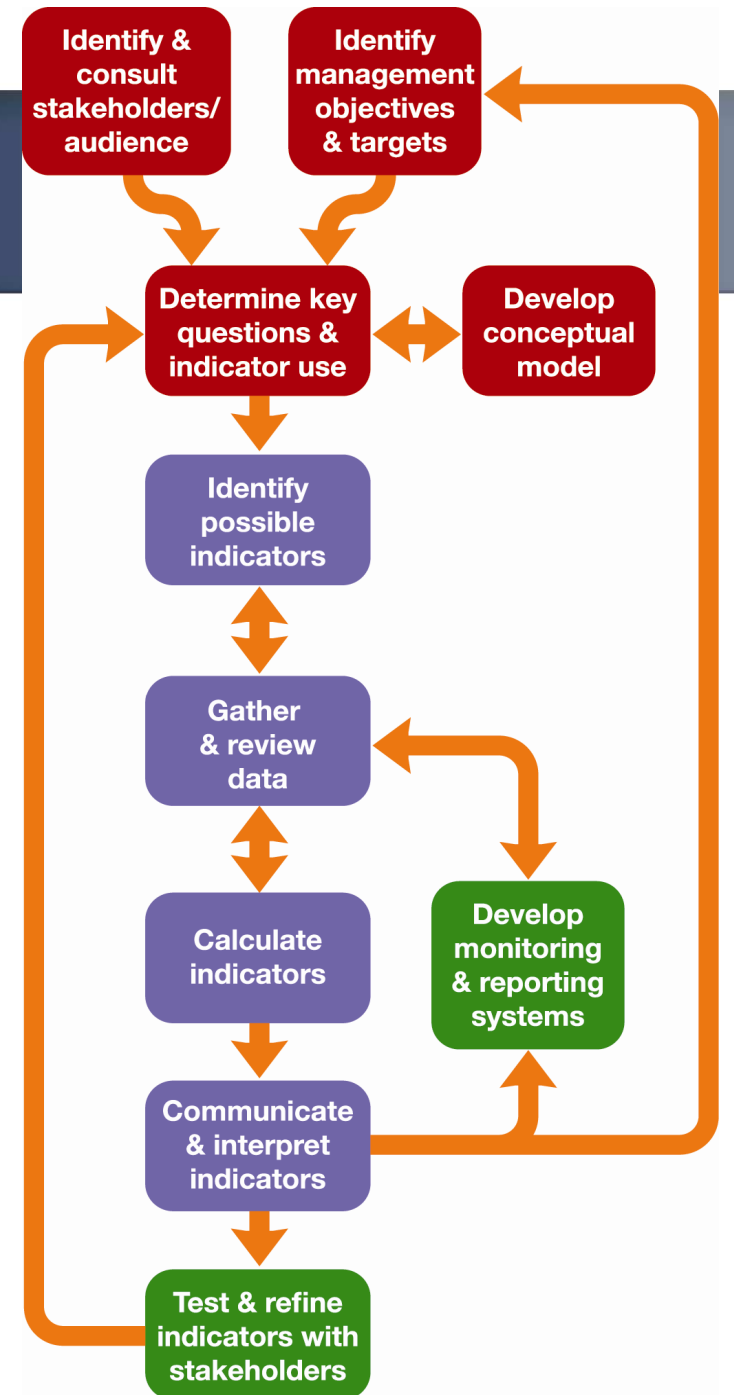
Increase terrestrial Protected Area coverage from 5% of the country to 15% by 2020

### *Indicators?*

1. 15% terrestrial Protected Area coverage
2. Increase in Protected Area coverage
3. Protected Area coverage
4. Percentage Protected Area coverage



## The Biodiversity Indicator Development Framework



[www.bipnational.net](http://www.bipnational.net)

# Guidance for National Biodiversity Indicator Development and Use



2010 Biodiversity Indicators Partnership

## What is an indicator

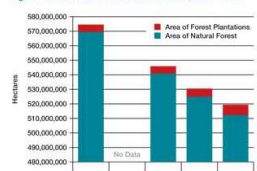
For the purpose of this guidance we define an indicator as, "a measure based on verifiable data that conveys information about more than itself". Examples of indicators from subjects other than biodiversity are a person's body temperature as an indicator of his or her health, or the level of unemployment as an indicator of the status of a country's economy and the well-being of its population. In some cases information from several different measures or data sets can be combined to form an index, such as the Consumer Price Index which indicates the inflation rate of a national economy.

Biodiversity indicators can also be simple measures or more complex indices. For example, population estimates of the large cat species in a country could be a relatively simple indicator of the integrity or health of terrestrial ecosystems. The Marine Trophic Index can be an indicator, or proxy, of the integrity of marine ecosystems, calculated from data of harvested fish and their average trophic level (such as herbivores and carnivores) in the food web.

The general term 'biodiversity indicators' as used in this document and by the Convention on Biological Diversity (CBD) covers more than direct measures of biodiversity itself, such as species populations and extent of ecosystems. It also covers actions to ensure biodiversity conservation and sustainable use, such as the creation of protected areas and regulation of the harvesting of species, and pressures or threats to biodiversity such as habitat loss.

