

# Policy Uses of Natural Capital Accounting

**Sofia Ahlroth  
World Bank**

**Kampala, Uganda Dec 2013**



# The WAVES Global Partnership

Wealth Accounting and Valuation of  
Ecosystem Services



# Promoting Sustainable Development

**Goal:** Promote Sustainable Development by *mainstreaming natural capital in development planning and national economic accounts*

## Major Components of the WAVES Roadmap:

1. Directly support **policy-led implementation of NCA** in a critical mass of countries: Botswana, Colombia, Costa Rica, Guatemala, Indonesia, Madagascar, Philippines, Rwanda (Ghana, Morocco, Vietnam + 10 others to follow in the next 2 years) —roughly USD 1.5m per country
2. Help develop internationally agreed **methodology for valuation** of ecosystem services and gather **evidence for policy applications**

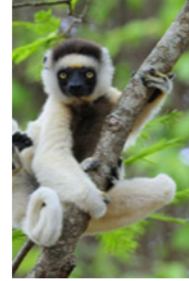


# Implementing NCA in WAVES countries



## Botswana:

- water,
- minerals & energy,
- land & tourism,
- macroeconomic indicators of sustainability



## Madagascar:

- minerals,
- forests & protected areas, tourism,
- watershed accounts, mangroves,
- Macroeconomic indicators of sustainability



## Philippines:

- minerals,
- macro indicators of sustainability
- mangroves,
- pilot land/ecosystem accounts for 2 sites



## Colombia:

- watershed ecosystem accounts for water, forests in 3 pilot watersheds,



## Costa Rica:

- water and forests accounts, Payment for Environmental Services

# Policy uses of Natural Capital Accounting



# Why do Natural Capital Accounting ?



Better macro-economic indicators for **monitoring sustainable development**: Is GDP growth sustainable or are we just “living off our natural capital”?

Sectoral indicators: water and energy efficiency—improving over time?



**Tool for managing natural capital to promote growth and poverty reduction**

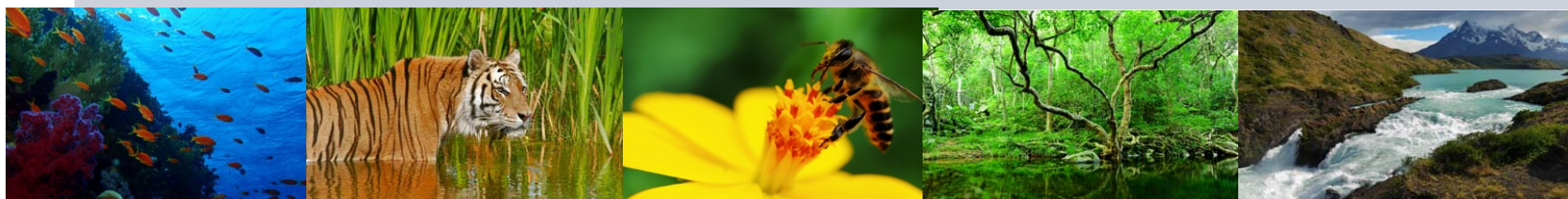
- Weighing trade-offs for water, land use among competing users
- Prioritizing investments in resource management, land use and protected areas
- Planning for the future



# Govts. Implementing Natural Capital Accounting

Countries	Most common `Flow` accounts	Most common `stock` accounts
27 EU countries, Australia Canada New Zealand Norway	<ul style="list-style-type: none"> <li>•Energy</li> <li>•Water</li> <li>•Air and water pollution</li> </ul>	<ul style="list-style-type: none"> <li>•Minerals &amp; energy resources,</li> <li>•Forest timber</li> </ul>
Brazil, Colombia, Guatemala, Korea, Mexico, South Africa	<ul style="list-style-type: none"> <li>•Energy</li> <li>•Water</li> <li>•Pollution</li> </ul>	<ul style="list-style-type: none"> <li>•Minerals and energy</li> <li>•Forest timber</li> </ul>

**Countries initiating environmental accounting, or renewing earlier pilot programs:** Botswana, Costa Rica, Ghana, India, Madagascar, Mauritius, Morocco, the Philippines, Qatar, Rwanda, Vietnam



# Where has Natural Capital Accounting been most useful?

1. **Macro-economic and sectoral indicators** for monitoring sustainable development
2. **Stocks of minerals & energy:** fiscal rules to manage revenues for long term growth
3. **Water accounting:** managing a scarce resource for economic growth
4. **Energy and air pollution:** cleaner, more efficient economy



