



# The Linkages between Ecosystem Health, Land Degradation Neutrality & Food Security

Hien T Ngo

## Anglophone Africa Regional Triologue:

**Bright Spots for Land Degradation,  
Neutrality, Pollinators,  
and Food Security**



28-30 May 2019  
Nairobi, Kenya

# What is IPBES?

- Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
- **Overall objective:** To provide policy relevant knowledge on biodiversity and ecosystem services to inform decision making
- Established in April 2012, Panama
- 132 Member countries
- Secretariat hosted in Bonn, Germany



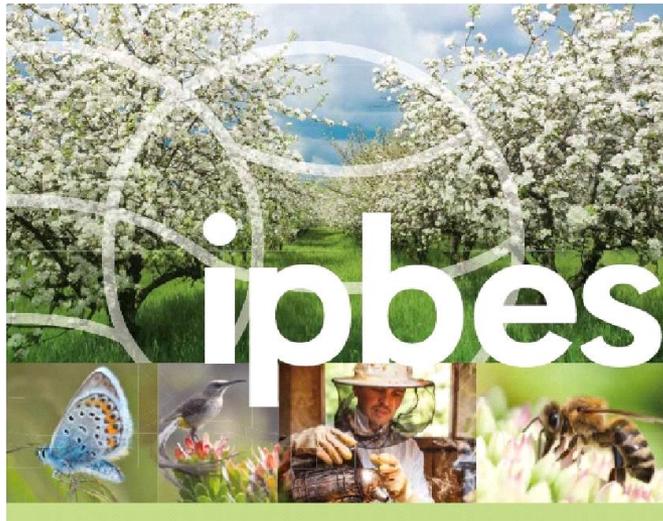
## The 4 functions of IPBES in the first work programme

- **IPBES was established with four agreed functions:**

• <b>Assessment</b>	Deliver global, regional and thematic assessments, and promote and catalyse support for sub-global assessment
• <b>Policy support tools</b>	Identify policy relevant tools/methodologies, facilitate their use, and promote and catalyse their further development
• <b>Capacity building</b>	Prioritize key capacity building needs, and provide and call for financial and other support for priority needs
• <b>Knowledge generation</b>	Identify knowledge needs of decision and policymakers, and catalyse efforts to generate new knowledge

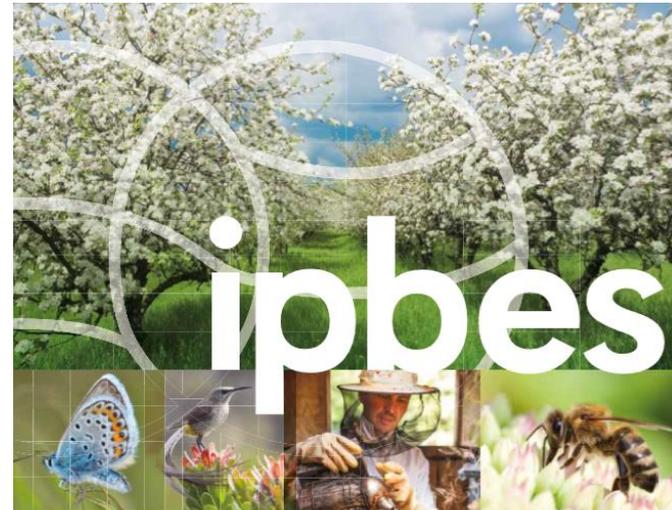
# Output

- Scientific literature review and Indigenous and local knowledge
- 556 pages



The assessment report on  
**POLLINATORS,  
POLLINATION AND  
FOOD PRODUCTION**

SUMMARY FOR POLICYMAKERS



The assessment report on  
**POLLINATORS,  
POLLINATION AND  
FOOD PRODUCTION**

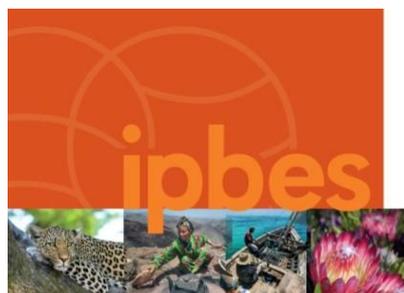




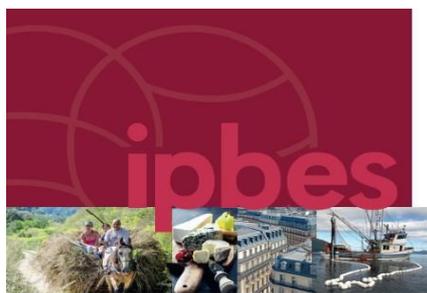
# IPBES – 6 Medellín, Colombia 17-24 March 2018