Since indicators are measures of something, they can usually be presented in a numerical or quantitative form. A line graph is perhaps the most common form of presentation, but other forms such as a pie chart or map may sometimes be clearer and have greater impact.

Figure 1. Forest area estimations for Brazil, 1990 - 2010<sup>1</sup>



- Indicators can be purpose-dependent - the interpretation given to the data depends on the purpose or issue of concern. For example, data on forest extent (Figure 1) could be interpreted as an indicator of the following issues, depending on the purpose of the analysis or the issues of concern:
- change in availability of forest resources
  - progress in forest conservation
  - intensity of threats to forest ecosystems
  - results of investments of plantations change in soil cover and erosion
  - change in forest carbon sequestration
  - likely changes in conservation status of forest dependent species.



2010 Biodiversity Indicators Partnership

## The Biodiversity Indicator Development Framework

The Biodiversity Indicator Development Framework contains key steps for producing successful biodiversity indicators. The Framework can be viewed as a map to this guide and is divided into three themes:

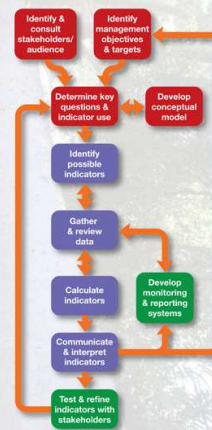
- Purpose** - actions needed for selecting successful indicators
- Production** - essential to generate indicators
- Performance** - mechanisms for ensuring indicator continuity and sustainability

It is important to recognise that the framework is an "ideal" standard and it may not be necessary to cover every step. However, in our experience, successful indicators are most likely to be achieved when all the steps have been considered.

Although presented in a logical sequence from top to bottom, there are other possible starting points and directions for using the framework. Indicator developers are encouraged to think of indicator development as an iterative process, which requires movement back and forth between the steps. For example, the steps 'identify possible indicators' and 'gather and review data' are often undertaken simultaneously.

Please remember that the purpose of the framework is not to produce indicators for their own sake, but to support informed, effective decision making and action for biodiversity conservation and sustainable use.

The steps in the framework are covered in detail in the second section of this guidance: Developing and using indicators.



For more information about the framework and national biodiversity indicator development visit the National Biodiversity Indicators Portal: [www.bipnational.net](http://www.bipnational.net)



Figure 2. Costa Rica Forest Cover, 1940-2005<sup>2</sup>

It is important to note that the presentation of indicators should not be limited to graphs alone. Some indicators such as habitat extent may benefit from being presented as a series of maps (Figure 2). It may even be beneficial to present the same indicator in multiple ways to ensure adequate interpretation. For example a graph of change in forest area over time is limited to providing information on the degree to which forest habitat is being lost/gained. Although useful, the combination of this graph with forest extent maps provides insight into which areas/regions are subject to greatest forest loss/gain.

### References

- <sup>1</sup> FAO, 2009. Global Forest Resources Assessment 2010: Brazil Country Report. <http://www.fao.org/forestry/20262-1-206.pdf>
- <sup>2</sup> UNEP-GRID-Arendal, 2009. Change Forest Cover: Costa Rica, UNEP-GRID-Arendal Maps and Graphics Library. <http://maps.grida.no/go/graphic/change-forest-cover-costa-rica>

Guidance for National Biodiversity Indicator Development and Use

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### Document development

This guidance document is one of a series produced with the support of the 2010 Biodiversity Indicators Partnership (2010 BIP) as part of its 'global national indicators' component. The ideas and experience reported in this guidance have been developed and tested in capacity building workshops for national government and NGOs, agencies from over 20 countries in southeast Asia, the Caribbean, Central America, and Eastern and Southern Africa. The workshops have been organised with regional partners by UNEP-WCMC as part of the 2010 BIP project. The workshops in Africa are supported by a UNEP project with funding from the UN Development Account.

Much of the thinking on biodiversity indicator development presented here was first developed through a GEF project from 2002 to 2005 called 'Biodiversity Indicators for National Use (BINI)', working with partners in Kenya, Ukraine, Philippines and Ecuador and at PBL (Netherlands).

**Authors**  
This document has been co-authored by staff and advisors of UNEP-WCMC: Philip Bubb, Suzanne Almond, Anna Chinery, Damon Stanwell-Smith, Neil Adams and Martin Jenkins.

**Acknowledgements**  
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### Further information

This document is one of a series of 2010 BIP guidance materials and fact sheets to assist Parties to the Convention on Biological Diversity (CBD) to track their progress towards the 2010 Biodiversity Target and beyond. More information and examples to support national biodiversity indicator development are available from the National Biodiversity Indicators Portal: [www.bipnational.net](http://www.bipnational.net).

