GREEN GROWTH
Knowledge Platform

Bringing Natural Capital into National Green Growth Policy: Lessons from Africa

13 September 2017

Need technical support? Email: contact@ggkp.org

Supported by:
Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra
MAVA
FONDATION POUR LA NATURE

The 5th Green Growth Knowledge Platform Annual Conference

GREEN GROWTH
Knowledge Platform

Sustainable Infrastructure

Leading researchers will explore key aspects of the infrastructure agenda, including the policy and regulatory framework, finance, climate change adaptation, low carbon pathways, energy, transportation, nature-based solutions and more.

27-28 November 2017
Washington DC, USA

Moderator:

Alice Akinyi Kaudia
Environment Secretary, Kenyan Ministry of Environment

Presentations by:

Steven King
Environmental Economist,
UNEP-WCMC

Eoin Sinnott
Director,
Valuing Nature Initiative, WWF-US

Katia Karousakis
Biodiversity Team Leader,
OECD

MAINSTREAMING NATURAL CAPITAL AND GREEN GROWTH

Insights from Africa and other countries

Katia Karousakis
OECD Environment Directorate
katia.karousakis@oecd.org

GGKP webinar, 13 September 2017

OECD
BETTER POLICIES FOR BETTER LIVES

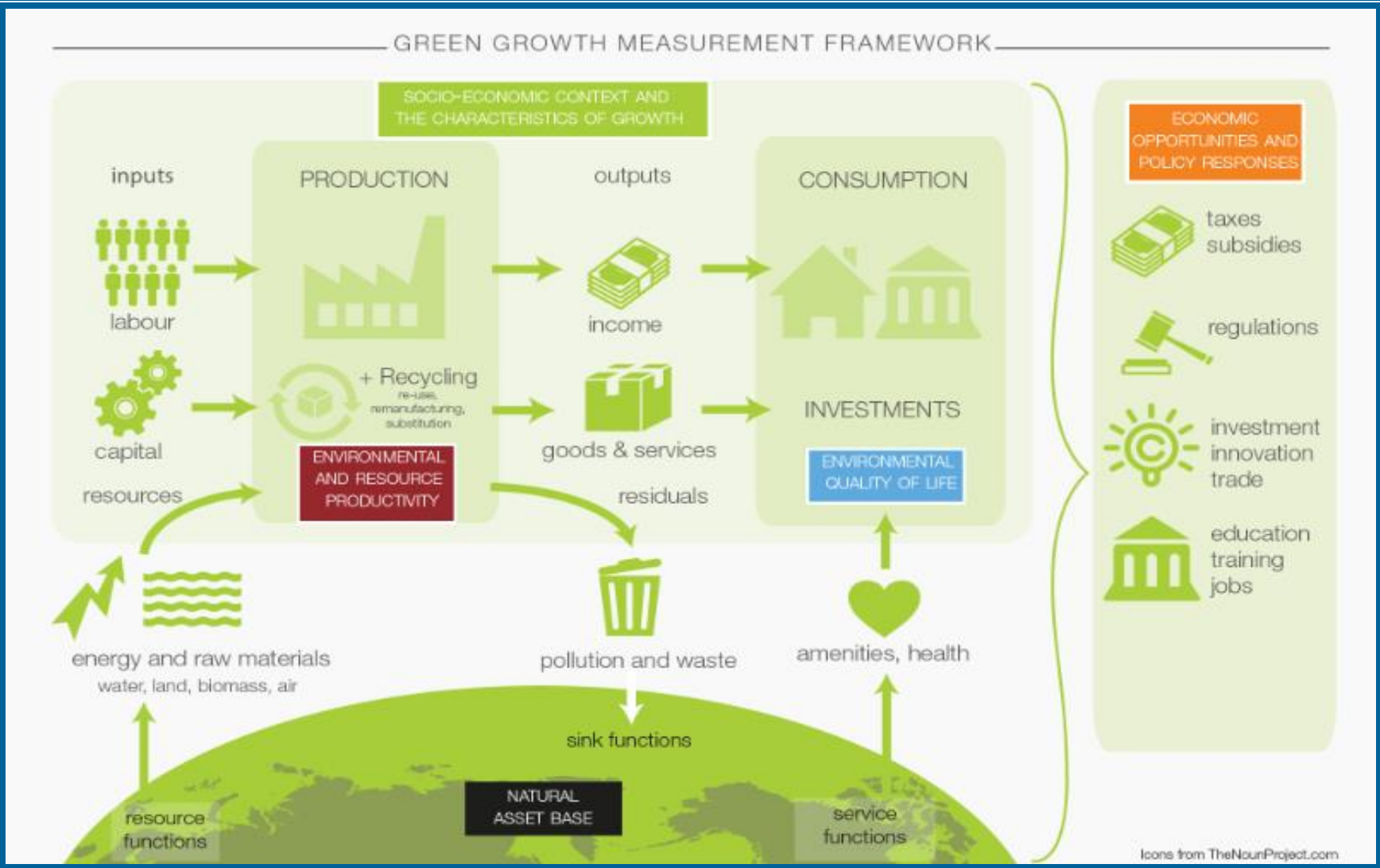
- Both the UNEP-WCMC and WWF presentations will relate to **measurement** issues

- How can natural capital measurement and accounting be used for policy-making?
- What types of policies can countries put in place to balance e.g., infrastructure development needs and natural capital?

Bearing in mind that you cannot manage what you cannot measure…

- The OECD's main role is to provide **evidence-based policy advice**

OECD work on green growth and on green growth indicators



www.oecd.org/greengrowth/

Decoupling and indicators on natural capital

- For natural capital, the OECD green growth indicators encompass:
  - Land cover and land use change
  - Forest resources
  - Freshwater – endowment and abstraction intensities
  - Biodiversity – threatened species, PA coverage

Source: OECD (2017), Green Growth Indicators 2017

Mainstreaming biodiversity in South Africa

- Insights from mainstreaming biodiversity in land use planning, mining, water, infrastructure, and agriculture
- Core to mainstreaming has been **spatially explicit biodiversity mapping**

Barriers/challenges	Key ingredients for success
Timing	Good science
Demanding skill set	Genuine links to development objectives
Measurement challenges re: success or impact of efforts	Good communication
	Readiness to seize windows of opportunity

Manuel, J., et al. (2016), "Key Ingredients, Challenges and Lessons from Biodiversity Mainstreaming in South Africa: People, Products, Process", *OECD Environment Working Papers*, No. 107.

Mainstreaming biodiversity and development (on-going work)

- Examining insights from 16 predominantly megadiverse countries - including Ethiopia, Madagascar and South Africa

- Types of questions examined:
  - To what extent is biodiversity mainstreamed in national development plans, green growth strategies, NSDS?
  - What is the role of data and information?
  - How is biodiversity mainstreamed in agriculture, forestry and fisheries sectors?
  - What indicators, if any, are being used to monitor results?

Mainstreaming biodiversity in Ethiopia, Madagascar, South Africa (*preliminary insights*)

- Example: mainstreaming biodiversity in national development plans

	Strategic direction	**Actions/ targets**	**Indicators**
Ethiopia	◐	●	●
Madagascar	●	◐	◐
South Africa	●	●	○

Source: (OECD, forthcoming) *Biodiversity and Development: Mainstreaming and Management for Results*

Examples of indicators in NBSAPs

- Several NBSAPs refer to indicators to monitor progress towards mainstreaming. Examples:
  - **Number of tools** developed to support mainstreaming of biodiversity assets and ecological infrastructure in production sectors and resource management (**South Africa**)
  - Rate of **annual conversion of habitats** into agricultural land (**Ethiopia**)
  - Percentage of important degraded ecosystems effectively recovered OR **Rate of loss of natural forests** and water surface area due to land-use conversion (**Viet Nam**)
  - Trends in identification, assessment, establishment and **strengthening of incentives** that reward positive contribution to biodiversity and ecosystems. Monitoring/Reporting frequency: every three years (**India**)
  - In other countries (e.g. Australia, France, Mexico) development of indicators is an action in the NBSAP (no indicators included yet)

Source: (OECD, forthcoming) *Biodiversity and Development: Mainstreaming and Management for Results*

National databases and assessments relevant to mainstreaming

- **Madagascar**: National Environmental Dashboard generates reports on the status of the environment
  - Tool for decision and research and training activities at the country level
  - 90% of the regions have their own dashboard updated regularly
- **France**: National assessment on public subsidies harmful to biodiversity (Sainteny et al. 2012)
- **South Africa**: National Biodiversity Assessment (NBA) includes online spatial information on biodiversity priority areas
- **Brazil**: Satellite-based deforestation monitoring system for the Amazon biome has enabled the enforcement and monitoring of actions against deforestation

Source: incl. OECD Environmental Performance Reviews (EPRs) for relevant countries

Thank you!