## 5 reports released approved by the IPBES Plenary (March 2018)



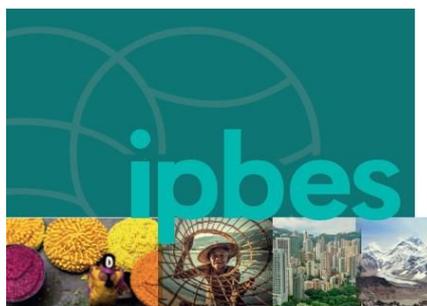
The regional assessment report on  
BIODIVERSITY AND  
ECOSYSTEM SERVICES  
**FOR AFRICA**



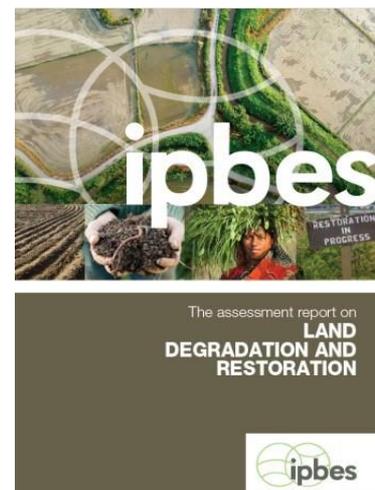
The regional assessment report on  
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**FOR EUROPE AND  
CENTRAL ASIA**



The regional assessment report on  
BIODIVERSITY AND  
ECOSYSTEM SERVICES  
**FOR THE AMERICAS**



The regional assessment report on  
BIODIVERSITY AND  
ECOSYSTEM SERVICES  
**FOR ASIA AND  
THE PACIFIC**



The assessment report on  
**LAND  
DEGRADATION AND  
RESTORATION**

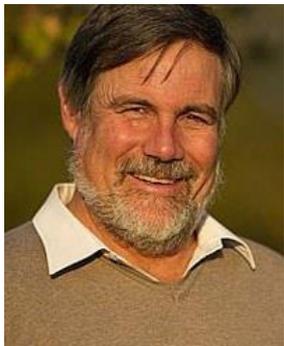


- 550 experts
- 18,000 publications
- 20,000 comments

# KEY FINDINGS thematic assessment on Land Degradation and Restoration (LDR)

## Three main subsections

- A. Status and Trends
- B. Drivers and future scenarios
- C. Options and Opportunities



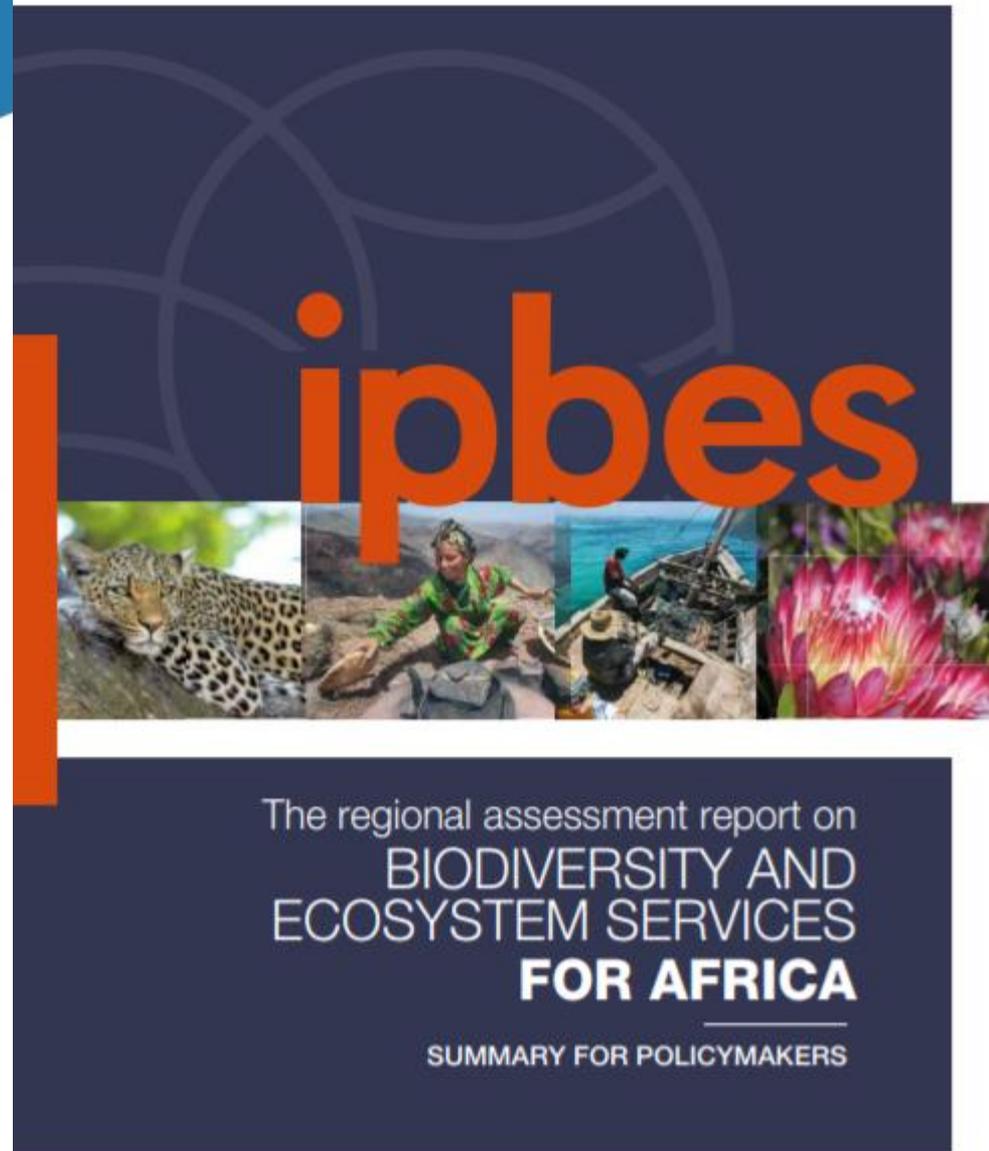
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RESTORATION**