Please contact [info@bipnational.net](mailto:info@bipnational.net) to send feedback, questions and suggestions for improvement of this guidance, or to find out how your regional or national work could be included in the 2010 BIP website. Citation: 2010 Biodiversity Indicators Partnership, 2010. Guidance for national biodiversity indicator development and use. UNEP World Conservation Monitoring Centre, Cambridge, UK. 43pp

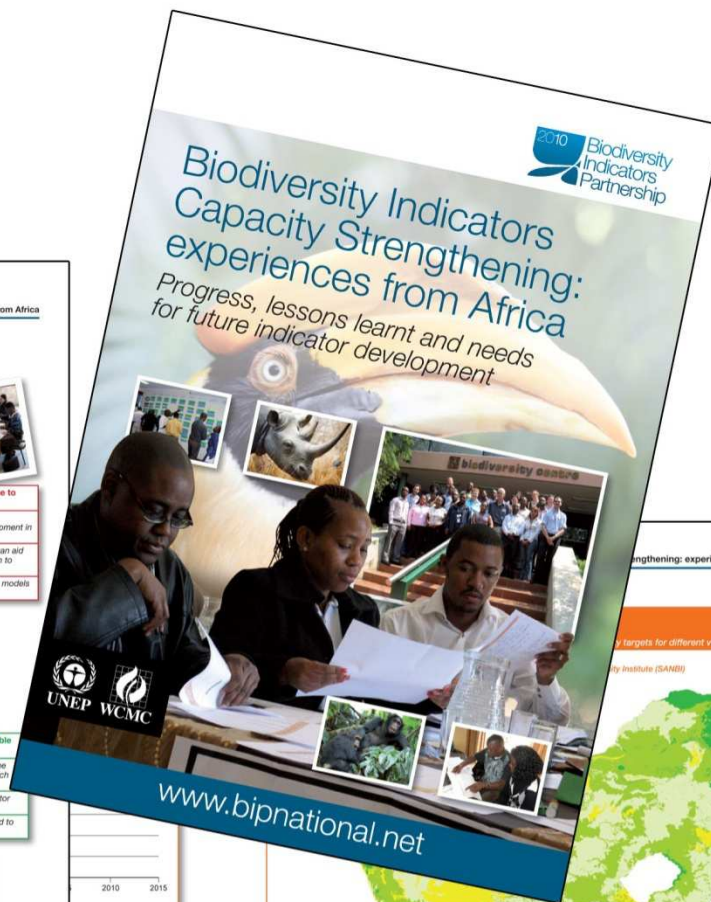
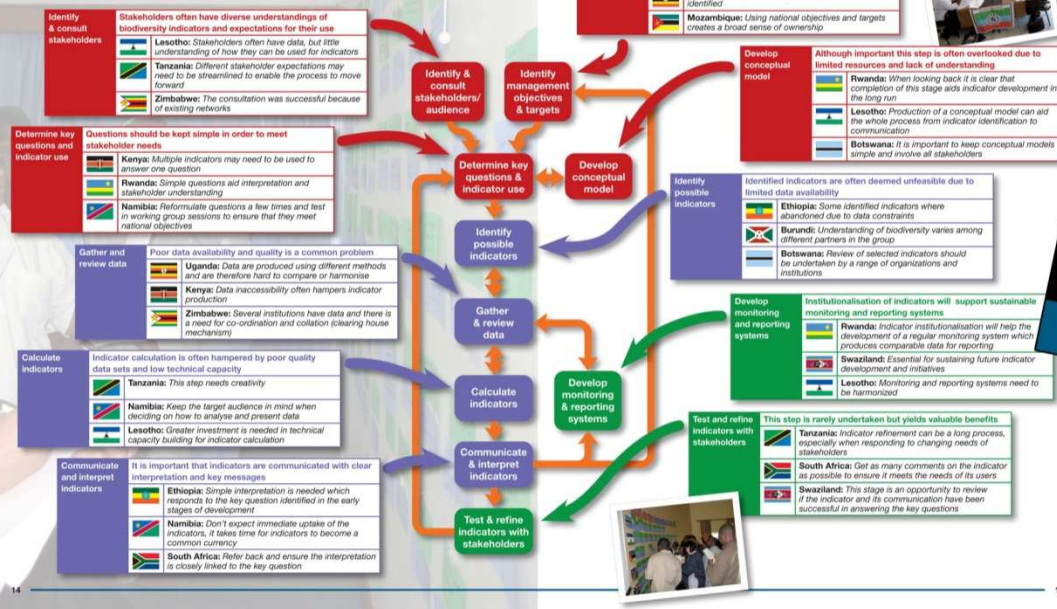
Version 1.0  
August 2010  
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Information about the 2010 Biodiversity Indicators Partnership is available on the internet: [www.bipnational.net](http://www.bipnational.net)

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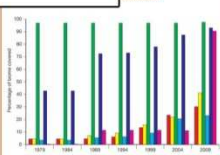
## Lessons Learnt

The production of useful biodiversity indicators is possible with even limited data, and should be an ongoing process of production, review and adjustment. As well as providing technical assistance on indicator production the project's capacity building workshops provided a platform for national partners to share experiences and lessons learnt in indicator development.



and the Central Statistics

ment?  
by different forms  
foundation



and Namib-Naukluft National Parks, the more recent registration of Communal Conservancies and establishment of Private Protected Areas. The Succulent Karoo biome coverage has increased to 91%, mainly due to the proclamation of the 2.5 million hectare Spengriet National Park in 2008. The Broad-leaved Savanna coverage has increased to 41% as a result of the proclamation of four State Protected Areas in the Kavango and Caprivi, and the registration of some 15 Communal Conservancies in the same regions. The Acacia Savanna biome now has 30% of its area under conservation management, mainly due to the establishment of Freehold Conservancies, but less than 5% is in the State Protected Area network. The least well protected biome is the Nama Karoo with 23% of its area under some form of conservation, but only 5% in the State Protected Area network. Communal Conservancies protect almost 15% of this biome.