Key areas of OECD work on Biodiversity, Land Use and Ecosystems (BLUE)

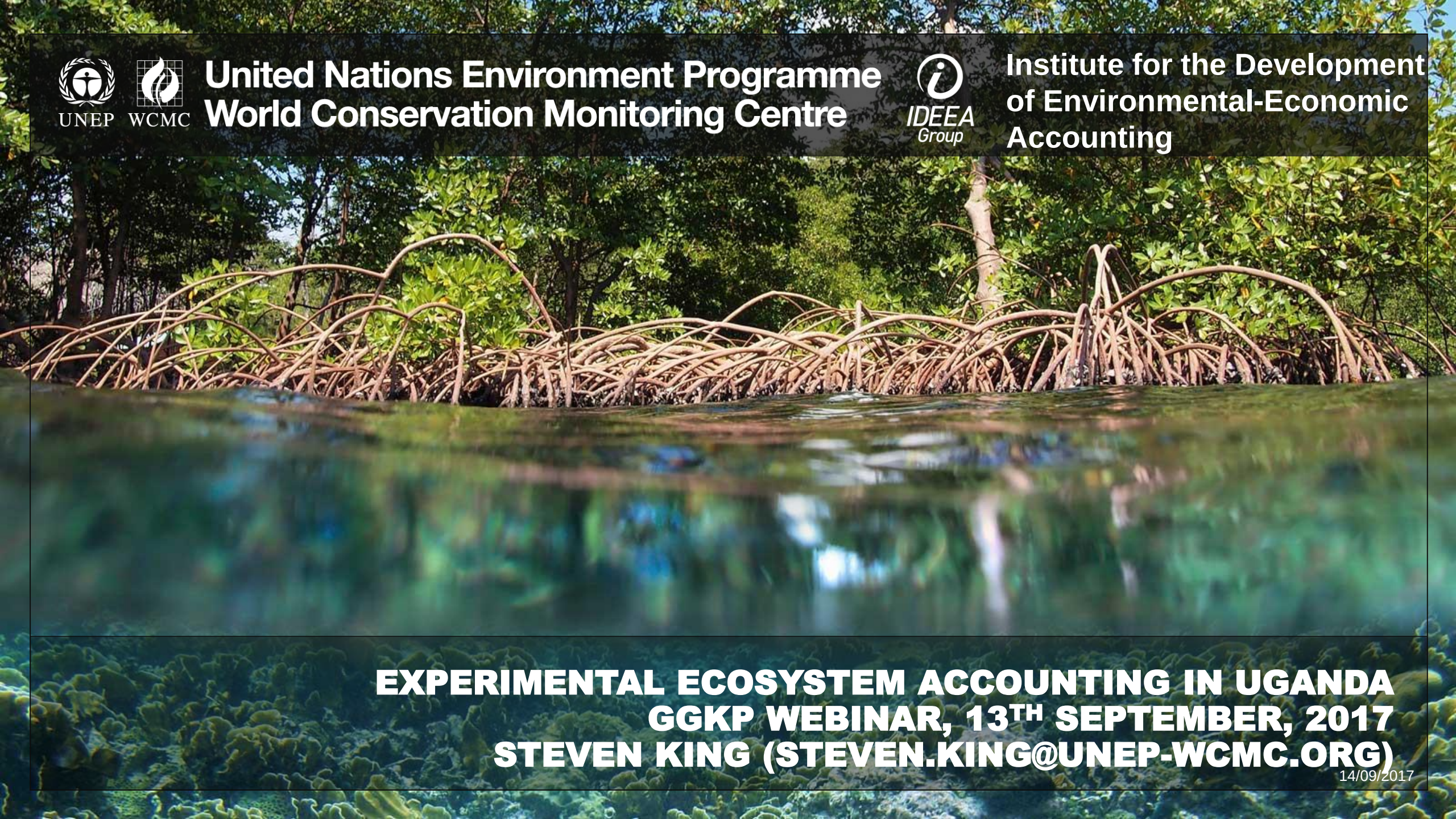
- Biodiversity Indicators, Valuation and Assessment
- Economic Instruments, Incentives and Policies for Biodiversity
- Biodiversity Finance, Development and Distributional Issues

Recent and forthcoming work

- *Biodiversity and Development: Mainstreaming and Managing for Results (OECD, forthcoming)*
- *The Political Economy of Biodiversity Policy Reform* (OECD, 2017)
- *Marine Protected Areas: Economics, Management and Effective Policy Mixes* (OECD, 2017)
- *Biodiversity Offsets: Effective Design and Implementation* (OECD, 2016)
- Biodiversity Policy Response Indicators (OECD ENV Working Paper No. 90, 2015)
- Biodiversity and Development Co-operation (OECD DCD Working Paper No. 27, 2015)
- *Scaling Up Finance Mechanisms for Biodiversity* (OECD, 2013)

Visit: **www.oecd.org/env/biodiversity**

www.oecd.org/environment/resources/mainstreamingbiodiversity.htm



United Nations Environment Programme
World Conservation Monitoring Centre

Institute for the Development of Environmental-Economic Accounting

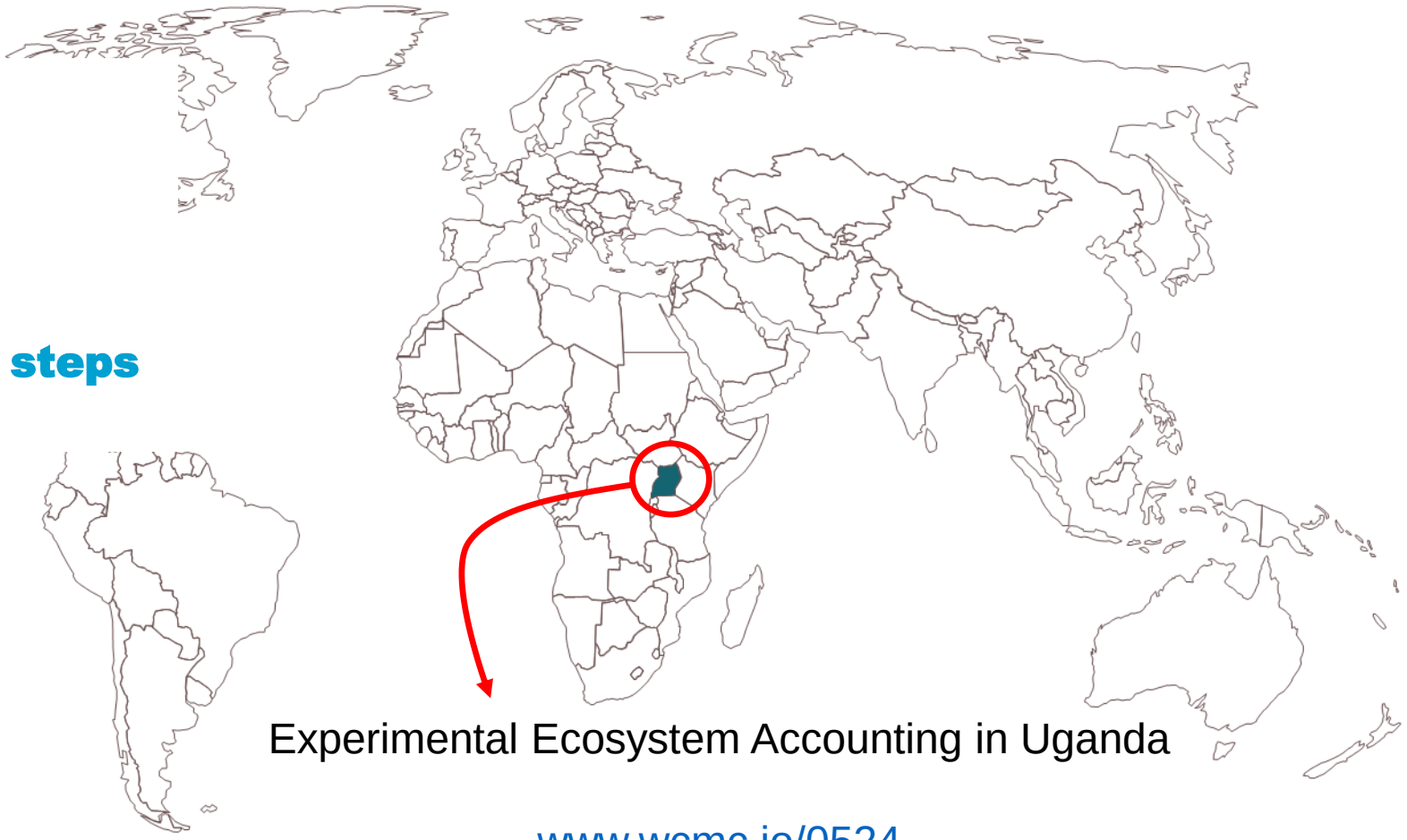
EXPERIMENTAL ECOSYSTEM ACCOUNTING IN UGANDA

GGKP WEBINAR, 13TH SEPTEMBER, 2017

STEVEN KING (STEVEN.KING@UNEP-WCMC.ORG)

PRESENTATION OUTLINE

1. **Policy entry points**
2. **The approach**
3. **Some results**
4. **Some insights & next steps**



Experimental Ecosystem Accounting in Uganda

www.wcmc.io/0524

POLICY ENTRY POINTS

- **National Development Plan (NDP) II (by 2020) - goals**
  - **Ensuring the rational and sustainable use, development and effective management of the environment and natural resources (ENR) in pursuit of sectoral growth and socio-economic development**
  - **Implementation of the SDGs (SDG1: End poverty; SDG12: Sustainable production and consumption; and SDG15: Halt and reverse land degradation and biodiversity loss)**
- **Green Growth Development Strategy**
  - **Objective: Economic growth via, *inter alia*, optimal use of natural capital**
  - **Outcome: Sustainable Biodiversity and Ecosystem Management**
- **NBSAP II (by 2020)**
  - **Target 1.1: Biodiversity values integrated in to national and local development plans, budgets and policy statements**
  - **Target 3.1: At least 17% of terrestrial ecosystems are conserved through a well-connected systems of protected areas for socio-economic benefit of the population**