## KEY FINDINGS Regional Assessment for AFRICA

### 5 main subsections

- A. AFRICA'S NATURAL ASSETS ARE UNIQUE
- B. AFRICA UNDER PRESSURE
- C. STRENGTHENING AFRICAN TRANSFORMATION FRAMEWORKS
- D. AFRICA HAS OPTIONS
- E. THE FUTURE WE WANT MAKING IT HAPPEN TOGETHER

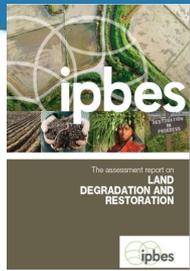


We focus on the following countries in the African continent (Anglophone Africa):

- Ethiopia
- Ghana
- Kenya
- Malawi
- Nigeria
- Zambia



# A



**Land degradation is a pervasive, systemic phenomenon: it occurs in all parts of the terrestrial world and can take many forms. Combating land degradation and restoring degraded land is an urgent priority to protect the biodiversity and ecosystem services vital to all life on Earth and to ensure human well-being**

The degradation of the Earth's land surface through human activities is negatively **impacting the well-being of at least 3.2 billion people**

The **benefits generally by far exceed the cost** when investing in avoiding land degradation and the restoration – studies in Asia & Africa indicate the cost of inaction in the face of land degradation is 3x higher than the cost of action

**Timely action** to avoid, reduce and reverse land degradation **can increase food and water security** (600-821 million people face food insecurity in Africa and Asia) – by 2050 projections estimate 4 billion people will be living in drylands – decreasing land productivity in drylands can affect the socioeconomic stability