The importance of different forms of landscape and biodiversity conservation in Namibia is apparent when their contributions are seen in terms of biome protection.

Produced by: Dr Chris Brown, Namibia Institute for Sustainable Development, for the 'State of Biodiversity in Namibia' report, 2010.

**Interpretation:** The current protected area network covers 6% of the country, reaching half of the 12% target by 2010 as set out in the South African National Biodiversity Strategy and Action Plan (NBSAP, 2006). For each of South Africa's 437 vegetation types a biodiversity target has been set for the area that should be protected to ensure that the area of the vegetation type under protection constitutes a representative sample of the biodiversity and ecological systems within that vegetation type.

In 2010, 72 vegetation types were not afforded any protection status, meaning that they were not falling within the boundaries of any formally protected areas within the country, and 88 vegetation types were hardly protected. Protection targets have been achieved for a total of 100 vegetation types. This number is likely to increase when new protected areas are identified and proclaimed as suggested in the South African National Protected Areas Expansion Strategy (NPAES). The current situation in South Africa is that the majority of the vegetation types are hardly protected, and their biodiversity targets as set by Vegetation Map have not yet been achieved. These under-protected vegetation types run the real danger of becoming threatened and in extreme cases extinct, which would lead to the loss of associated biodiversity and ecological processes.

This means that most of the vegetation types are in danger of becoming extinct or threatened with extinction.

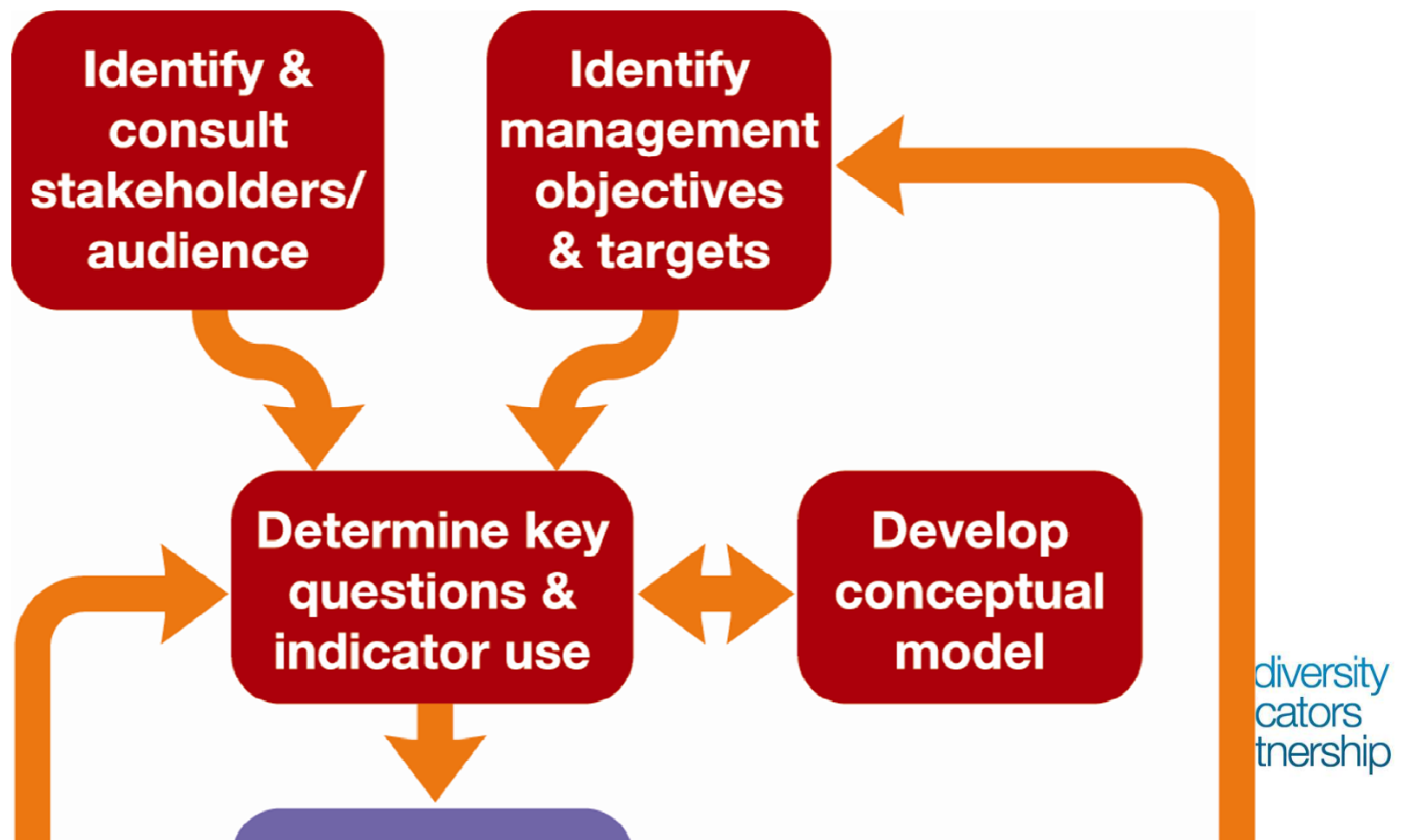
Produced by: SANBI, DEA, Statistics South Africa, BirdLife SA, CSIR.





