



**WEALTH ACCOUNTING AND THE VALUATION OF ECOSYSTEM SERVICES**

# **Introduction to Natural Capital Accounting and the WAVES Global Partnership**



# Outline of the presentation

- 1) Background on Natural Capital Accounting (NCA)
- 2) Where has NCA been most useful?
- 3) What is the role of WAVES?
- 4) WAVES progress and some lessons

# 1. Background on NCA

“What we measure affects what we do;  
and if our measurements are flawed, decisions may be distorted.”

Joseph Stiglitz, Amartya Sen and Jean-Paul Fitoussi

“If you can’t measure it, you can’t manage it”

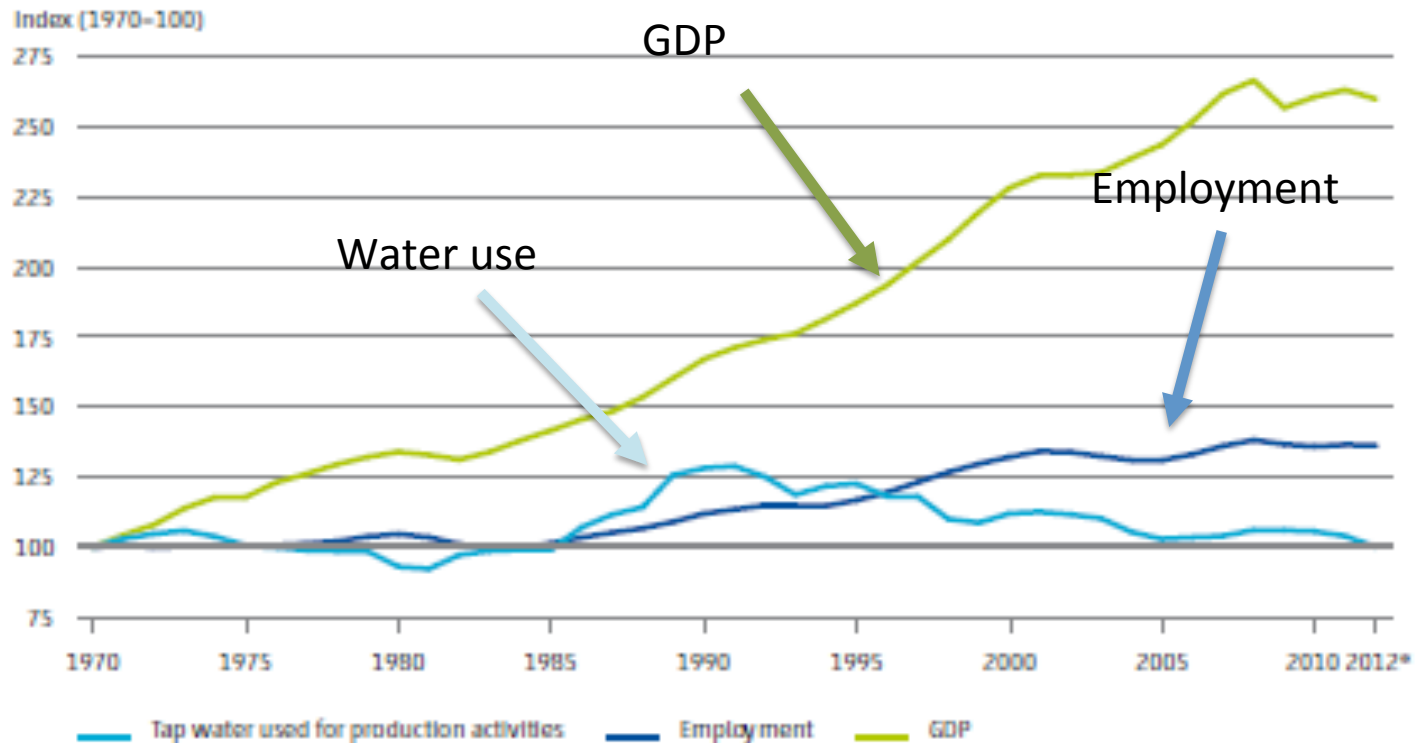
“What gets measured gets improved”

Peter Drucker

# Towards better measures of well-being

Human well-being is about more than just economic development.

## 3.1.2 Volume change GDP, employment and tap water used for production activity



Source: VEWIN, 2010; 2011; 2012; 2013; Statline 2015.





# GDP does not measure...



Wear and tear and depreciation resulting from using produced assets like factories, roads, and bridges.

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Loss of natural areas that provide ecosystem services to the economy, like pollination.

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Extent to which renewable resources like forests and fisheries are being depleted.