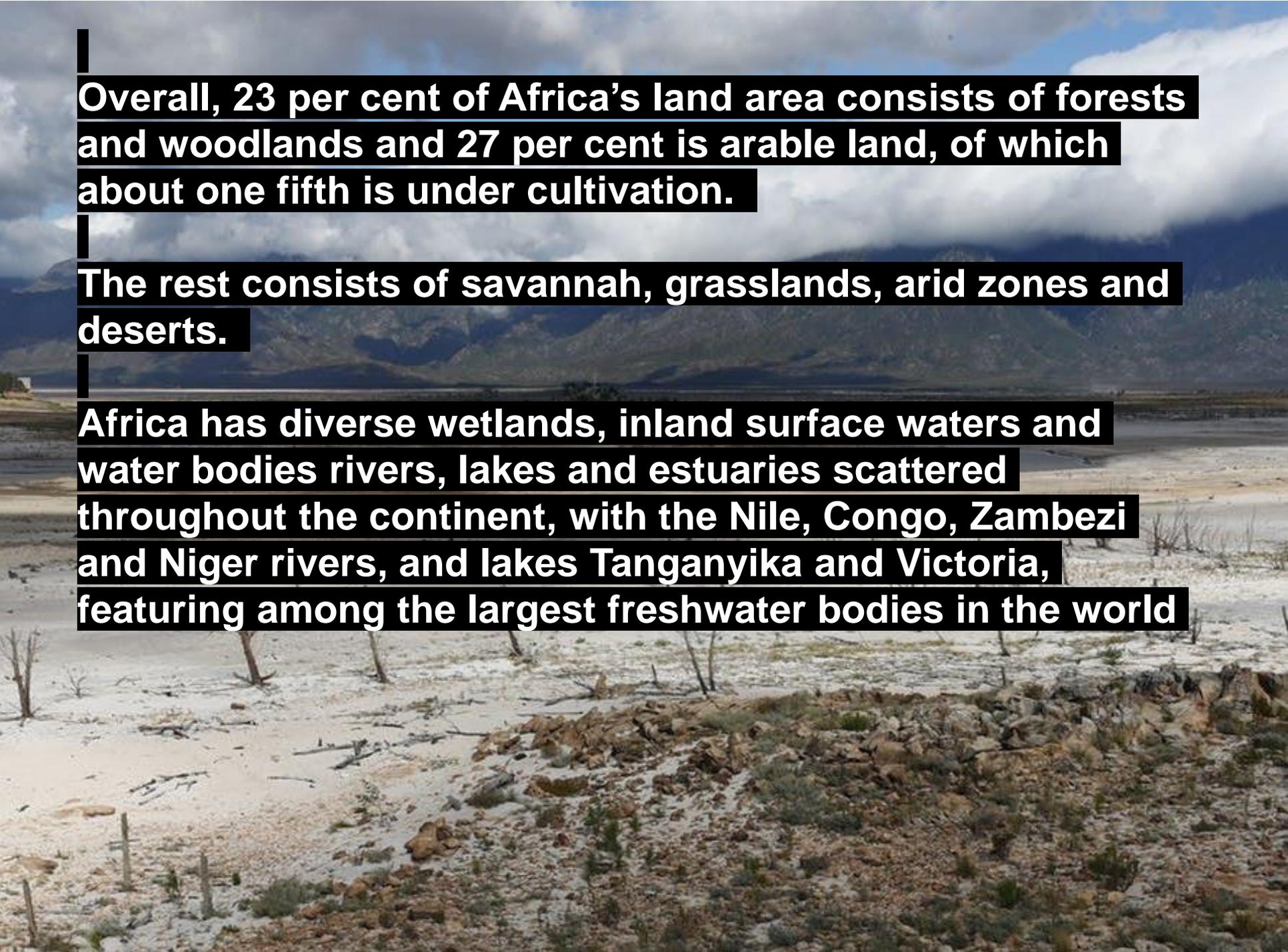
Avoiding, reducing and reversing land degradation is essential for **meeting the Sustainable Development Goals** contained in Agenda 2030

**Land degradation includes degradation of forests, rangelands and wetlands**

**Wetlands (area) are particularly degraded with 87% lost globally in the last 300 years**

**> 350 million people – mostly lower-income households in Africa, Asia, Latin America – depend on non-timber forest products (NTFPs) for subsistence and income**