## The Biodiversity Indicator Development Framework

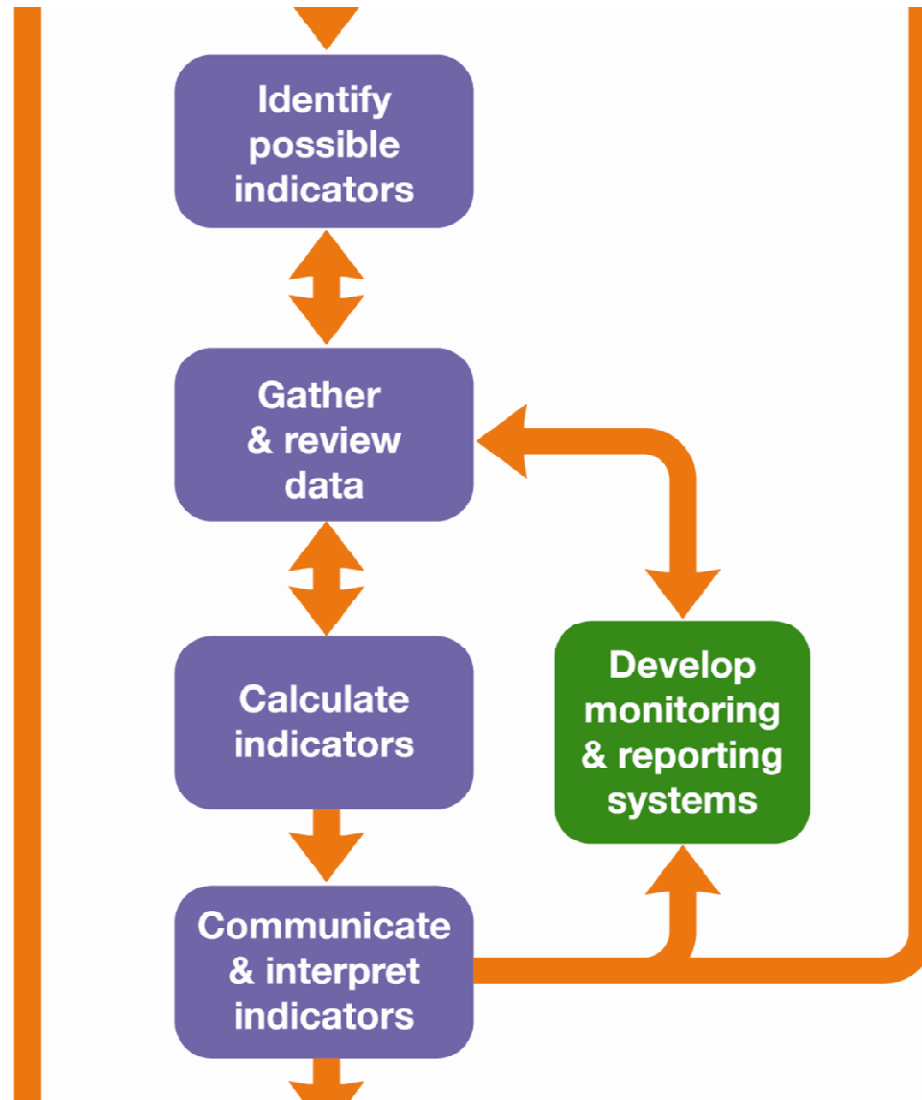
**Purpose – actions needed for selecting successful indicators**