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Depletion of minerals and mineral fuels.

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Future losses resulting from greenhouse gas emissions – sea level rise, extreme weather, and agricultural losses.

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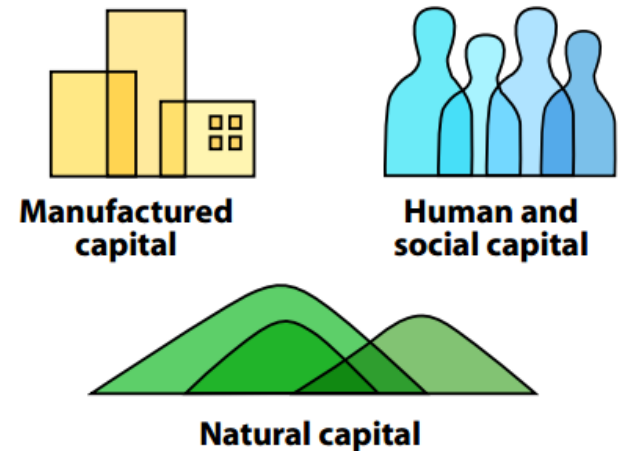
Future economic losses when pollution leads to premature deaths and chronic disease.

# Towards better measures of wealth

**Economic development is a process of building wealth and managing a portfolio of assets**

We don't judge a company solely on the basis of its income statement, we look at both income and the balance sheet.

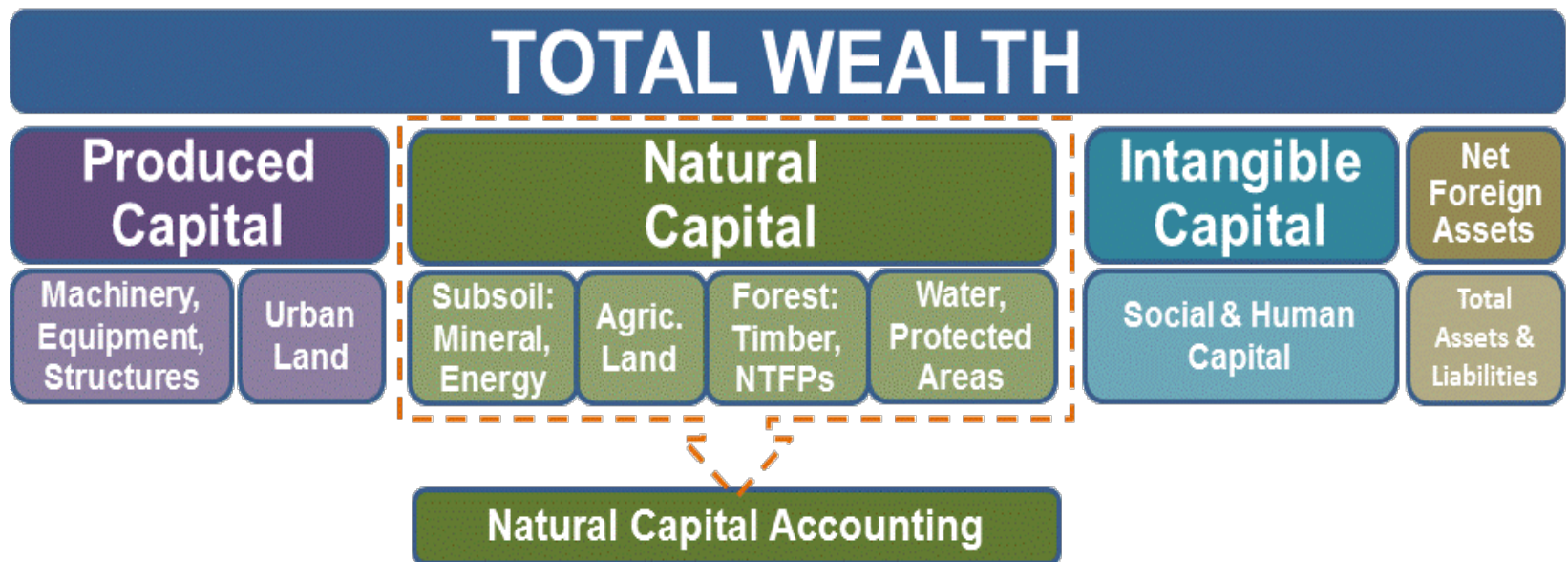
- Increasing assets (wealth) support long-term growth.
- In the short term, income can appear to grow by liquidating assets, but this undermines long-term growth.