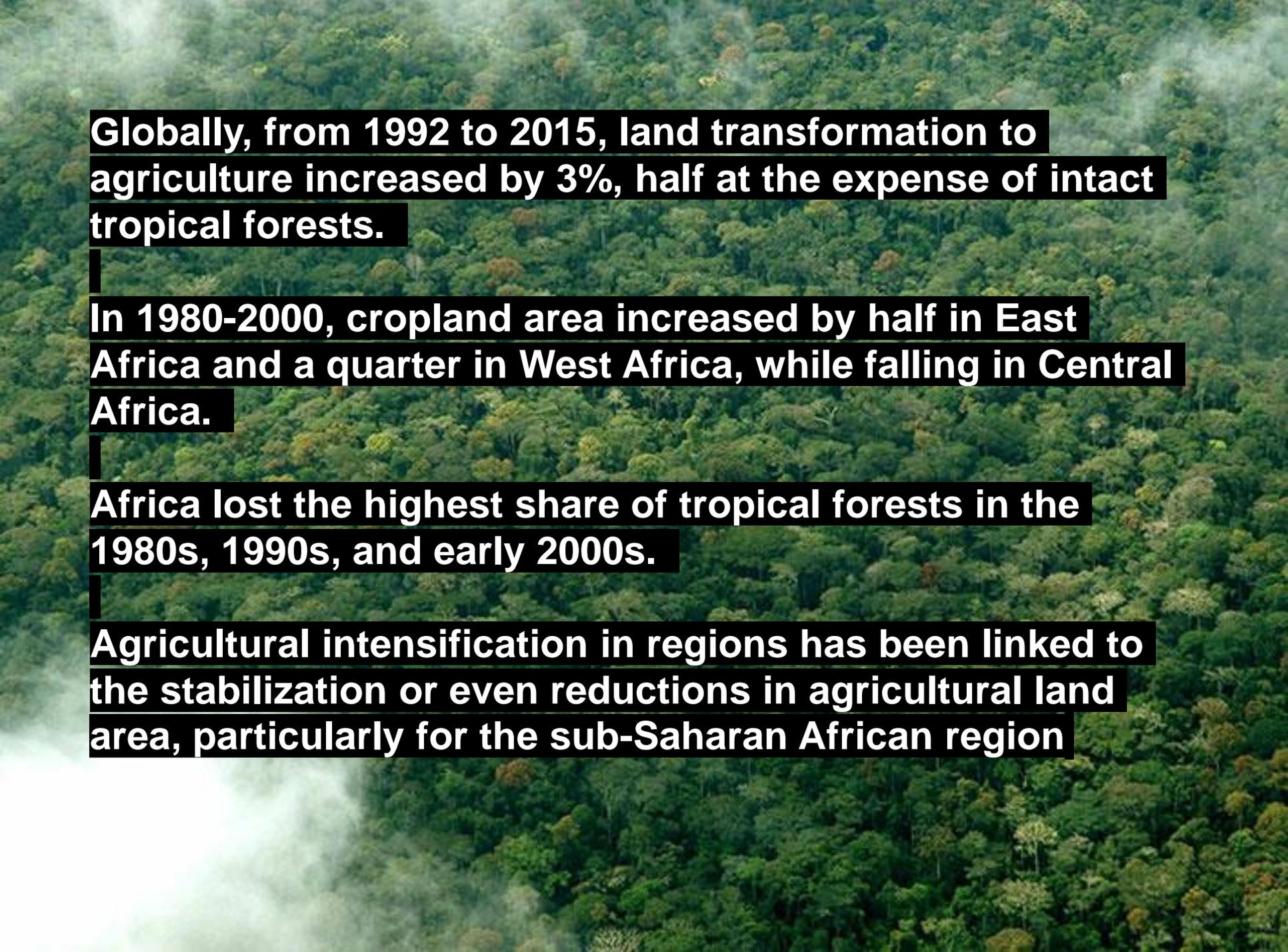




**Overall, 23 per cent of Africa's land area consists of forests and woodlands and 27 per cent is arable land, of which about one fifth is under cultivation.**

**The rest consists of savannah, grasslands, arid zones and deserts.**

**Africa has diverse wetlands, inland surface waters and water bodies rivers, lakes and estuaries scattered throughout the continent, with the Nile, Congo, Zambezi and Niger rivers, and lakes Tanganyika and Victoria, featuring among the largest freshwater bodies in the world**



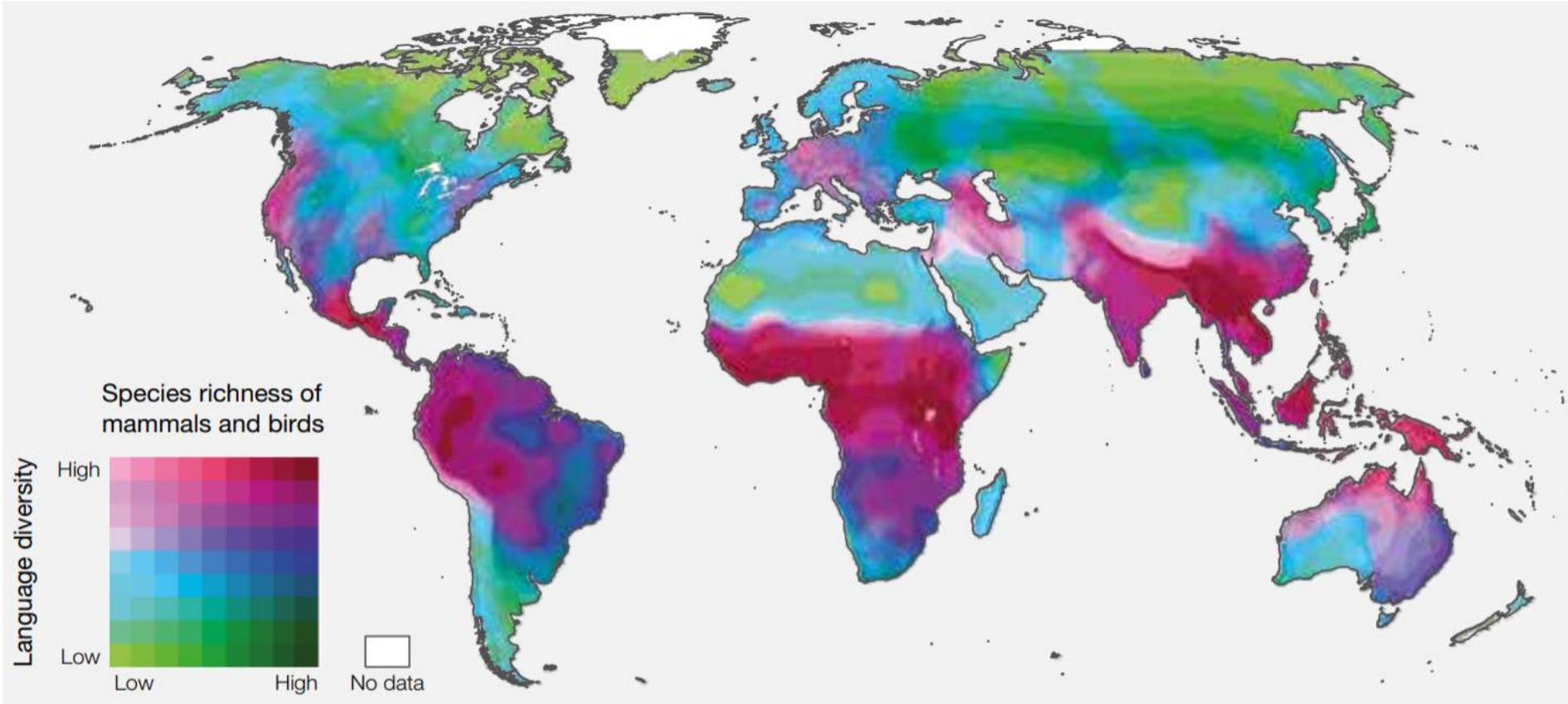
**Globally, from 1992 to 2015, land transformation to agriculture increased by 3%, half at the expense of intact tropical forests.**