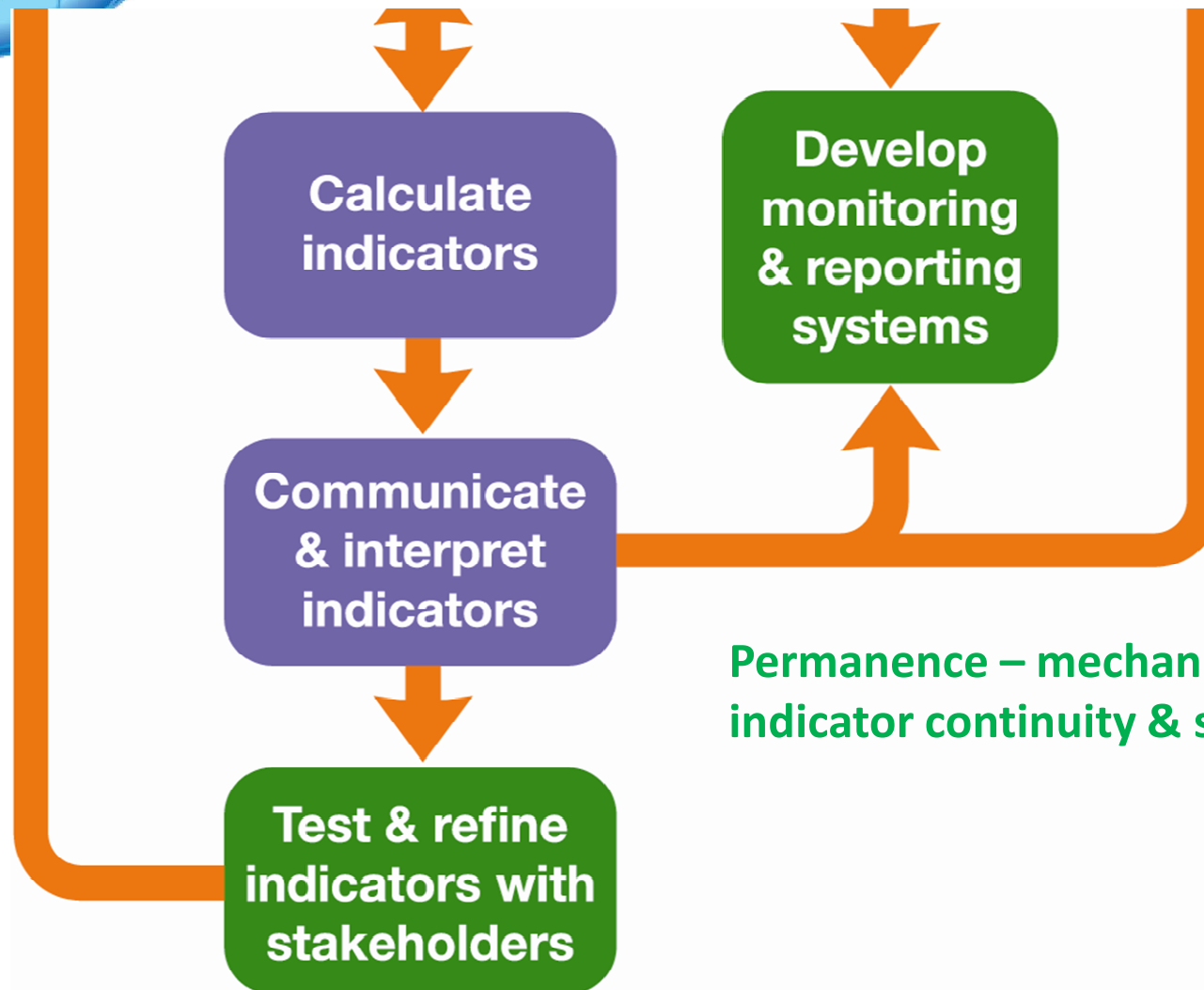
## The Biodiversity Indicator Development Framework