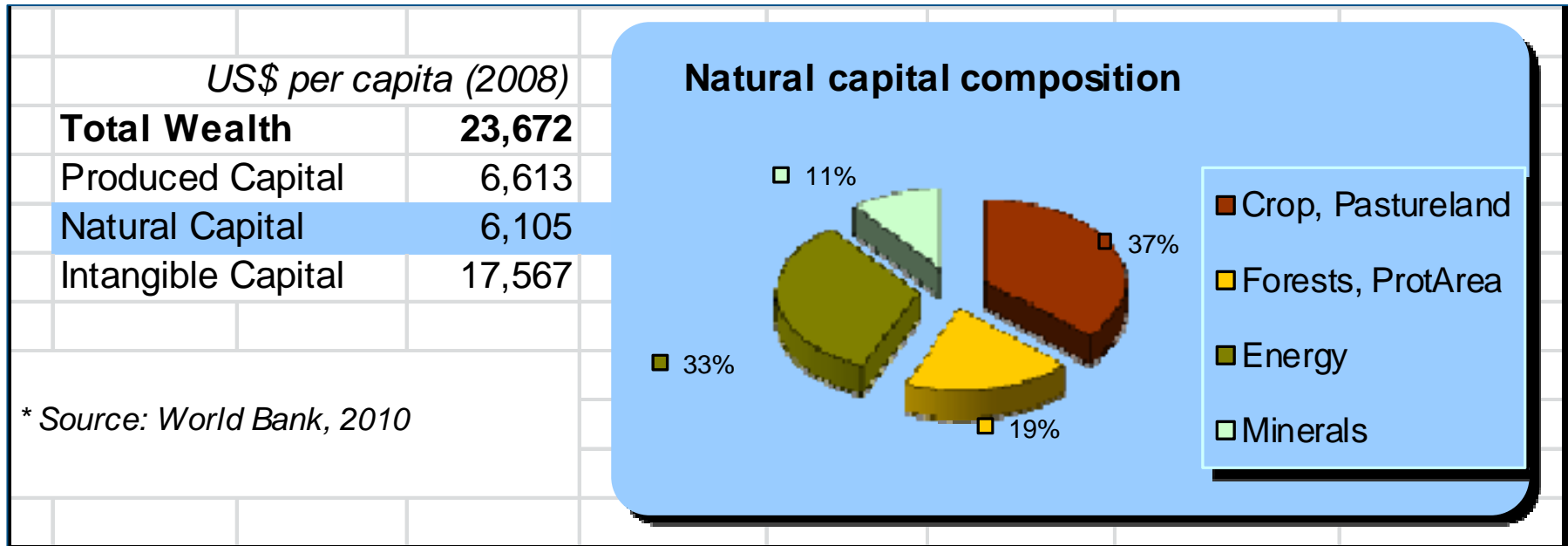


# 1. Indicators of sustainable development

...Is GDP growth sustainable or are we just “living off our (natural)



# The Wealth of Indonesia



- Based on internationally available data.
- Currently working on improving this estimate with country data



## 2. Resource-rich economies

Managing rents from minerals and  
energy



# Development Challenge for Resource-Rich Economies

Transform non-renewable resources into other forms of capital by:

- Recovery of rent by government through appropriate taxes, royalties

Indicator: % of resource rent obtained by government

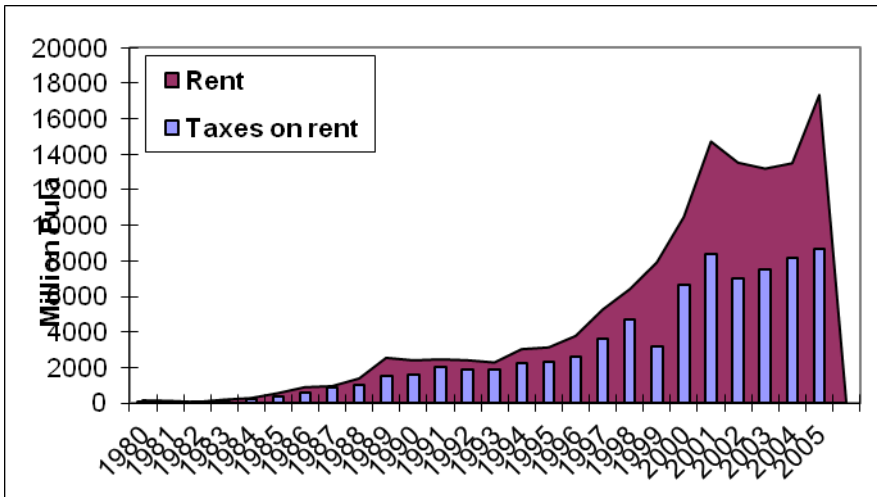
- Manage rents for long term growth—
  - Investment to compensate for depletion
  - Stabilization fund