**In 1980-2000, cropland area increased by half in East Africa and a quarter in West Africa, while falling in Central Africa.**

**Africa lost the highest share of tropical forests in the 1980s, 1990s, and early 2000s.**

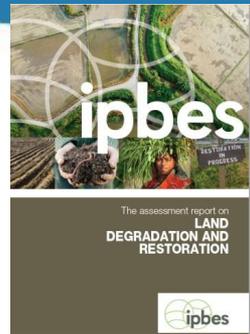
**Agricultural intensification in regions has been linked to the stabilization or even reductions in agricultural land area, particularly for the sub-Saharan African region**

**Many IPLCs consider land degradation to cause pronounced loss of cultural identity**



**Africa is the last place on Earth with a significant assemblage of large mammals**

# B



**Unless urgent and concerted action is taken, land degradation will worsen in the face of population growth, unprecedented consumption, an increasingly globalized economy and climate change**

Widespread **lack of awareness** of land degradation = major barrier to action

High **consumption lifestyles** in more developed economies, combined with **rising consumption** in developing and emerging economies = dominant drivers; consumption choices are often not visible and decoupled from place of production and final place of consumption

**Land degradation is a major contributor to climate change** while climate change can exacerbate the impacts of land degradation

**Rapid expansion and unsustainable management of croplands and grazing lands** is the most extensive global direct driver of land degradation

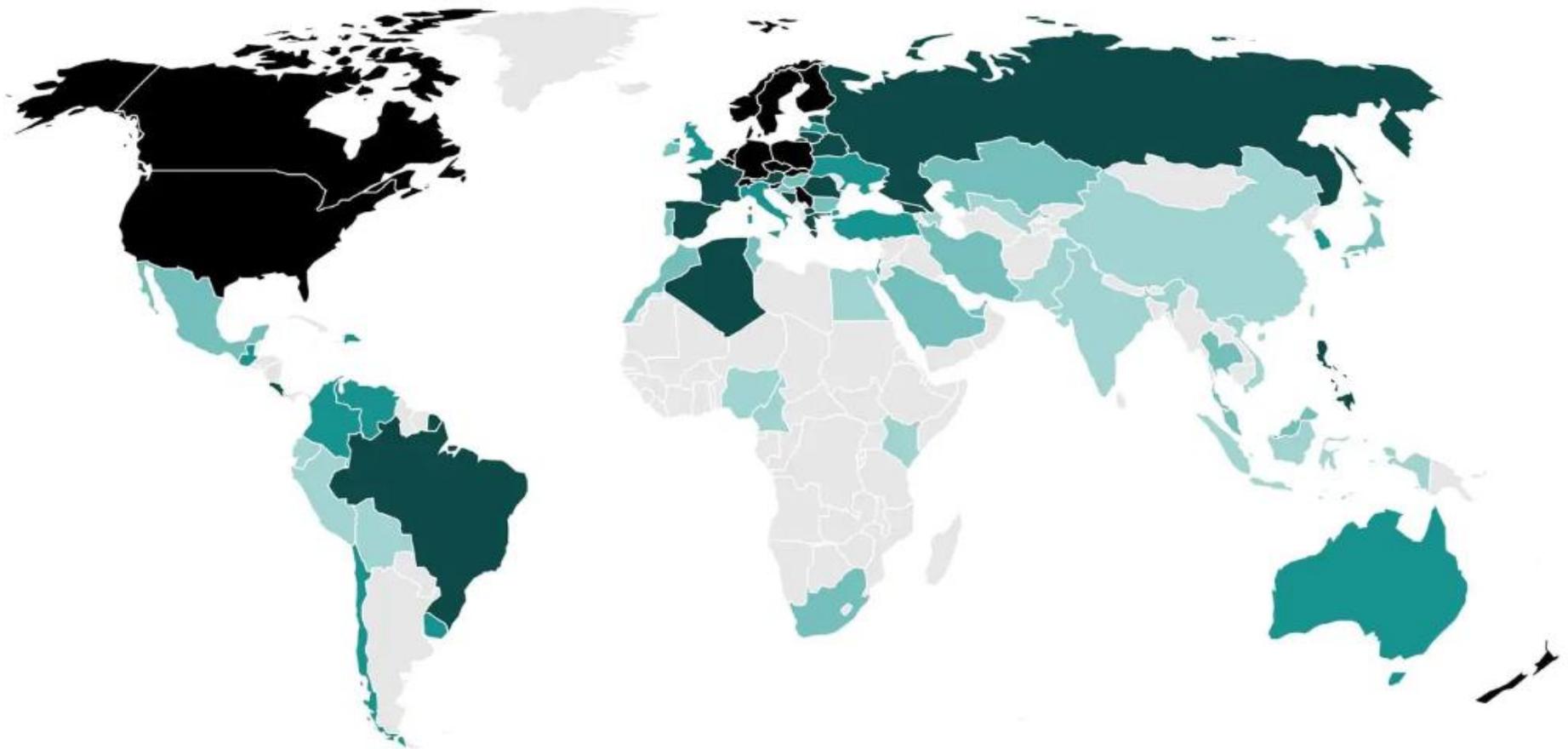
## World's top 25 coffee-growing countries