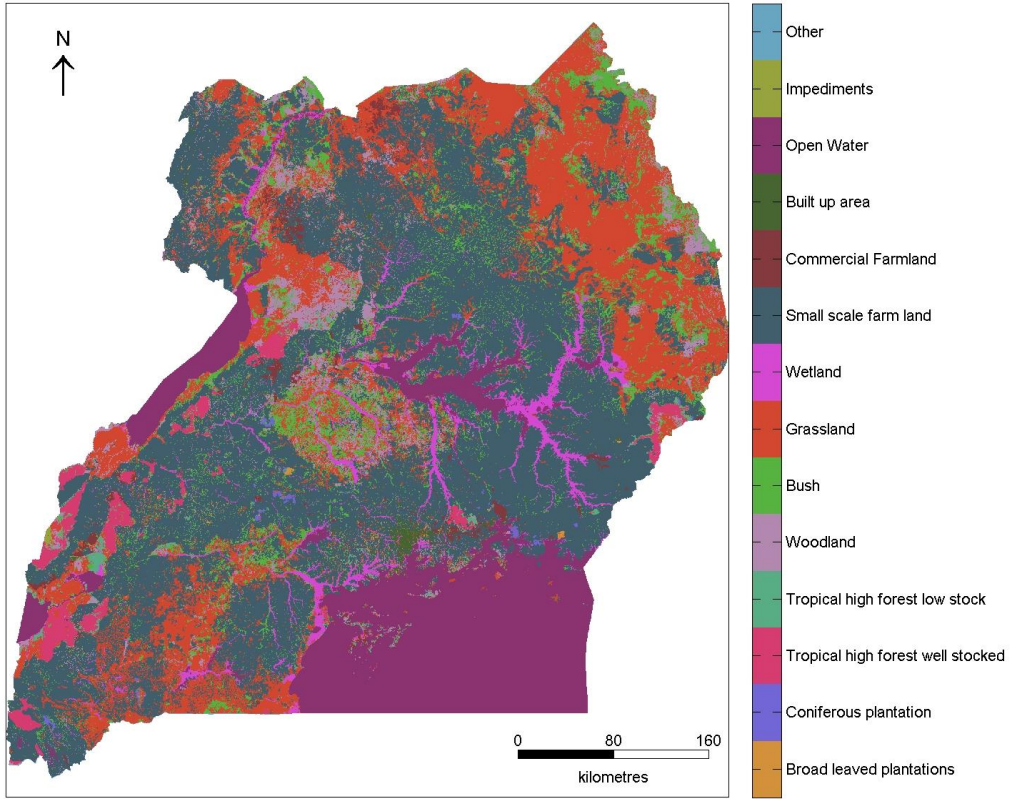
THE APPROACH – A SEEA APPLICATION

NATIONAL LAND COVER DATA

Digital maps of land cover produced for 1990, 2005, 2010 and 2015

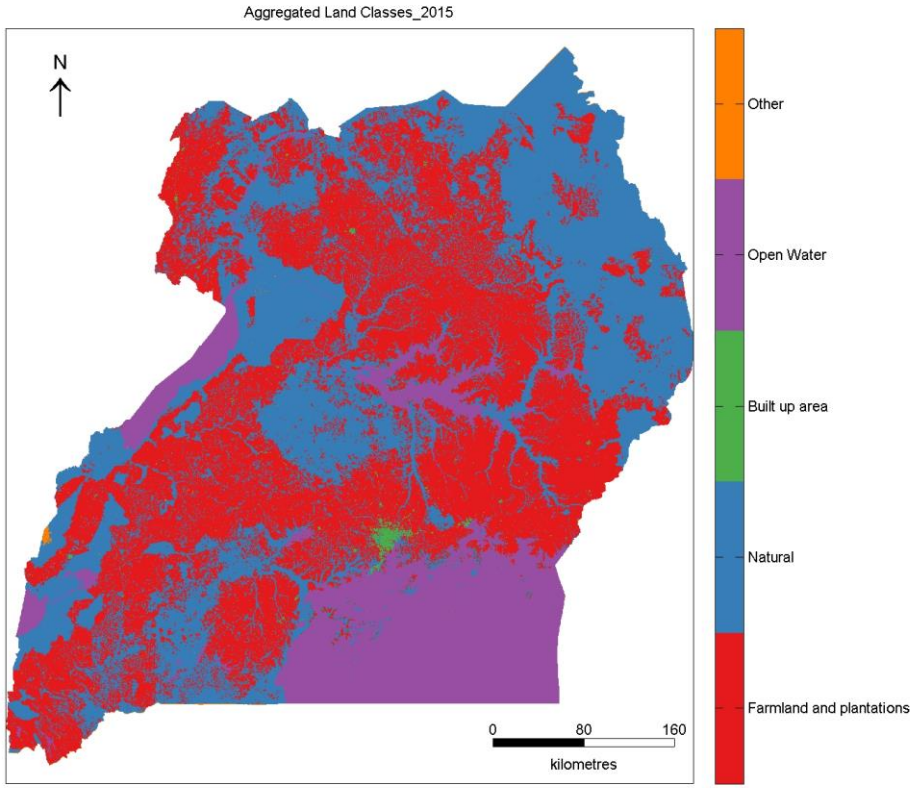
NBS Code	NBS Class	Derived Class
3	Tropical high forest well stocked	Natural
4	Tropical high forest low stocked	Natural
5	Woodland	Natural
6	Bush	Natural
7	Grassland	Natural
8	Wetland	Natural
1	Broad leaved plantations	Farmland and plantations
2	Coniferous plantation	Farmland and plantations
9	Small scale farm land	Farmland and plantations
10	Commercial farmland	Farmland and plantations
11	Built-up area	Built up area
12	Open water	Open water
13	Impediments	No data