Indicators: Fiscal rules; Comprehensive wealth or Adjusted Net Savings

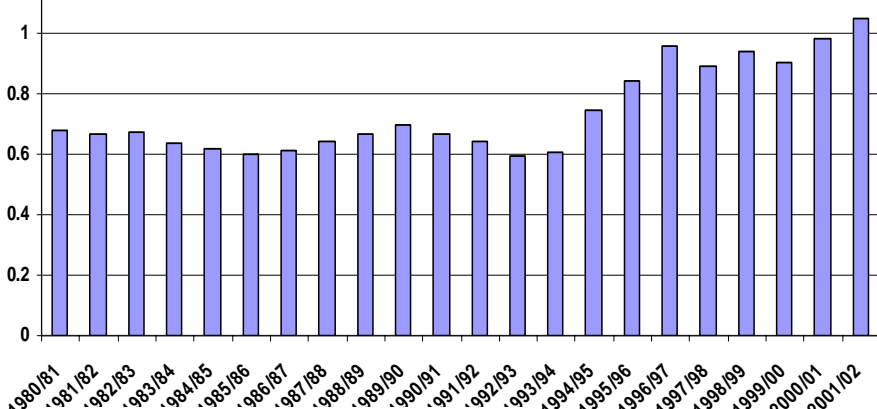


# Example: Botswana's mineral rents and long term growth

## 1. Govt. recovers mineral revenues/rent

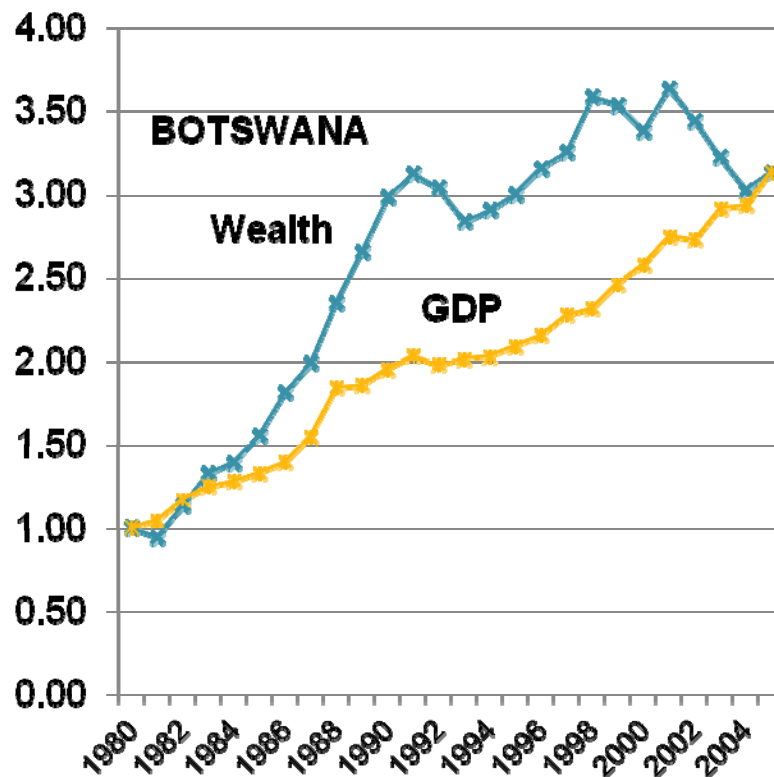


## 2. Fiscal rule-revenues are invested



## 3. Investment of mineral revenues build wealth and income

(index of real, per capita growth in wealth, GDP)



### 3. Accounting to manage a scarce resource



# Water management in Mexico using water accounts

**Mexico City basin** —planning for future water demand (water accounts + economic model)

**Campeche region:** green growth program—  
increasing efficiency of water use

- Modeling economic impact of changes in tariffs
- Identifying less water-intensive sectors for growth
- Payment for environmental services (managing forest land in watershed for water flows and quality)