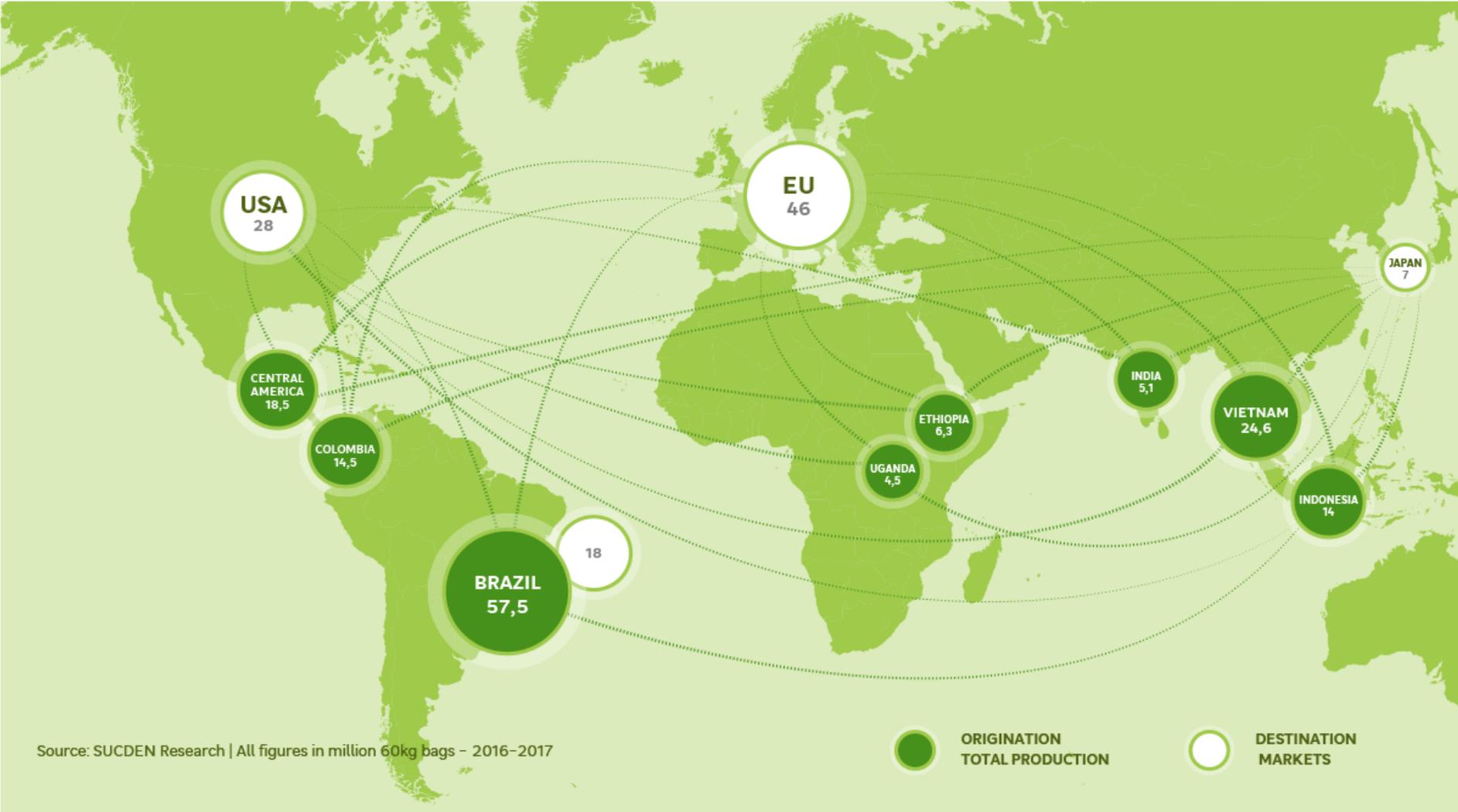
Source: NOAA Climate.gov, <https://www.climate.gov/news-features/climate-and/climate-coffee>, accessed November 2017.