AGGREGATED NBS CLASSES



produced using EnSym®

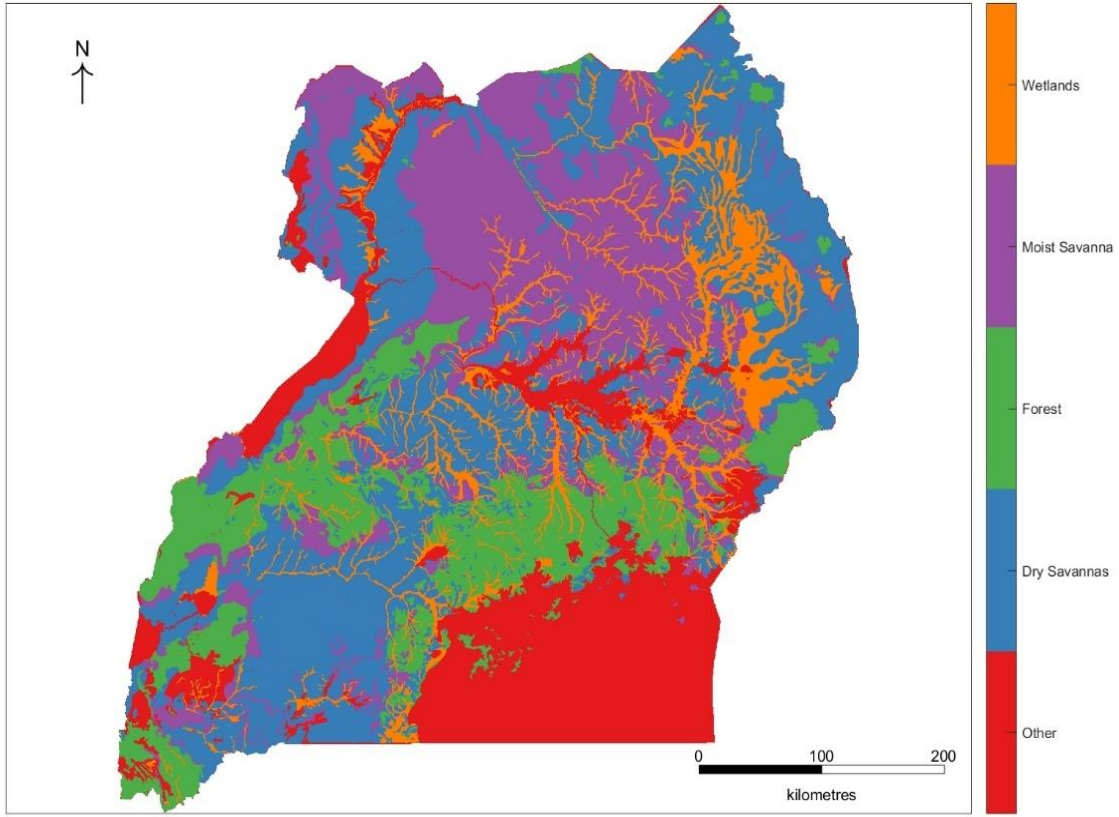
Extent of NBS Land Cover Classes

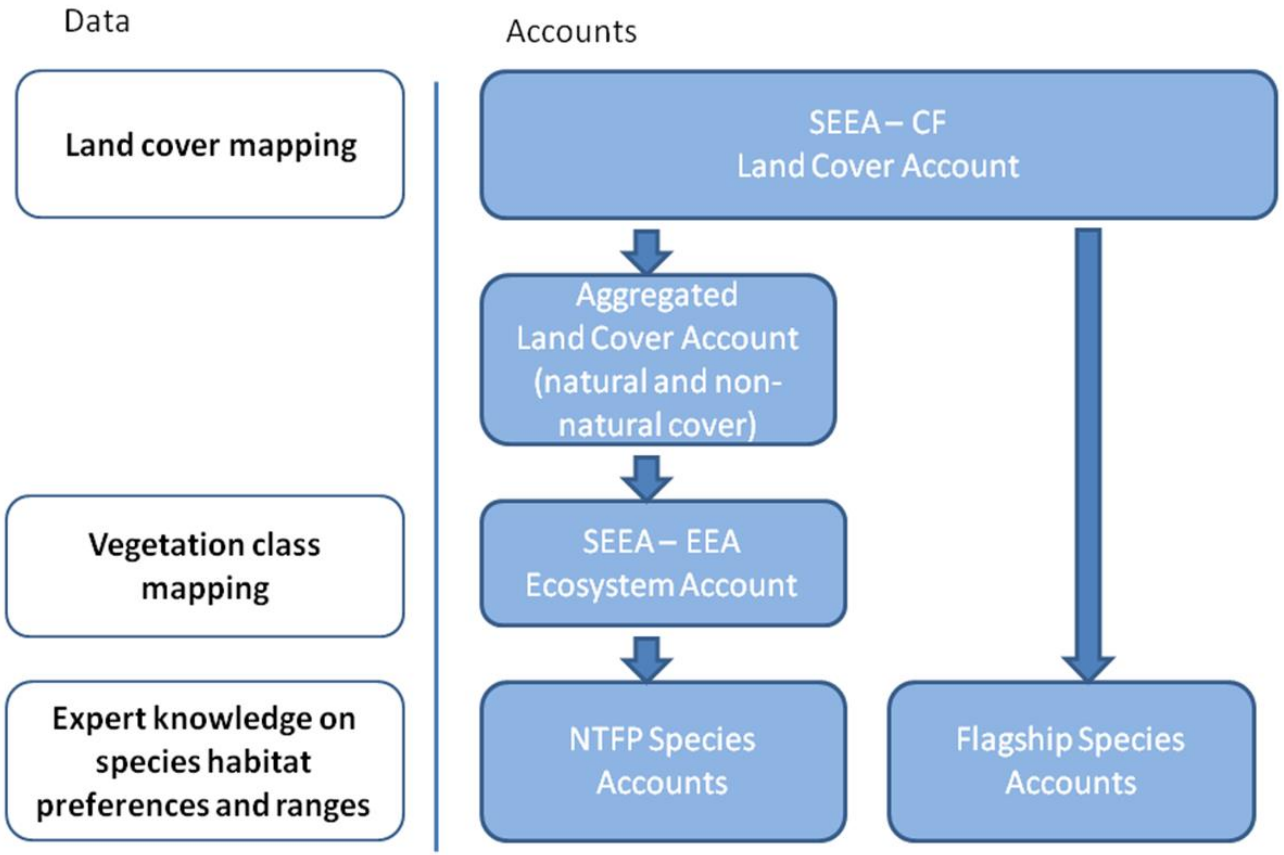


produced using EnSym®

Natural Land Cover / Use in Blue (aggregated NBS Classes)

ECOSYSTEMS DATA



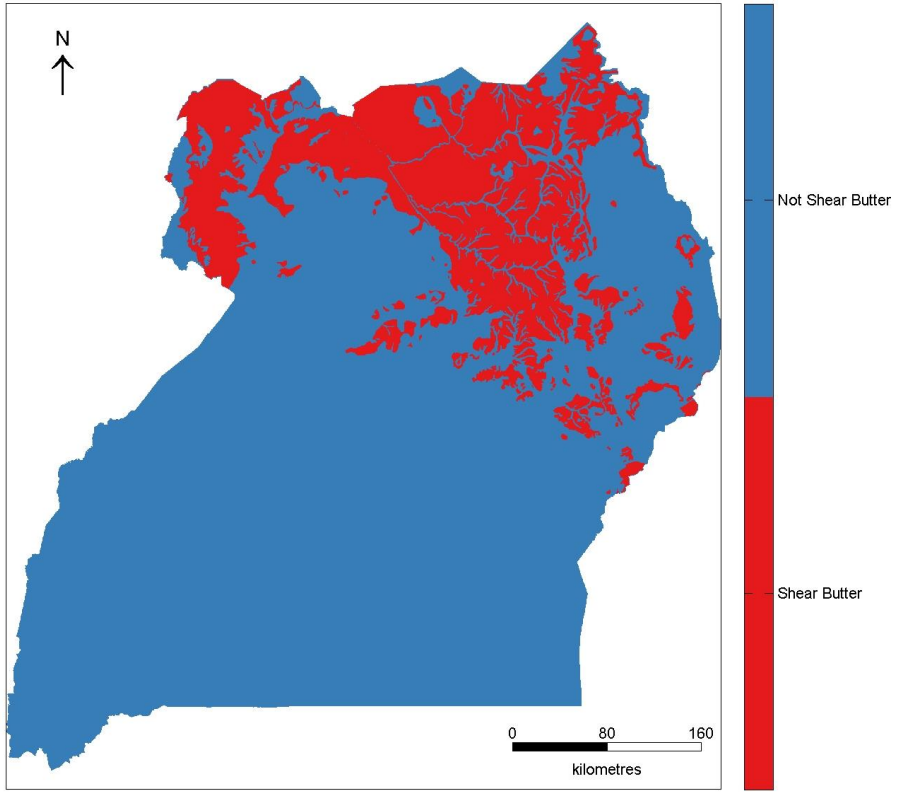


produced using EnSym

Original extent of ecosystems in Uganda

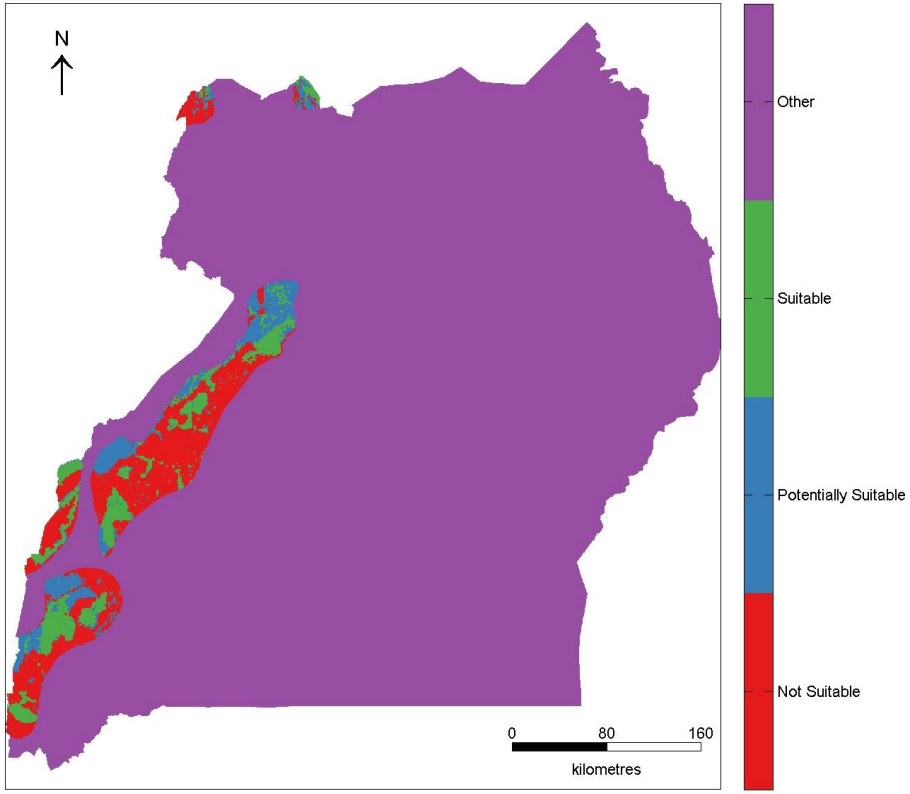
Based on Pomeroy et al. (2002) – http://pdf.usaid.gov/pdf_docs/pnacy477.pdf
Driver et al. (2015) - http://www.statssa.gov.za/wp-content/uploads/2016/08/Land-and-Ecosystem-Accounting-in-KZN-Discussion-Document-FINAL.pdf

NTFP AND FLAGSHIP SPECIES DATA



produced using EnSym

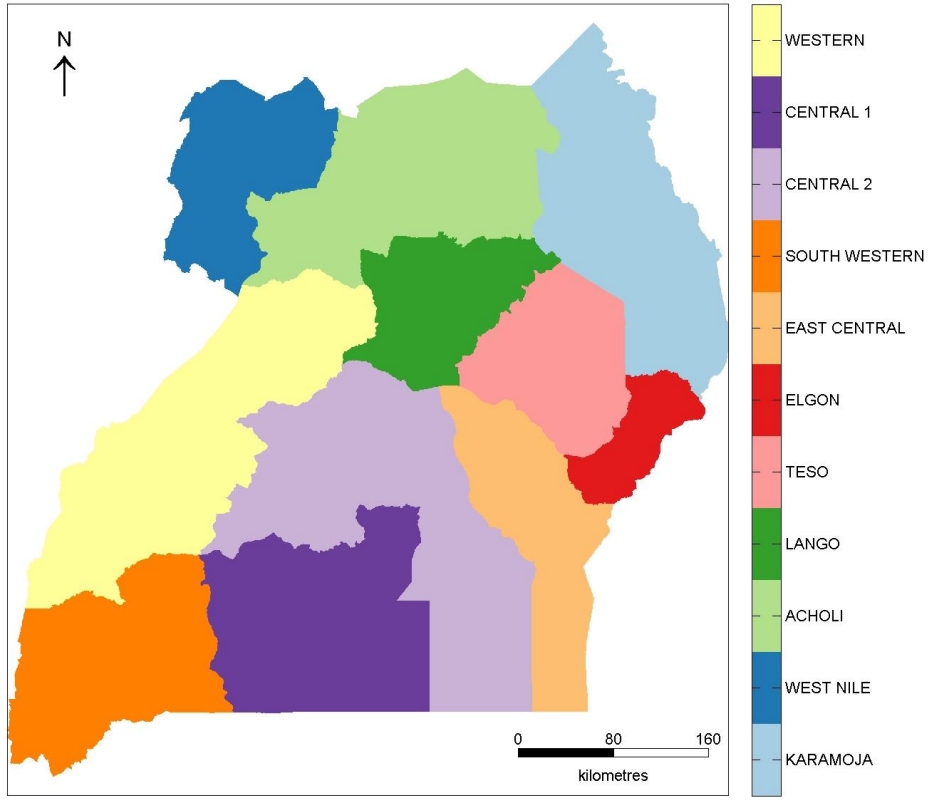
Original extent of Shea tree suitable habitat