# Forest accounts in Guatemala

- Limits of the forest-industry oriented model: we need more than plantations to tackle the deforestation problem
- Forest accounts showed forestry sector (5 %), illegal logging (65 %) and other unrecorded uses (30 %)



# Guatemala:

## What was new in the forest policy debate?

- New orientations of forest policy in Guatemala
  - Importance of ecosystem services –even though we did not directly estimate it!
- What is the contribution of ecosystem services?
  - Soil conservation
  - Biodiversity conservation
  - Natural disaster control
  - Micro climate regulation
  - Basin management and water
- SEEA offers a common platform for policy debates
  - Economic – Environment relationship
- Next step in research: contribution of forest ecosystem services to the whole economy

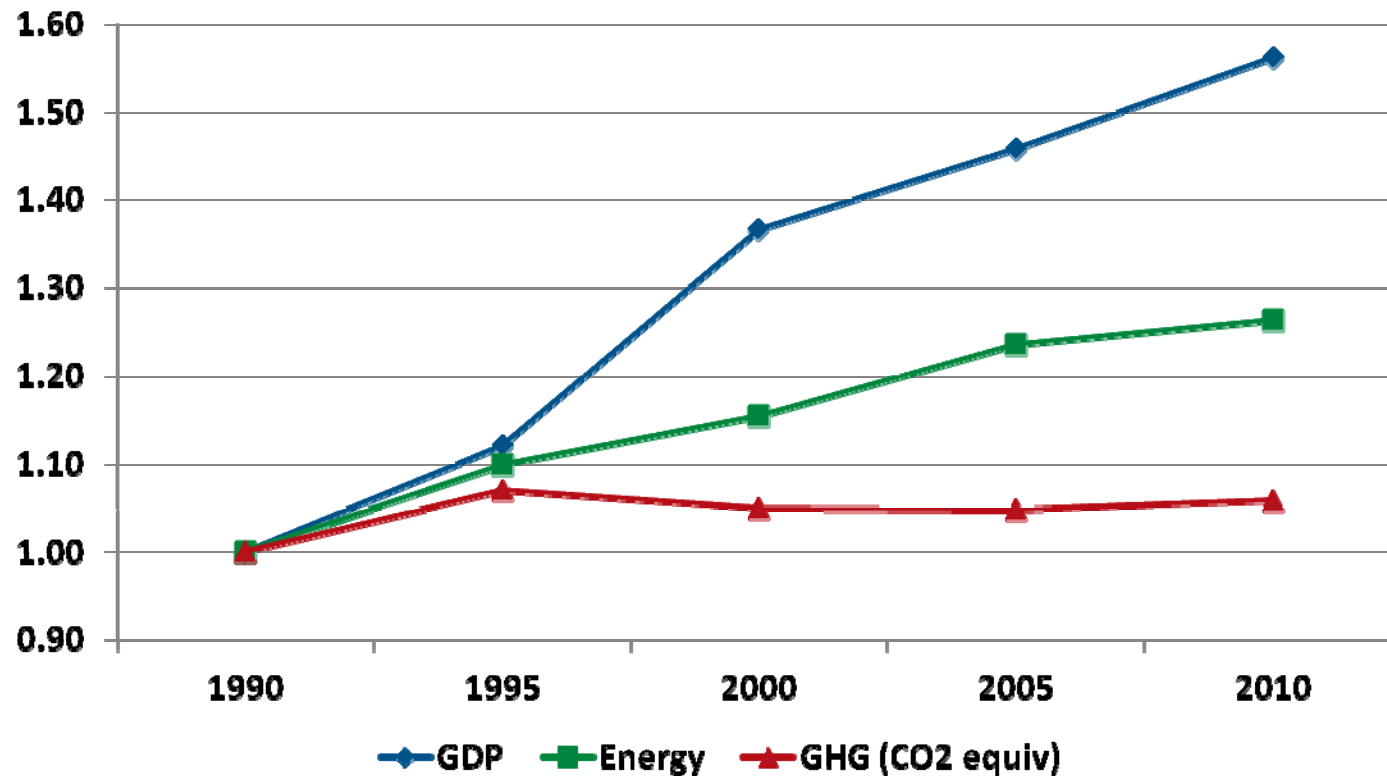
# 4. Energy and air pollution accounting

for cleaner, more efficient  
production



# Decoupling economic growth from pollution

the Netherlands, 1990-2010



## Germany – modeling to inform green growth policies



- An existing econometric model in Germany has been extended using data from the environmental accounts to create the [Panta Rhei](#) model that considers environment-economy interactions
- In recent years, the model has been used for studies of
  - [renewable energy](#) with a focus on the labour market
  - energy efficiency
  - green information technology ICT
  - material efficiency
  - energy scenarios for the German energy future