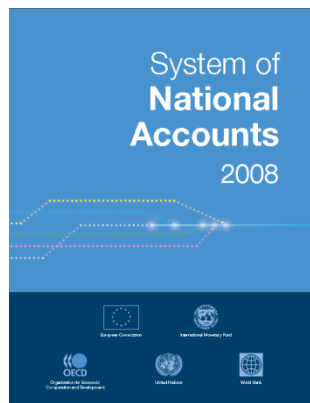
**Wealth**

# Where does NCA focus?

NCA focuses on the part of total wealth that comes from land, water, mineral, energy, soil, forests and timber, and ecosystem assets



# What is the methodology for NCA?



## Part 1. SEEA-Central Framework

Adopted by UN Statistics Commission as International Statistical Standard in February 2012



## Part 2. SEEA Experimental Ecosystem 2013



## Part 3. SEEA Applications and Policy Uses 2013

Energy

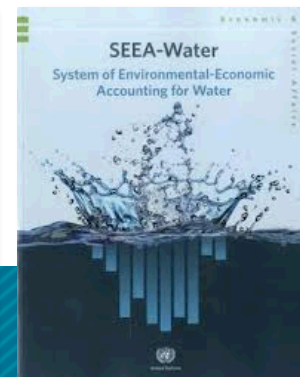
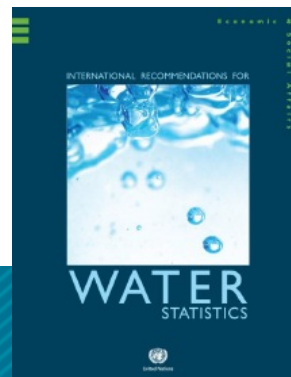
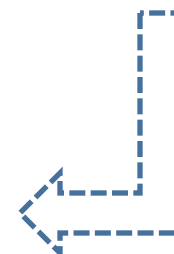
Land and Ecosystems

Forest

Fisheries



Water





## 2. Where has NCA been most useful?

1. **Indicators:** for monitoring sustainable development
2. **Water accounting:** managing a scarce resource
3. **Energy and air pollution:** cleaner, more efficient production
4. **Stocks of minerals & energy:** managing resource rents for long term growth
5. **Land and ecosystems:** balancing the needs of tourism, agriculture and other uses



# What are the main uses of NCA?

## Scorekeeping



Better indicators for **monitoring sustainable development**: Wealth and Adjusted Net Savings