produced using EnSym

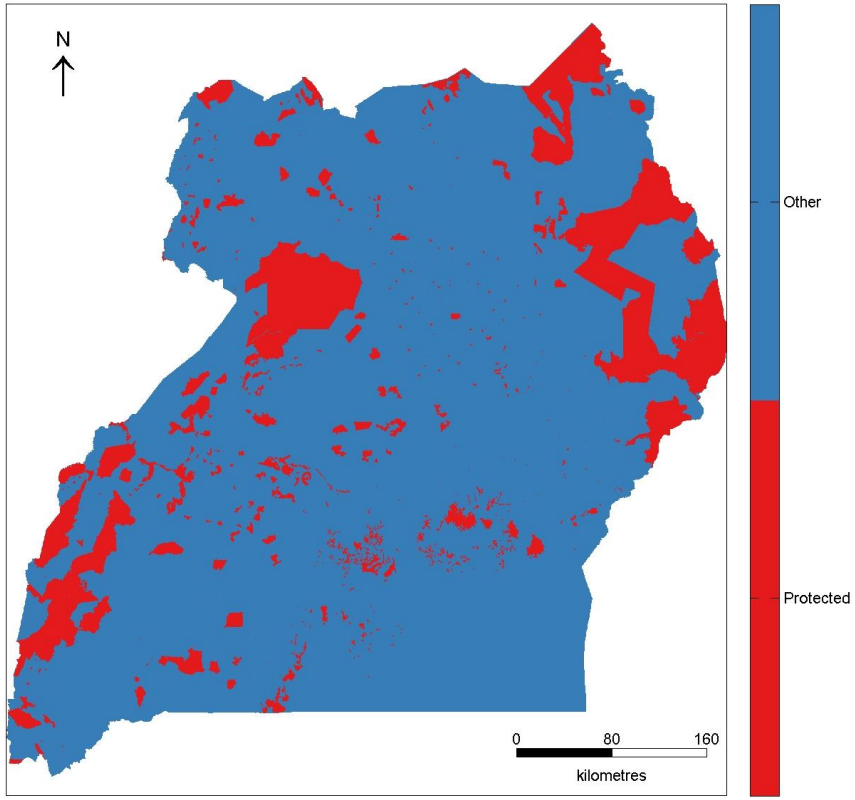
Extent of Chimpanzee suitable habitat in IUCN Range

ECOSYSTEM ACCOUNTING AREAS



produced using EnSym

Sub-Regions for policy responses



produced using EnSym

Protected area estate

SOME RESULTS

NATIONAL ECOSYSTEM EXTENT ACCOUNT 2010-2015

Classifications >>	Dry Savannas	Forest	Moist Savanna	Non-natural	Wetlands	TOTALS
Opening Stock (2010)	4,831,858	1,179,006	2,275,929	14,099,137	1,759,468	24,145,398
Additions to stock						-
Total additions to stock	462,669	141,505	281,798	1,957,614	157,879	3,001,465
Reductions in stock						-
Total reductions in stock	(758,013)	(254,815)	(777,002)	(1,043,851)	(167,784)	(3,001,465)
Net change in stock	(295,344)	(113,310)	(495,204)	913,763	(9,905)	-
Closing stock (2015)	4,536,514	1,065,696	1,780,725	15,012,900	1,749,563	24,145,398

SHEA BUTTER NUT TREE ACCOUNT 1990-2015 BY SUB-REGION AND PROTECTED AREA

	ACHOLI	ELGON	KARAMOJA	LANGO	TESO	WEST NILE	Uganda
Original Extent	1,698,092	84,296	831,487	481,236	605,551	986,801	4,687,463
1990	1,021,071	25,823	742,697	132,093	187,845	596,956	2,706,485
% Original Extent	60%	31%	89%	27%	31%	60%	58%
% 1990 extent in Uganda	38%	1%	27%	5%	7%	22%	100%
2015	788,723	15,042	702,678	83,443	91,280	419,758	2,100,924
% Original Extent	46%	18%	85%	17%	15%	43%	45%
% 2015 extent in Uganda	38%	1%	33%	4%	4%	20%	100%
Regionally Protected 2015	72,230	50	302,280	5,689	2,410	59,807	442,466
Regional % Protected	9%	0.33%	43%	7%	3%	14%	21%

CHIMPANZEE ACCOUNT 2005 – 2015 BY SUB-REGION AND PROTECTED AREA

	SOUTH WESTERN	WEST NILE	WESTERN	UGANDA
Extent IUCN Range	497,896	117,290	1,416,963	2,032,149
Opening Stock (2005)				
Fully Suitable in IUCN Range	146,847	16,686	401,905	565,438
Partially Suitable in IUCN Range	104,573	50,866	375,625	531,064
Unsuitable in IUCN Range	246,476	49,738	639,433	935,647
Net Changes				
Fully Suitable in IUCN Range	9,493	4,335	-86,154	-72,326
Partially Suitable in IUCN Range	-18,765	-17,435	-71,016	-107,216
Unsuitable in IUCN Range	9,272	13,100	157,170	179,542
Closing Stock (2015)				
Fully Suitable in IUCN Range	156,340	21,021	315,751	493,112
Partially Suitable in IUCN Range	85,808	33,431	304,609	423,848
Unsuitable in IUCN Range	255,748	62,838	796,603	1,115,189
Extent of fully suitable habitat in IUCN Range protected (2015)	149,851	15,598	265,193	430,642
% of fully suitable habitat in IUCN Range protected (2015)	96%	74%	84%	87%
% of Uganda's total extent of fully suitable habitat in IUCN Range protected (2015)	35%	4%	62%	100%

SOME INSIGHTS & NEXT STEPS

SOME POLICY INSIGHTS

1) **The NTFP account identifies large natural areas with the potential to support Shea butter production in Karamoja (if processed locally yields could equate to US$239.25 - 526.35 / ha)**

2) **There are significant protected areas in South Western that can support wildlife watching tourism (WTO estimates daily spend by wildlife watching tourists in Africa is US$433 per person per day, excluding flights)**

3) **The above insights on environmental-economic interactions are relevant to:**

- **NDP II goals for environmental resources and socio-economic development (including SDG1, 12 and 15)**
- **Green growth strategy objectives and outcomes;**
- **NBSAP Target 1.1.**

NEXT STEPS

1) The accounts should be recognised as being experimental and subject to validation

2) The habitat based approaches imply potential presence of species only. The accounts would be improved via the integration of primary monitoring data.

3) The accounts should be extended managed areas, including farmland, plantation and open water ecosystems

4) Extensions to incorporate wider ecosystem services would provide a more coherent picture of the interactions between the environment and the economy to decision-makers

UNEP WCMC IDEEA Group

THANK YOU

Reflections on Mozambique's Green Economy Journey…

Natural Capital Programme

Government of Mozambique

OPTIMIZING DYNAMIC ECOLOGICAL INFRASTRUCTURE WITH BUILT INFRASTRUCTURE, INDUSTRIES, CITIES & COMMUNITIES

GGKP Webinar, September 13th 2017

Prepared by Eoin Sinnott, WWF-US
eoin.sinnott@wwfus.org

G D P

Singular focus on GDP (without valuing and managing natural capital) = Global Depletion Project?

What do we measure & manage to deliver the SDGs? GDP?