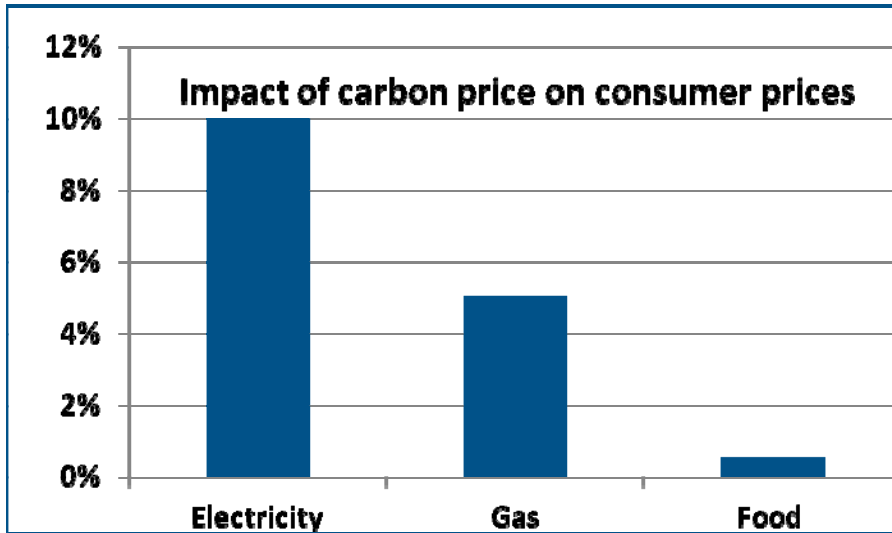
# Australia



- The Australian Bureau of Statistics released a [report](#) in 2012 highlighting actual and potential policy applications of their environmental accounts in the following areas:
  - mitigating climate change
  - adapting to climate change
  - Sustainability
  - green growth
  - managing the Great Barrier Reef
  - managing agricultural river basins
  - solid waste management