## Management

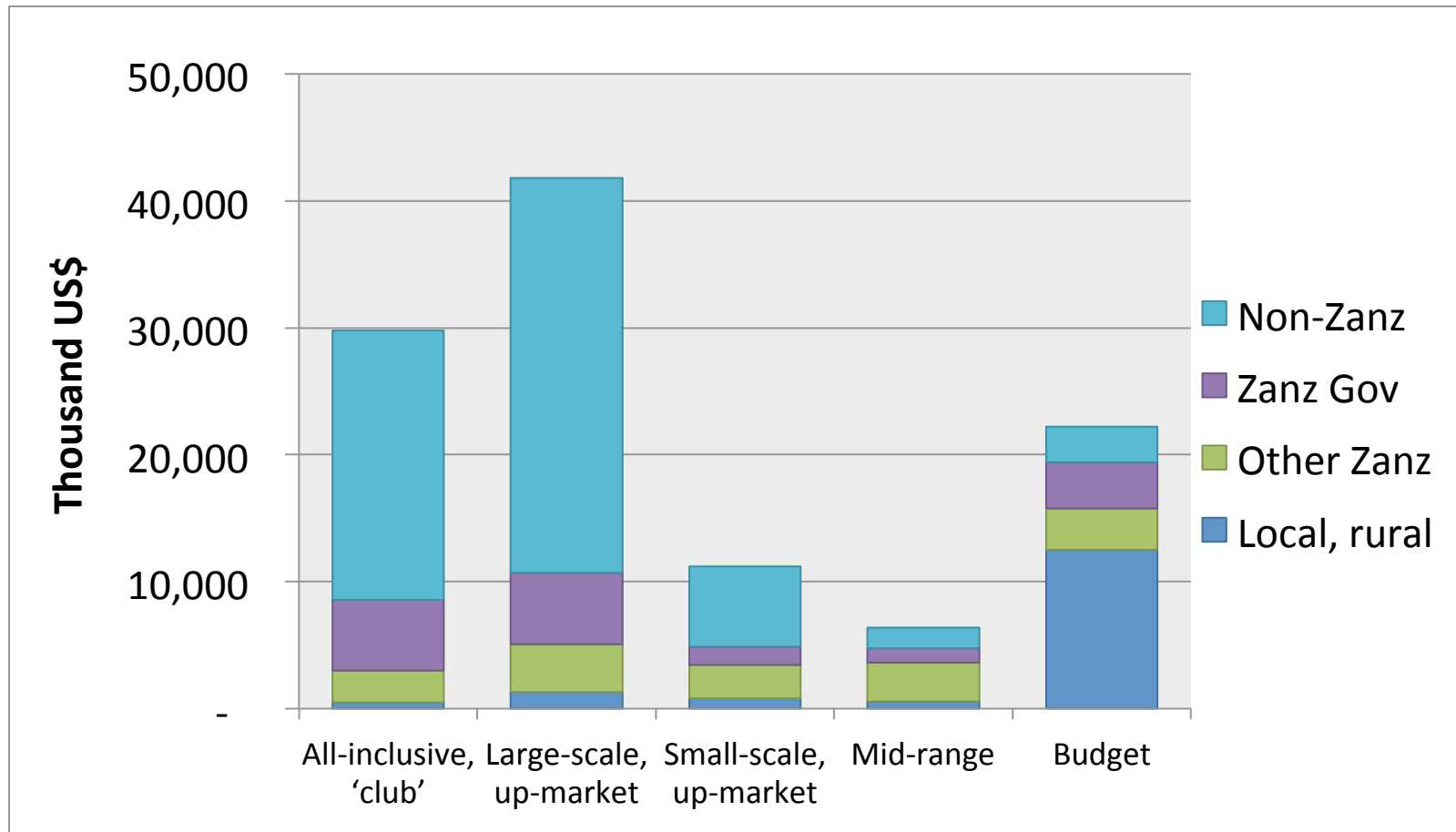


Better tools for **managing natural capital to promote growth and poverty reduction**

- Weighing trade-offs of land use
- Prioritizing investments in forest resources management, protected areas

# Land and ecosystem accounts – Zanzibar

Who benefits from different types of tourism in Zanzibar?



# Land and ecosystem accounts - Australia

## Protecting Australia's Great Barrier Reef

Major asset, source of income and jobs from:

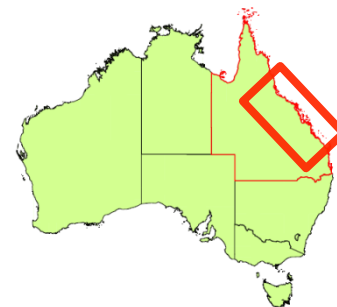
- Tourism
- Fishing industry

National icon—symbol of Australian identity

Coral reef managed well (protected from overfishing, overuse by tourism )

**BUT,**

Major threats from on-shore activities—  
sediment, pollutants (phosphorus, nitrogen) mainly  
from Agriculture



### 3. What is the role of WAVES?

*WAVES is a World Bank led global partnership that aims to mainstream Natural Capital in development planning and national economic accounts in support of sustainable development.*



## WAVES aims to...

- 1) Help countries adopt and implement accounts that are relevant for policies and compile a body of experience;
- 2) Develop ecosystem accounting methodologies;
- 3) Establish a global platform for training and knowledge sharing; and
- 4) Build international consensus around natural capital accounting.