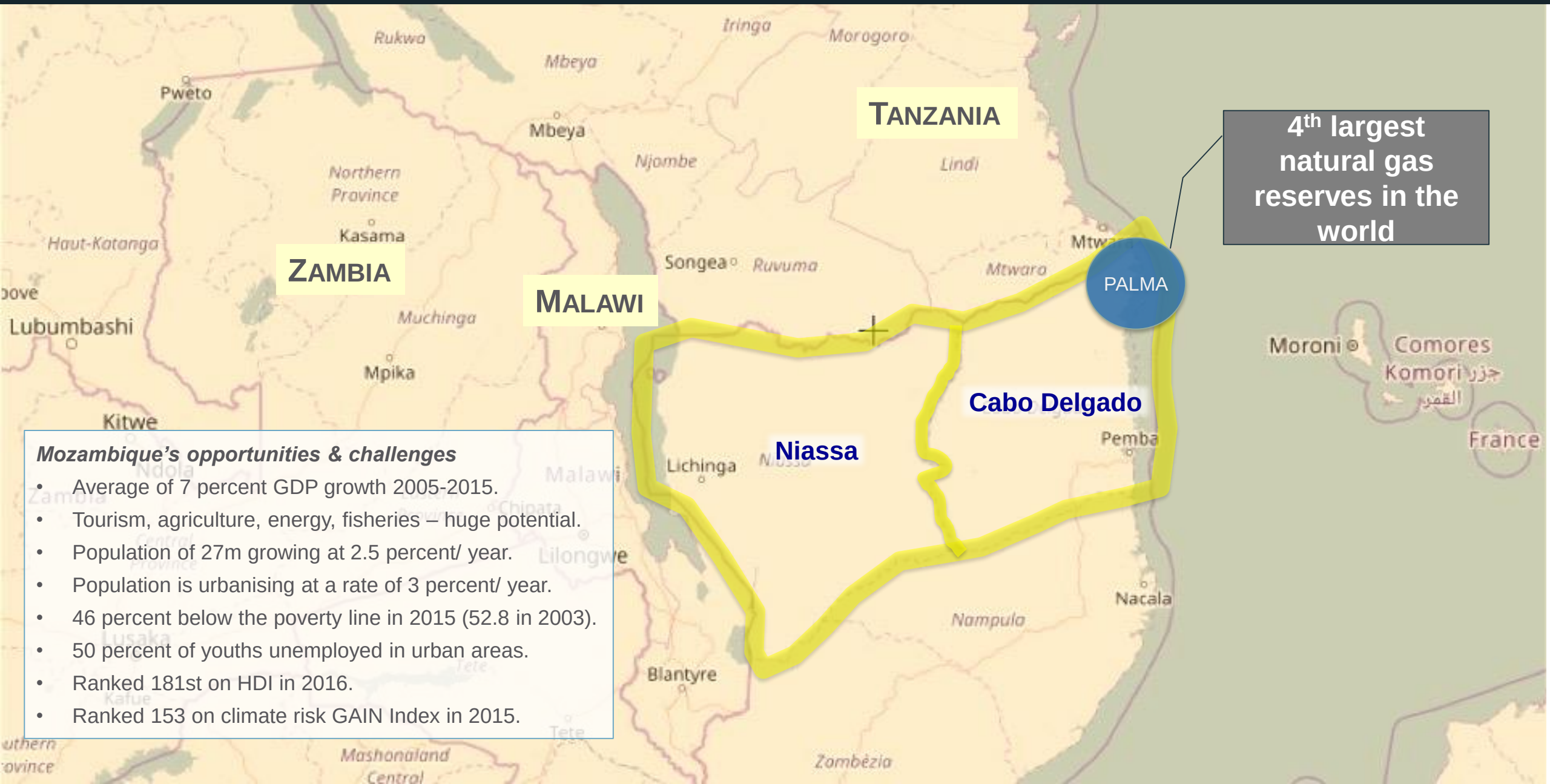
- Eight men own as much as the poorest half of the world (Oxfam 2017) – GDP growth will not solve inequality.
- In the anthropocene we need a social-ecological systems mind-set to thrive within planetary limits (SRC 2015).
- Green growth, circular economy, green economy, blue economy are narratives of inclusive prosperity, beyond GDP.

"The welfare of a nation can scarcely be inferred from a measurement of national income…nor the quality of growth"

Simon Kuznets, principle architect of the GDP concept, in 1934.

North Atlantic Ocean
Portugal
Greece
Turkey
Turkmenistan
China
Syria
Iraq
Iran
Afghanistan
Pakistan
Nepal
India
Myanmar (Burma)
Thailand
Vietna
Malaysia
Tunisia
Morocco
Algeria
Libya
Egypt
Western Sahara
Mauritania
Mali
Niger
Chad
Sudan
Saudi Arabia
Oman
Yemen
Gulf of Aden
Arabian Sea
Bay of Bengal
Gulf of Thailand
Laccadive Sea
Burkina Faso
Guinea
Ghana
Nigeria
Gulf of Guinea
South Sudan
Ethiopia
Somalia
Kenya
Gabon
DR Congo
Tanzania
Angola
Zambia
Mozambique
Namibia
Zimbabwe
Botswana
Madagascar
South Africa
Indian Ocean
South Atlantic Ocean
Suriname
AP
Brazil
PA
MA
CE
RN
PB
PI
PE
AL
SE
TO
BA
MT
GO
MG
ES
MS
SP
RJ
PR
SC
RS
Uruguay

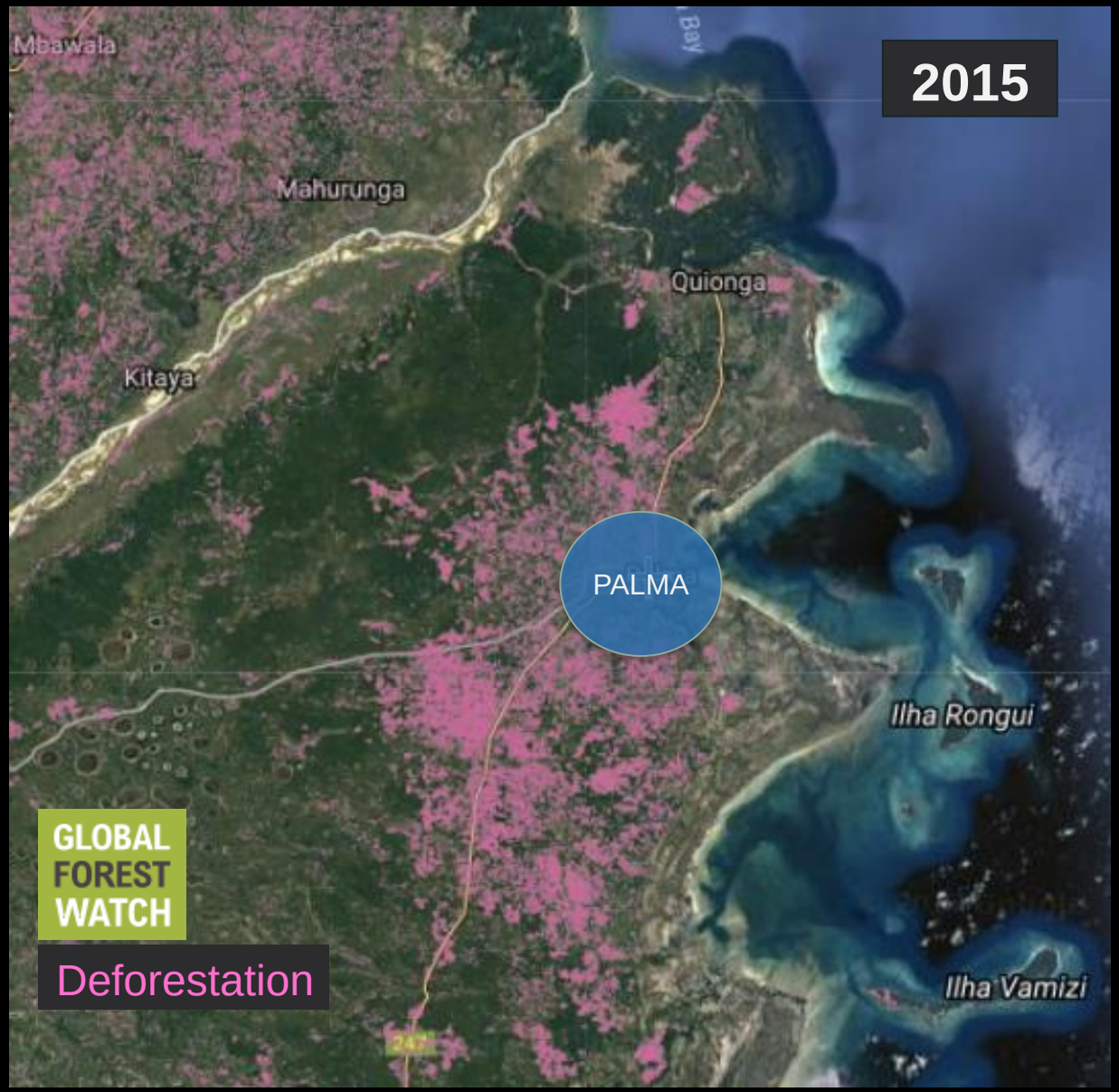
Natural Capital Programme phase 1 provinces: Cabo Delgado & Niassa



Mozambique's opportunities & challenges

- Average of 7 percent GDP growth 2005-2015.
- Tourism, agriculture, energy, fisheries – huge potential.
- Population of 27m growing at 2.5 percent/ year.
- Population is urbanising at a rate of 3 percent/ year.
- 46 percent below the poverty line in 2015 (52.8 in 2003).
- 50 percent of youths unemployed in urban areas.
- Ranked 181st on HDI in 2016.
- Ranked 153 on climate risk GAIN Index in 2015.

How do we deliver shared, lasting economic transformation?