**Production – essential  
to generate indicators**



## The Biodiversity Indicator Development Framework

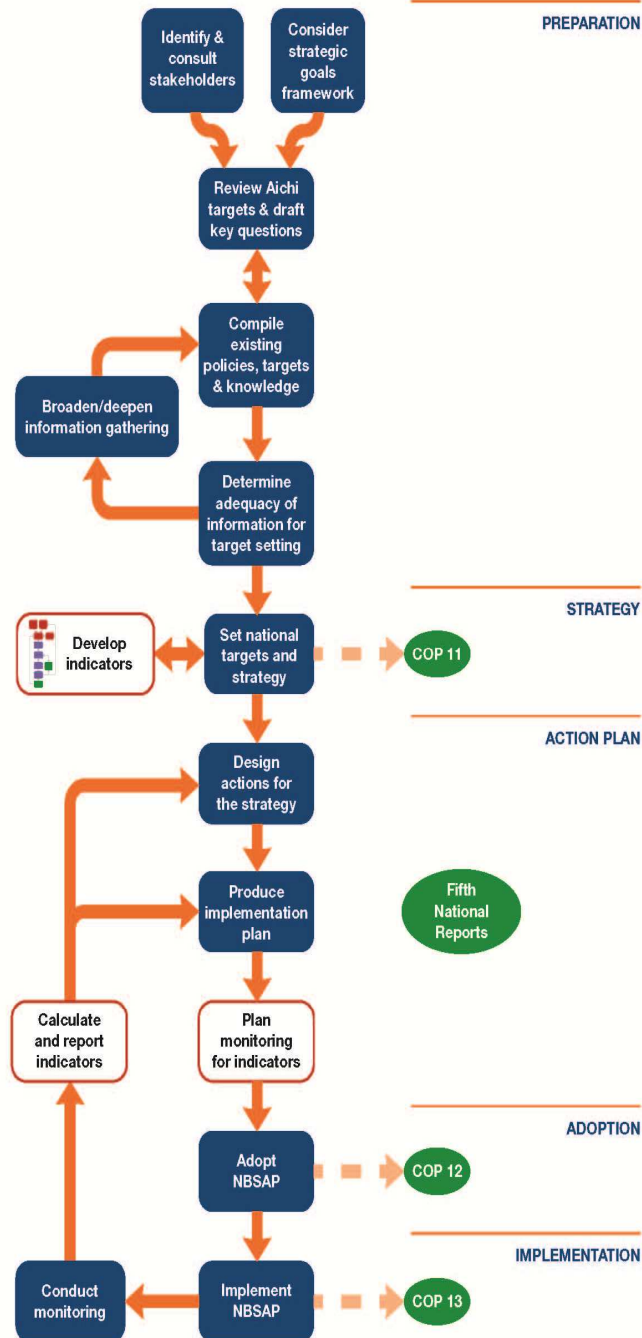


**Permanence – mechanisms for ensuring indicator continuity & sustainability**



## Indicators and NBSAP Updating

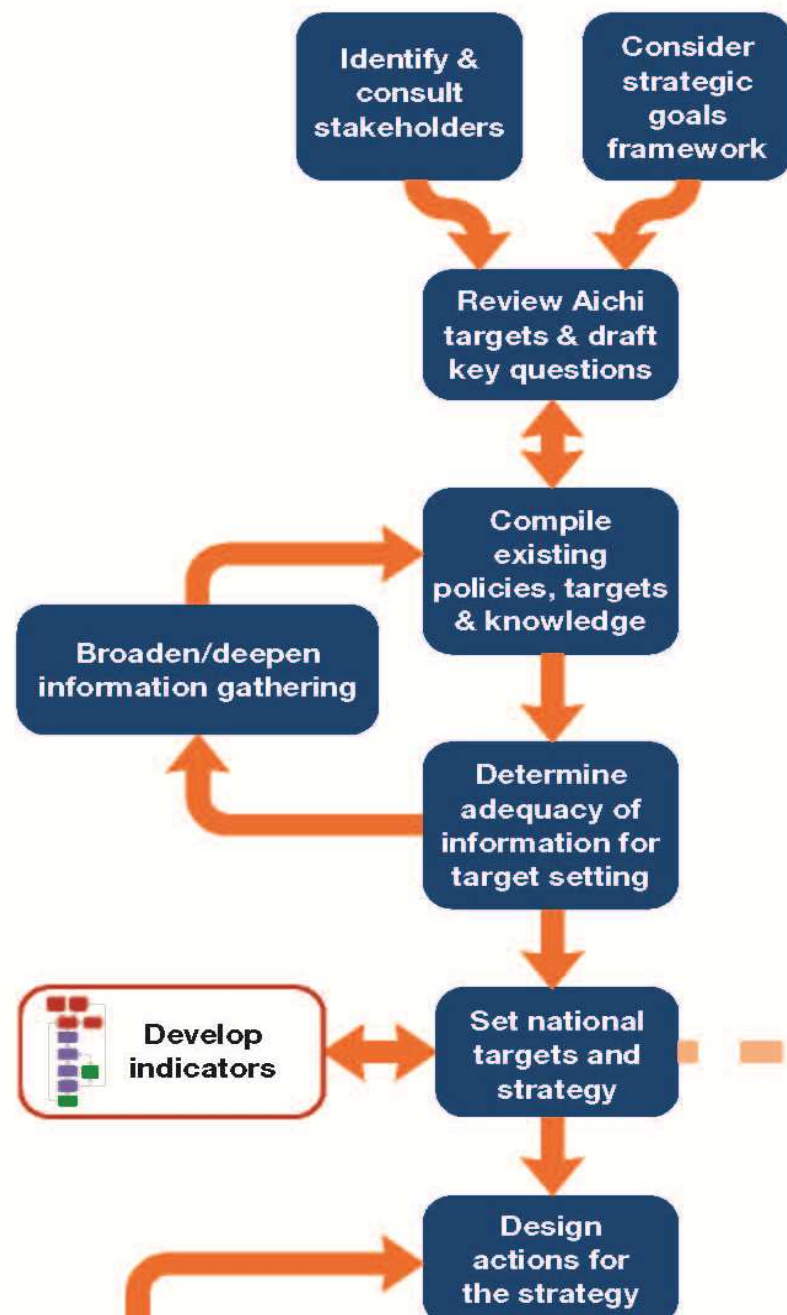
CBD NBSAP Updating Steps



# Indicators and NBSAP Updating

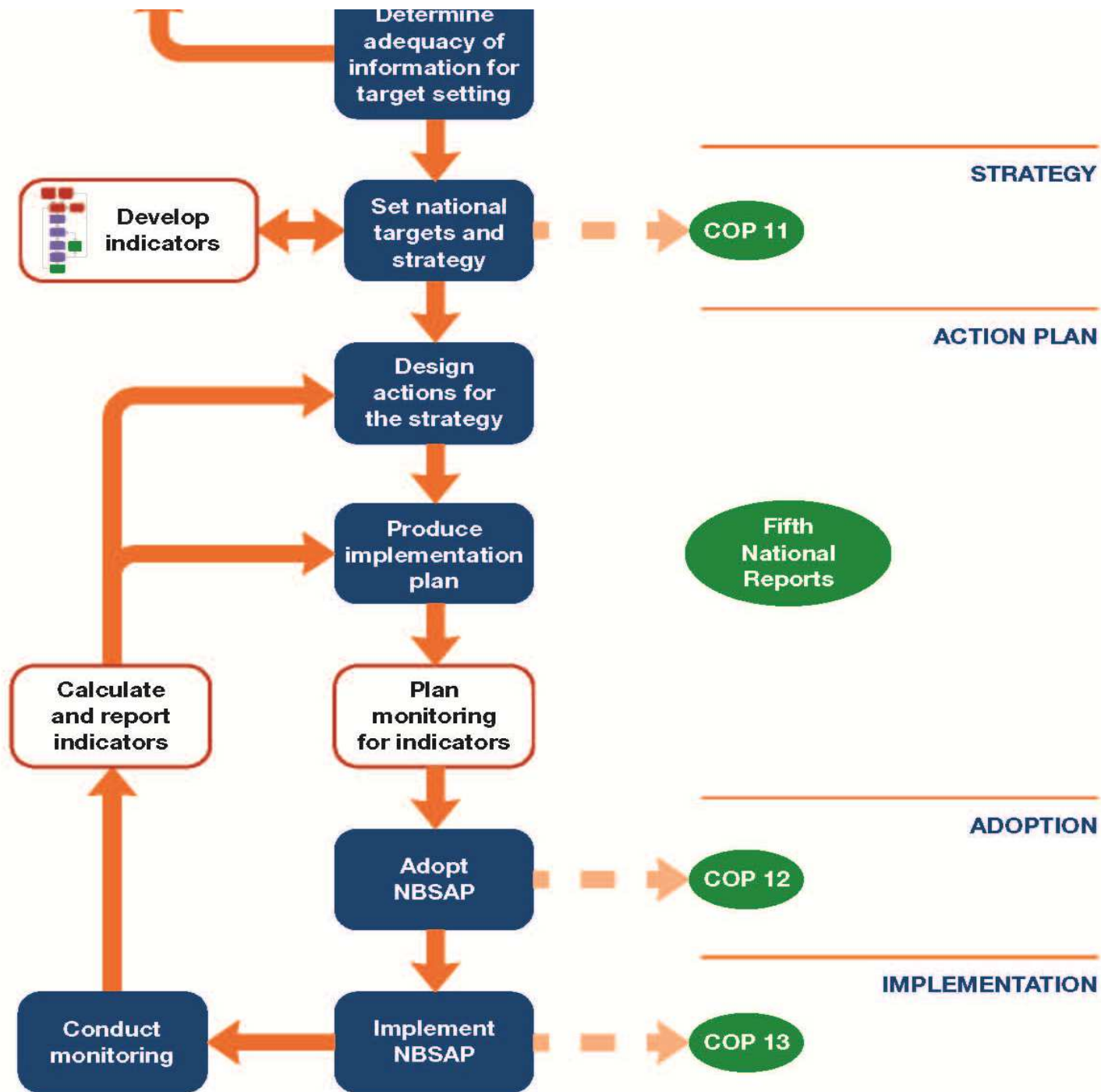
## CBD NBSAP Updating Steps

### PREPARATION



### STRATEGY

### ACTION PLAN







## Indicators and NBSAPs

2 main types of indicators used in NBSAPs:

**Impact indicators** – for measuring progress towards a target and a desired state of biodiversity

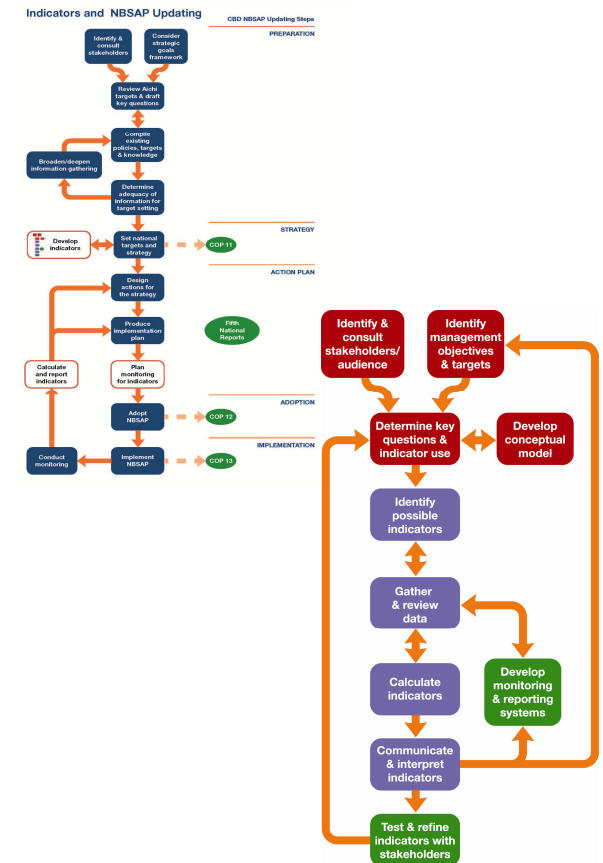
**Implementation indicators (performance indicators)** – for monitoring the implementation of particular actions for example in an NBSAP

*You may also use existing indicators (e.g. of status and trends, or from your previous NBSAP) in order to guide the preparation of your strategy.*



## Indicators and NBSAPs

- While the BIDS does not map exactly with the NBSAP updating process, the steps are still all relevant for impact indicators.
- The steps of the BIDS may be addressed in a slightly different order or way during NBSAP updating.





## Indicators and NBSAPs

- It is recommended to consider all steps in the BDF when at the stage of developing strategies and actions for your NBSAP.
- This will help ensure that the methods of calculation and communication of the indicator(s) are clear and supported by stakeholders before investing in the monitoring and reporting systems.