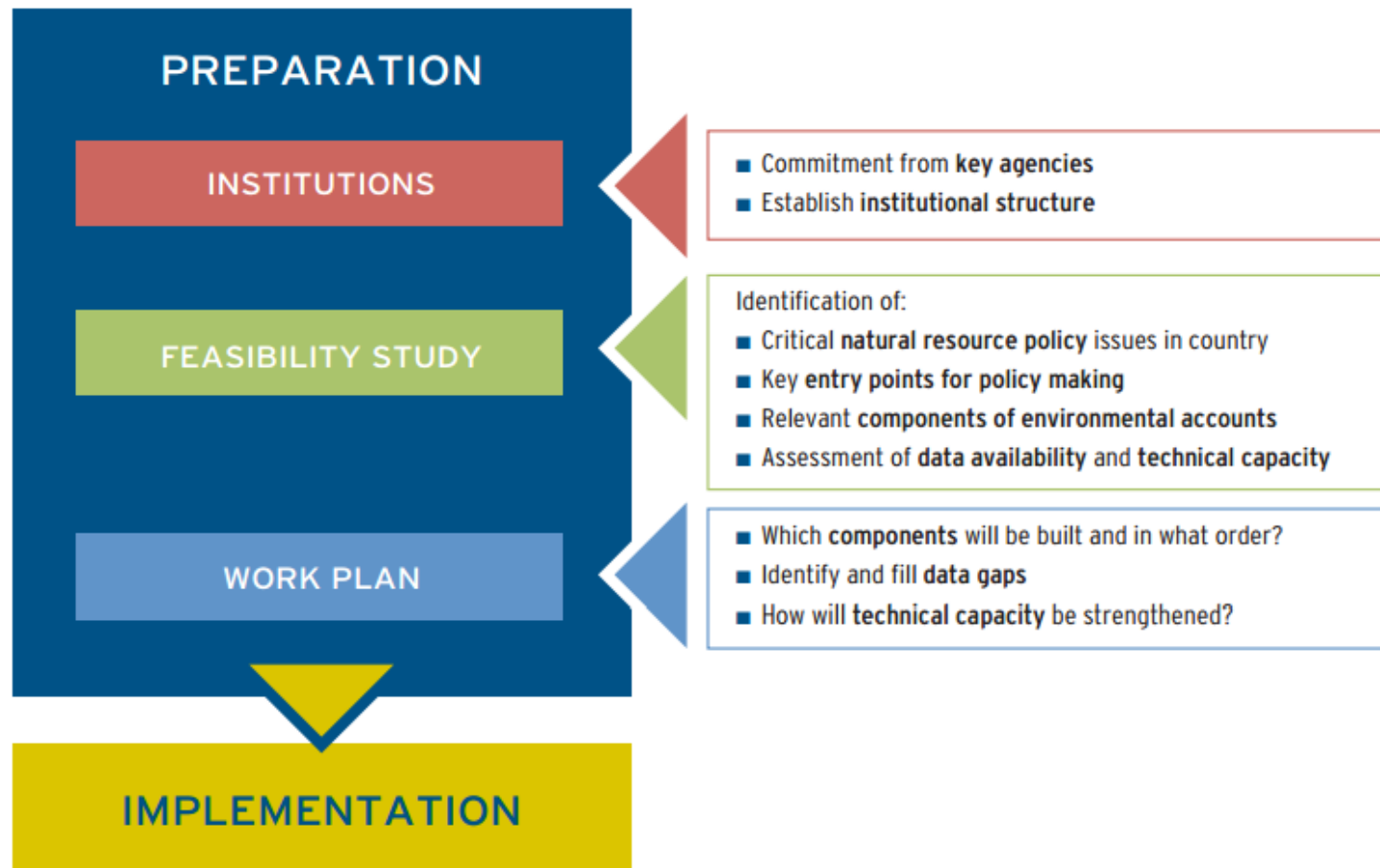


# 1. The number of countries are growing



**An additional 10-15 countries are in the pipeline for the next phase of WAVES**

# How WAVES is implemented in countries?



## 4. WAVES progress and lessons

## 2. First results: Botswana

### WATER USE AND SUPPLY

FIGURE WATER SUPPLY BY NATURAL SOURCE

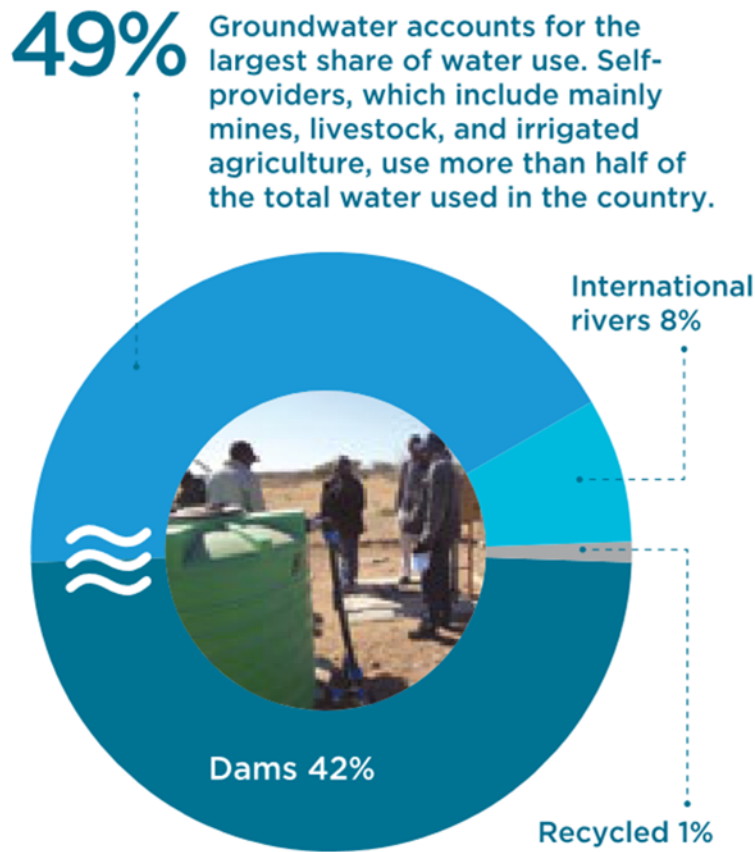
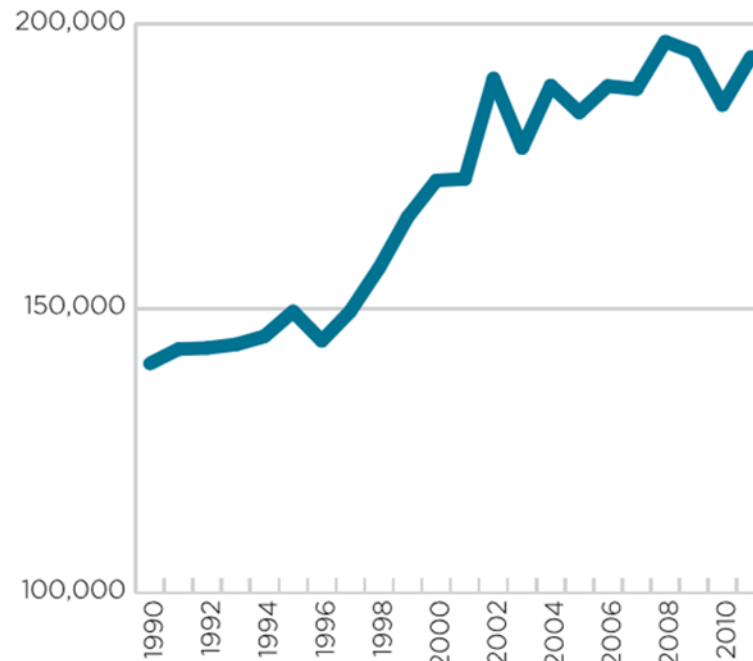


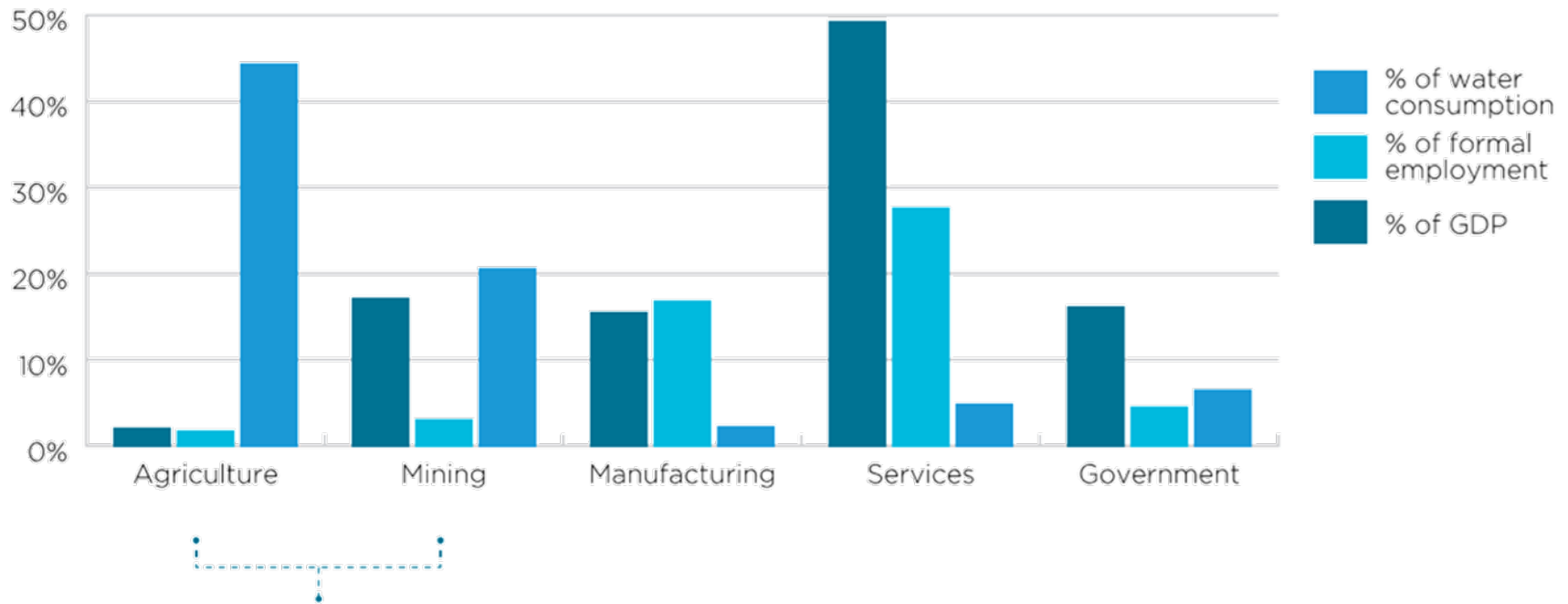
FIGURE LONG-TERM TREND IN WATER USE IN BOTSWANA (000 M<sup>3</sup>)