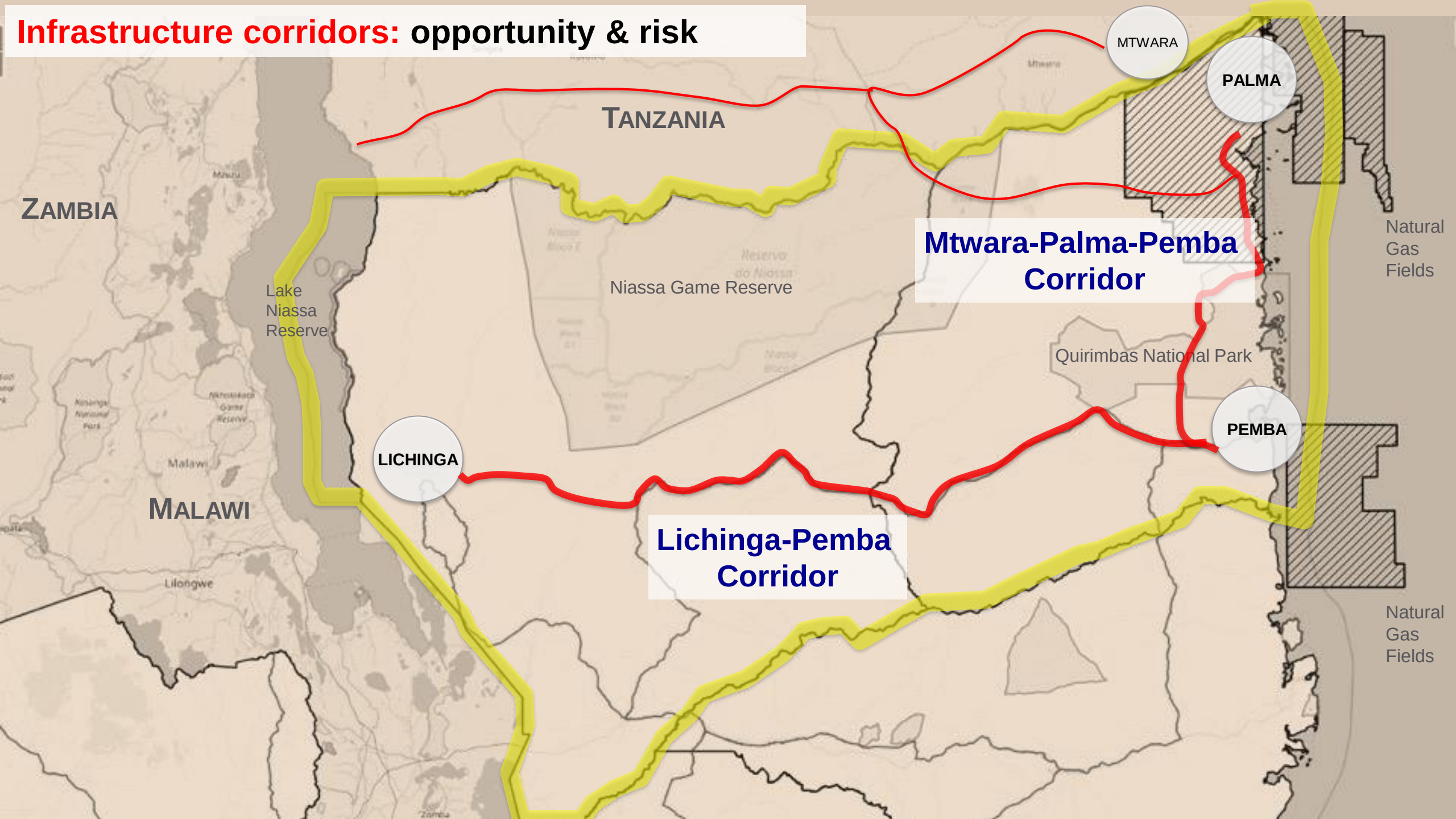
How can we apply lessons from other parts of the world?

Robert Gauthier/Los Angeles Times via Getty Images

Houston – Hurricane Harvey

How do we invest in young entrepreneurs for a resilient future society?

Infrastructure corridors: opportunity & risk



REPUBLIC OF MOZAMBIQUE

Vision for a Green Economy: "inclusive middle income country by 2030, based on…rational use of natural capital…to guarantee development…within planetary limits."

REPUBLIC OF MOZAMBIQUE

MINISTRY FOR THE COORDINATION OF ENVIRONMENTAL AFFAIRS

Green Economy Action Plan

(Transition Period)

2013-2014

Government of Mozambique

Natural Capital Programme

NATIONAL IMPLEMENTATION FRAMEWORK 2017-2024

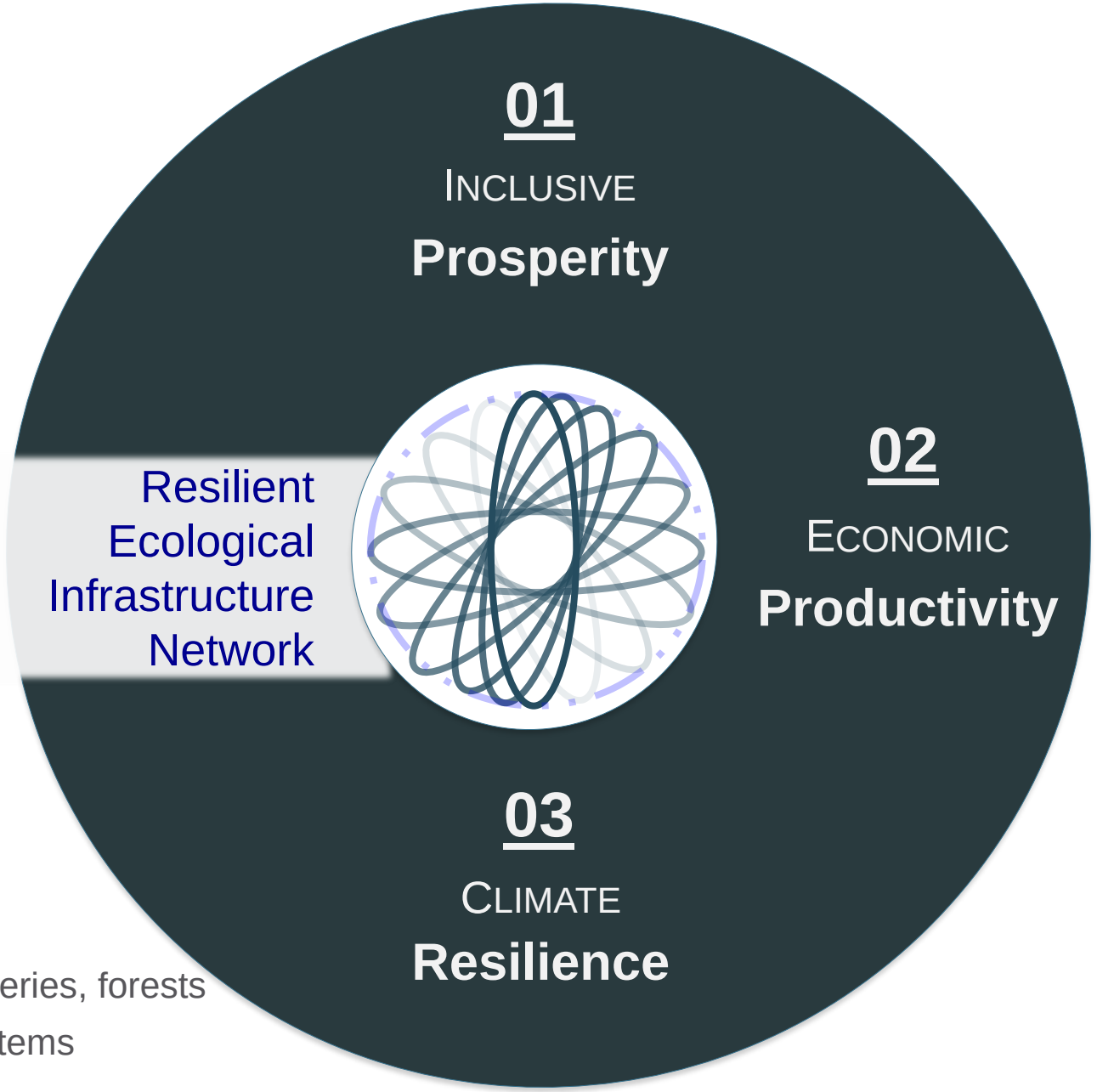
Optimising the performance of ecological and built infrastructure to transform cities, communities, markets and regional industries into more inclusive, productive and resilient systems

Natural Capital Programme

Goal

Optimize ecological and built infrastructure to transform cities, communities and industries into inclusive, productive and resilient systems

3 policy impact areas



Policy impact areas

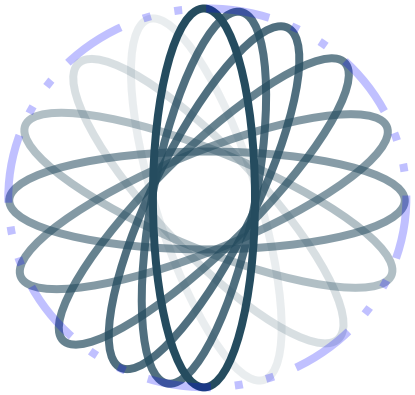
01. Prosperity: Jobs, health, food, water & energy security

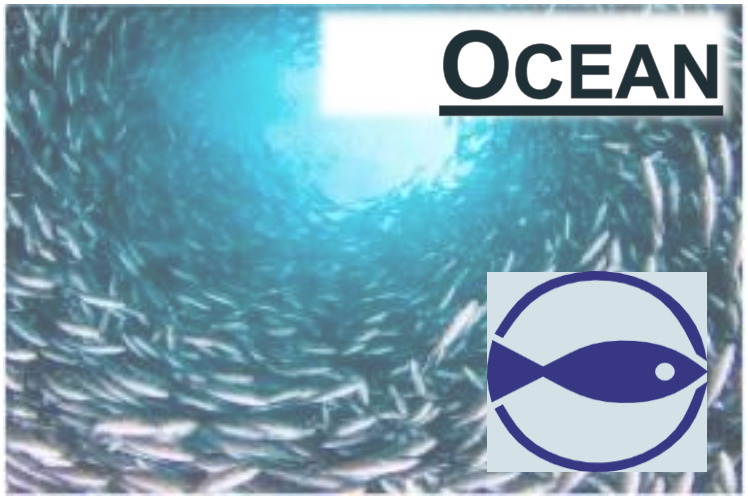
02. Productivity: Industry, infrastructure, cities, agriculture, fisheries, forests