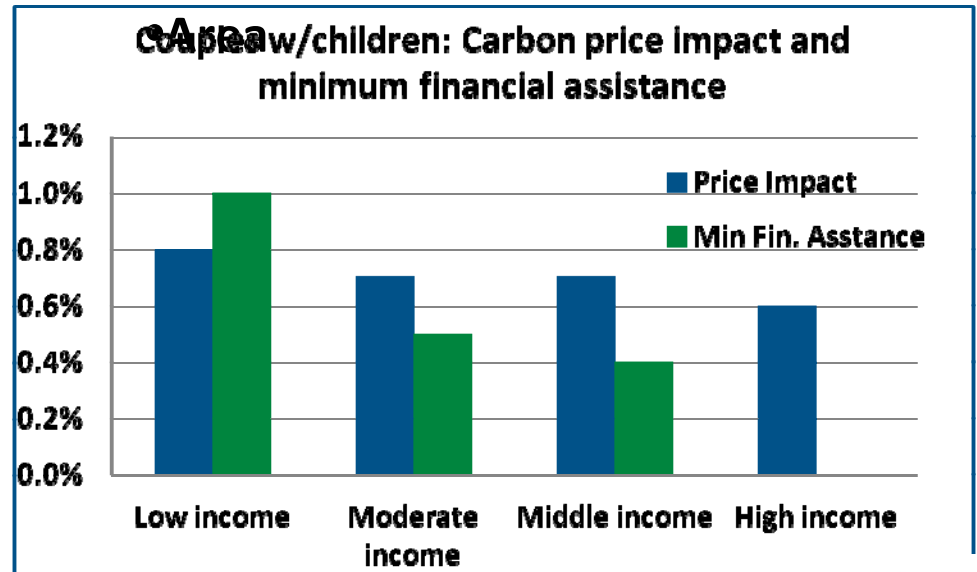


# Impact of carbon tax on households in Australia



## Estimated impact of AU\$23/ton C on households by

- Income quintile
- Size of household
- Children/no children



**Offset by tax cuts and benefits to low, moderate income households**

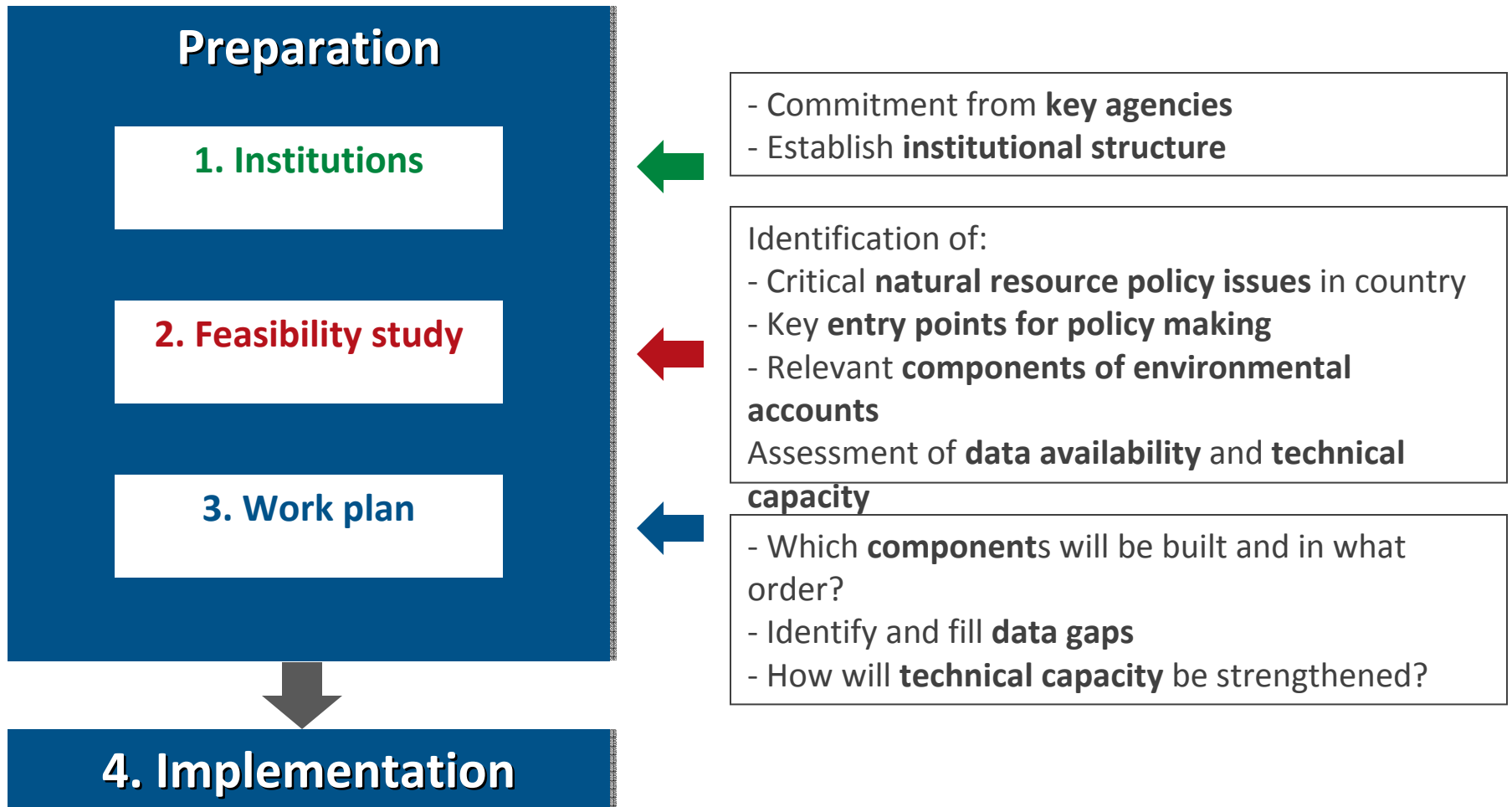


Thank you!

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



# How WAVES Core Implementing countries got started





# WAVES Implementation and Funding

## WAVES Partners

- **Core Implementing Country Partners:** receiving substantial technical support from WAVES multi-donor Trust Fund (5 countries so far)
- **10 Contributing Donor Partners:** UK, Japan, Norway, France, the Netherlands, Germany, EC, Denmark, Switzerland, (Ausaid in-kind for technical support from ABS)
- **Participating Partners:** Developed & developing countries with other sources of funding, UN & international organizations, NGOs, private sector, academics and others

## Governance

- WAVES Secretariat and management in World Bank HQ
- Global Steering Committee: UNEP, UNDP, UNCEEA, donors, WAVES-supported partner countries
- Country work managed by National Steering Committees