## 2. First results: Botswana

FIGURE 1 SECTOR SHARES IN WATER USE, GDP, AND FORMAL EMPLOYMENT, 2011



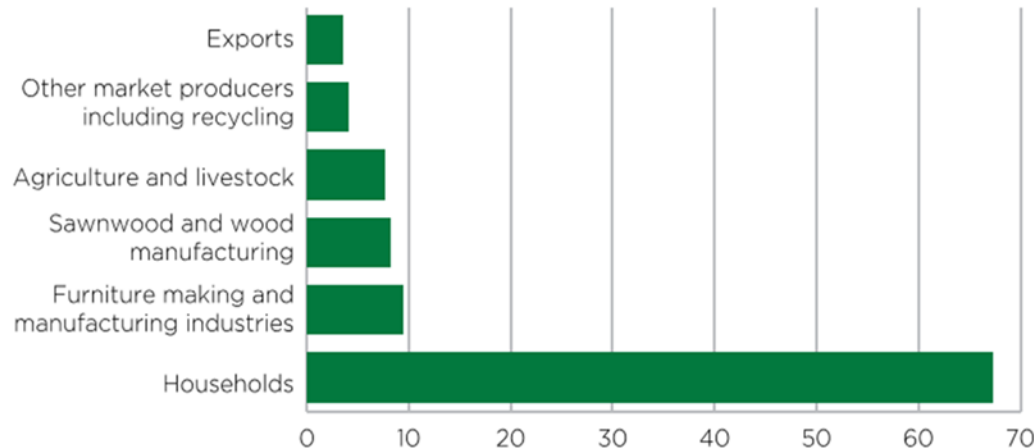
The agriculture sector (livestock and irrigation) is the highest water user (43 percent), followed by households and the mining sector. Agriculture is the major user of water, but it is a low contributor to GDP and formal employment. However, agriculture supports a large share of informal employment, providing a critical social safety net. By contrast, mining uses less water but contributes significantly to GDP.