03. Resilience: People, cities, industries, infrastructure, ecosystems

Natural capital selected for management under integrated spatially explicit, dynamic

Resilient Ecological Infrastructure Networks (REINs)



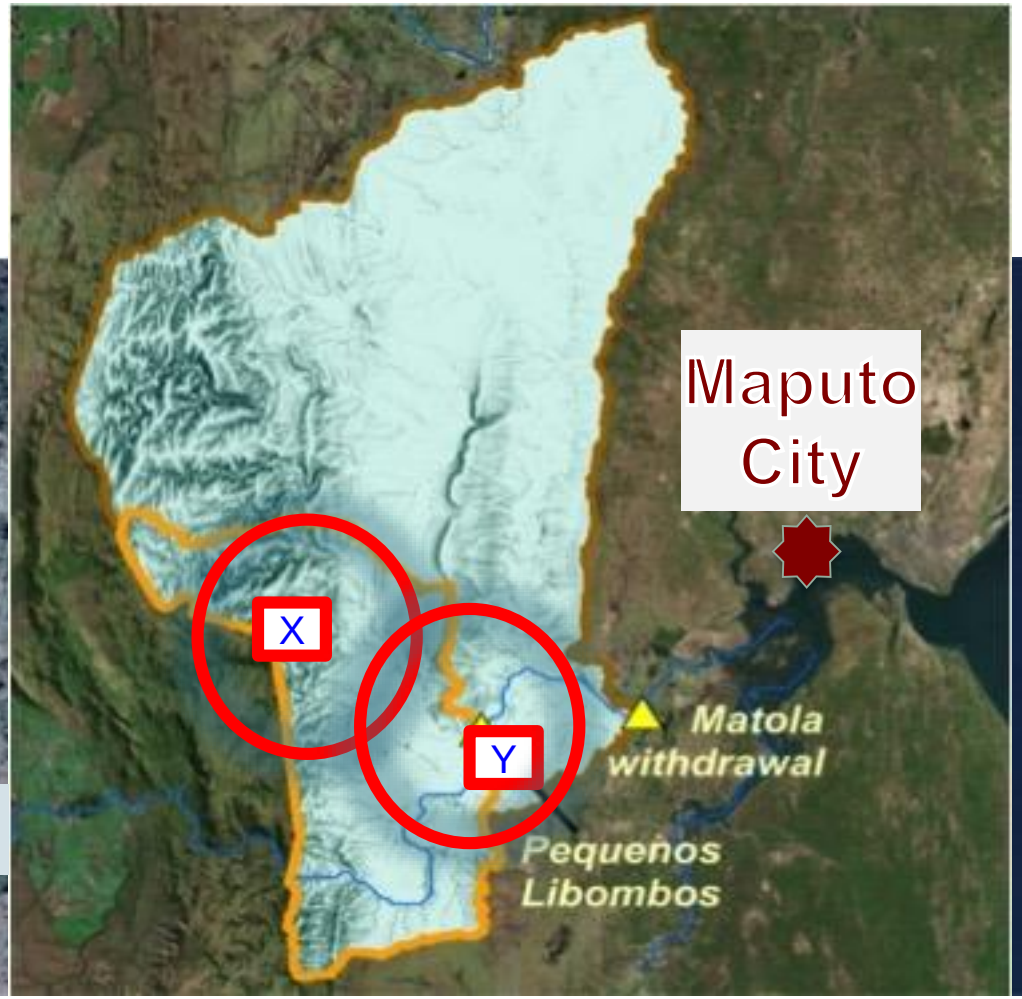


NB. Climate change and other drivers will constantly re-shape REINs

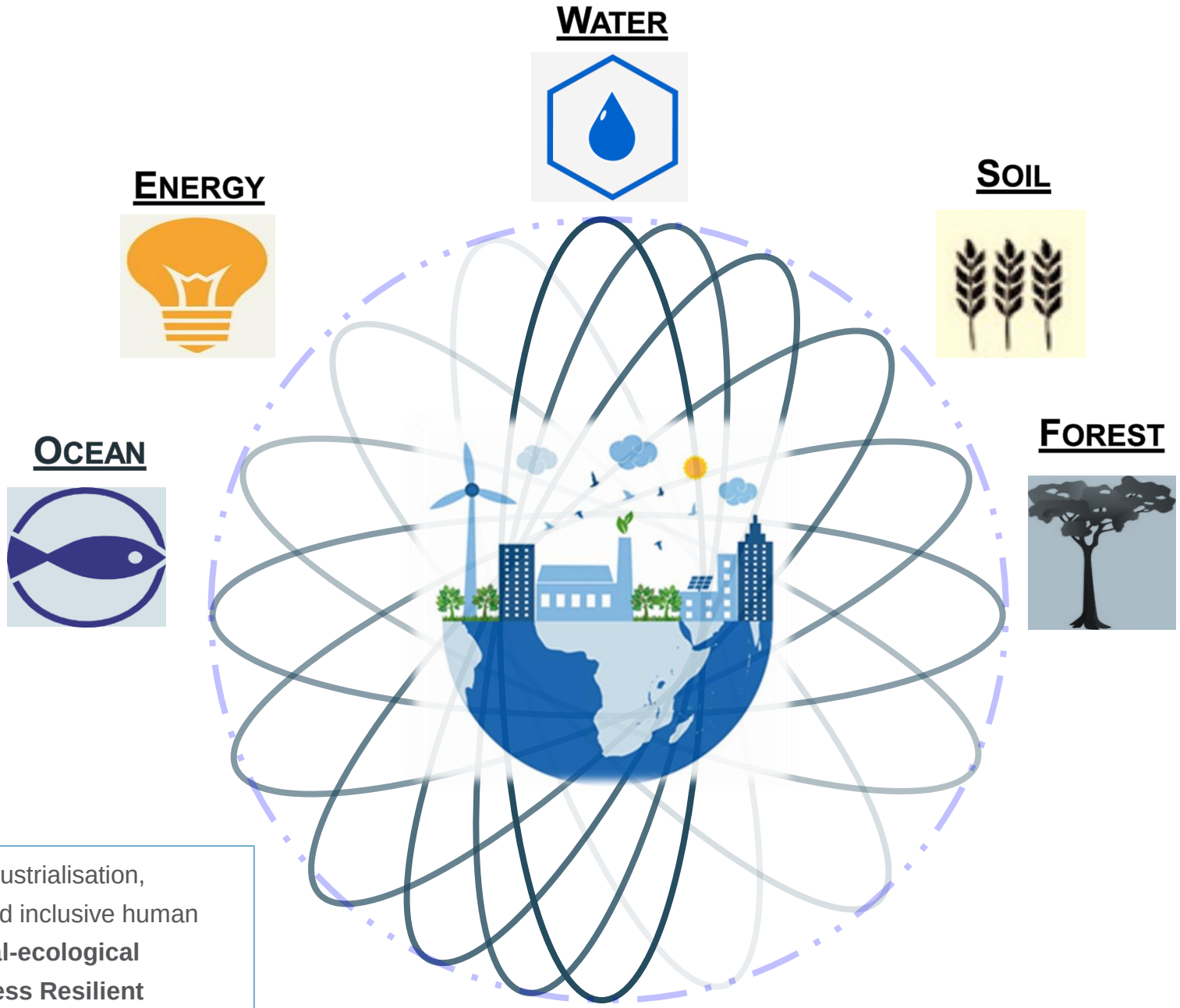
Example of water – optimising ecological and built infrastructure

Ecological infrastructure –
Rainfall, water flow & sediment retention

Built infrastructure –
Storage & distribution



Map of ecological infrastructure (strategic water areas) in South Africa



Delivering resilient, sustainable industrialisation, urbanisation, built infrastructure and inclusive human prosperity requires **adaptive social-ecological management systems that harness Resilient Ecological Infrastructure Networks.**

Africa industrial logo source: ISID/ UNIDO

Next steps

- Natural capital & climate assessments identifying REINs.
- Provincial action plans for REINs' management systems.
- Performance monitoring system for REINs.
- Safeguards system plugged into REINs.
- National planning system plugged into REINs.
- Optimisation of socio-economic activities (e.g. industry, built infrastructure, food systems) with REINs.

Panel Discussion

Guiding Questions

- Why should African countries mainstream natural capital accounting into green growth policies?
- How can African countries accelerate the integration of natural capital accounting into the green transition paradigm with a focus on enhanced human and environmental well-being?
- What are the target impacts of mainstreaming natural capital accounting into green growth policies for African governments?

Questions from the Audience

What are some successful Payment for Ecosystem Services (PES) schemes?

How can/should different levels/ministries of government work together to facilitate on-the-ground green growth?

What are mechanisms for finance, and how can business sectors and other stakeholders get involved?

What are methods/approaches for integrating the natural capital narrative into larger growth and development agendas?

GREEN GROWTH
Knowledge Platform

Thank you for attending this webinar on

Bringing Natural Capital into National Green Growth Policy: Lessons from Africa

- This webinar was **recorded** and will be **uploaded** to the GGKP website: www.ggkp.org
- If you have any further questions about the webinar please email: contact@ggkp.org
- The GGKP asks you to complete a **survey** which will be sent out after this webinar.