## 2. First results: Guatemala

### FOREST USE AND USERS

FIGURE FORESTS SUPPLY BY NATURAL SOURCE

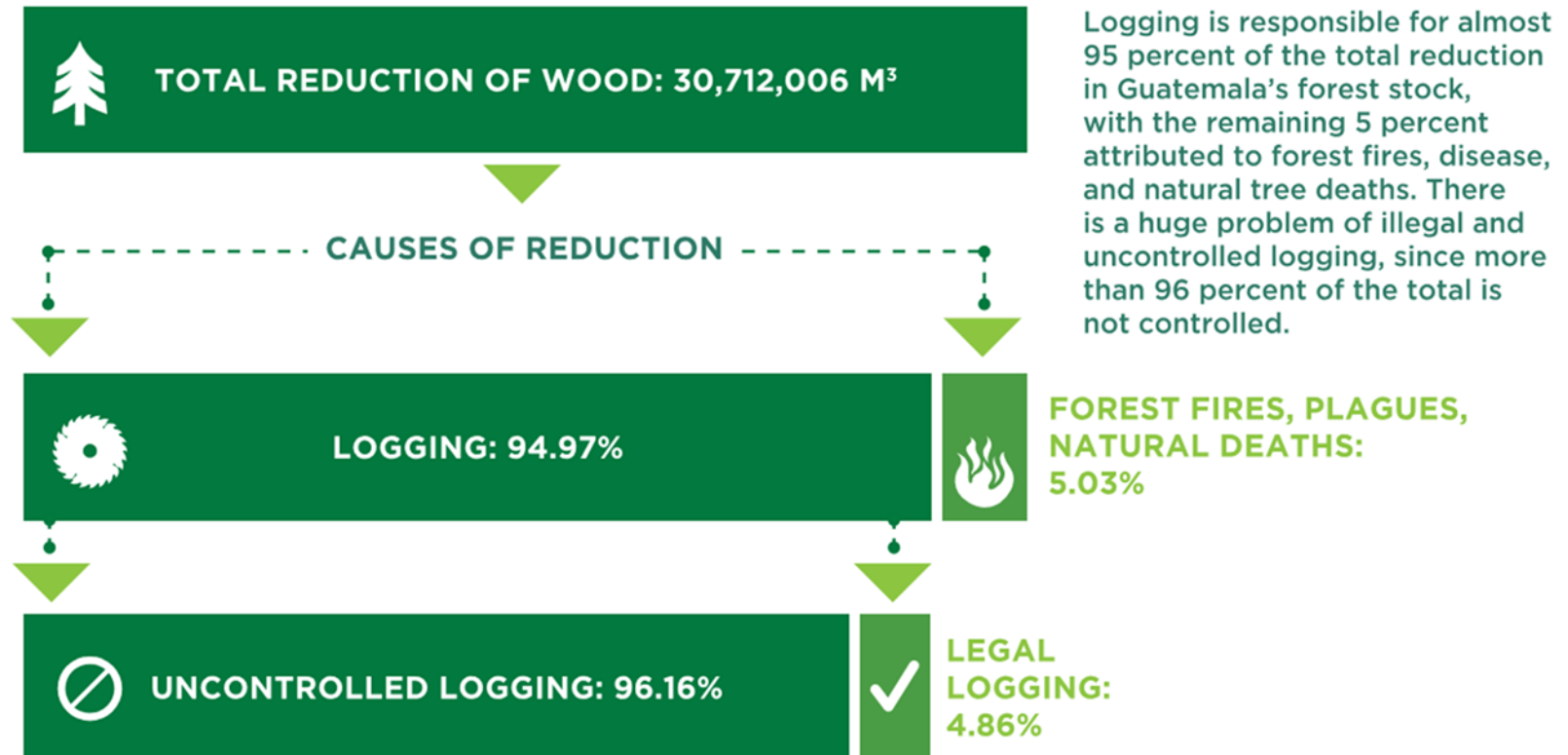


Guatemala's households use more than 67 percent of the national forest assets, which include timber, non-timber forest products, and wild animals. Ninety-two percent of the total use from households is for fuel wood, to meet basic needs such as cooking. Intermediate consumers use forest products for the production of other materials, and the country's fledgling forestry industry exports some products.

## 2. First results: Guatemala

### LOGGING OF FOREST ASSETS

FIGURE 1 REDUCTION OF FOREST ASSETS (M3), 2006



### 3. Global engagement

- Post-2015 Development Agenda
- Working with partners
- Communities of Practice
- Regional trainings and technical meetings
- Working with the private sector



#### Natural capital protocol



TEEB  
UNDP  
Poverty Environment Initiative  
International Union for Conservation of Nature  
AUSTRALIAN BUREAU OF STATISTICS  
Ecosystem Services for Poverty Alleviation  
Conservation International  
The Nature Conservancy  
The Natural Capital Coalition  
UNCEEA  
World Resources Institute  
European Space Agency  
UNEP  
Green Growth  
GLOBE  
UN STATISTICS DIVISION  
GIZ



## 4. Progress on developing methodologies

- Field testing ecosystem accounting
- Compiling policy applications
- Training and capacity development in forest ecosystem accounting



WORKING  
TOGETHER

CENTER FOR  
INTERNATIONAL  
FORESTRY  
RESEARCH  
(CIFOR)

UN STATISTICS  
DIVISION (UNSD)

UNIVERSITY  
OF  
WAGENINGEN

POLICY AND  
TECHNICAL  
EXPERTS  
COMMITTEE  
(PTEC)

CONSERVATION  
INTERNATIONAL  
(CI)

FOOD AND  
AGRICULTURE  
ORGANIZATION  
(FAO)

## 5. Integration of Wealth accounting in WB operations

- Wealth indicators
- Working through Development Policy Loans (DPLs)





## 6. Communicating NCA

Since the newsletter's launch, both the number of visits—and visitors—to the WAVES website doubled compared to the previous year. Over the past year, we had **28,500 visits** and nearly **75,000 page views** (March 2013–March 2014).



#NaturalCapital



International Institute  
for Environment  
and Development

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

## WEALTH ACCOUNTING AND THE VALUATION OF ECOSYSTEM SERVICES

### **MAKING WAVES**

If you are interested in sharing your experience in natural capital accounting, or in learning more about how to implement it, we would love to hear from you. Please contact [waves@worldbank.org](mailto:waves@worldbank.org)

Find out more about WAVES at [www.wavespartnership.org](http://www.wavespartnership.org)

Available in Spanish at [www.wavespartnership.org/esp](http://www.wavespartnership.org/esp)