# The geography of coffee drinking.

Daily per-capita coffee consumption, 2013, in cups



# MAIN GLOBAL TRADE FLOWS, COFFEE 2016-2017



Source: SUCDEN Research | All figures in million 60kg bags - 2016-2017

**ORIGINATION TOTAL PRODUCTION**      **DESTINATION MARKETS**

**The magnitude of impacts on biodiversity and ecosystem functions and services and the differences between regions are less in scenarios that focus on global or regional sustainability.** Sustainability scenarios that explore moderate and equitable consumption result in substantially lower negative impacts on biodiversity and ecosystems due to food, feed and timber production. **The general patterns at the global level – namely declines in biodiversity and regulating contributions versus increases in the production of food, bioenergy and materials – are evident in nearly all subregions.** For terrestrial systems, most studies indicate that South America, Africa and parts of Asia will be much more significantly affected than other regions, especially in scenarios that are not based on sustainability objectives. That is due in part to regional climate change differences and in part to the fact that scenarios generally foresee the largest land use conversions to crops or bioenergy in those regions. Regions such as North America and Europe are expected to have low conversion to crops and continued reforestation.

Main direct drivers of land degradation and associated biodiversity loss are:

- Expansion of crop and grazing lands into native vegetation
- Unsustainable agricultural and forestry practices
- Climate change
- And in specific areas: urban expansion, infrastructure development and extractive industries

**Africa is also one of the most rapidly urbanizing continents.**

Rapid and unplanned urbanization puts immense pressure on urban infrastructure and demand for services, including water supply, food supply, pollution control and waste management, as well as energy supply for households and industrial development.

**Land-cover change in Africa results in loss of the land's capacity to sustain biodiversity and provide nature's contributions to people.**

**Africa's current population of 1.25 billion is likely to double by 2050, putting severe pressure on the continent's biodiversity and nature's contributions to people**

**The total population of African and Asian cities is predicted to grow more than tenfold – from 309 million to 3.9 billion**



Table SPM 1 **Key drivers of biodiversity change in Africa shown per subregion and ecosystem type.**

This table shows a general qualitative assessment of the various drivers of change of biodiversity and nature's contributions to people in Africa. It assesses the trend of the impact (high, moderate or low increase) of respective drivers on the various ecosystem types. The thickness of the arrows indicates the level of agreement for the countries sampled.

Subregions	ECOSYSTEM TYPE	DRIVERS OF BIODIVERSITY CHANGE							
		Direct drivers						Indirect drivers	
		Climate change	Habitat conversion	Overharvesting	Pollution	Invasive alien species	Illegal wildlife trade	Demographic change	Protected areas
CENTRAL AFRICA	Terrestrial/Inland waters	↗	↑	↑	↑	↑	↑	↑	↗
	Coastal/Marine	↗	↑	↑	↗	↗	↑	NI	↔
EAST AFRICA AND ADJACENT ISLANDS	Terrestrial/Inland waters	↑	↗	↑	↗	↗	↑	↑	↗
	Coastal/Marine	↑	↔	↗	↗	↗	↑	↑	↔
NORTH AFRICA	Terrestrial/Inland waters	↑	↗	↗	↗	↑	↔	→	→
	Coastal/Marine	↗	↗	↗	↗	↑	NI	→	→
SOUTHERN AFRICA	Terrestrial/Inland waters	↗	↗	↑	↗	↑	↗	↗	↗
	Coastal/Marine	↗	↗	↗	↗	↑	↗	↗	↗
WEST AFRICA	Terrestrial/Inland waters	↑	↑	↑	↗	↗	↑	↗	→
	Coastal/Marine	↑	↗	↗	↗	→	↑	↗	→

Width of an arrow = Level of agreement for countries sampled

Arrow = Trend of the respective impact of the driver

↑ High Increase   ↗ Moderate Increase   → Low Increase   ↓ Decrease   NI = No Information available   ↔ Unchanged/Under control

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	Coastal/Marine	↗	↗	↗	↗	↑	↗	↗	↗
WEST AFRICA	Terrestrial/Inland waters	↑	↑	↑	↗	↗	↑	↗	→
	Coastal/Marine	↑	↗	↗	↗	→	↑	↗	→

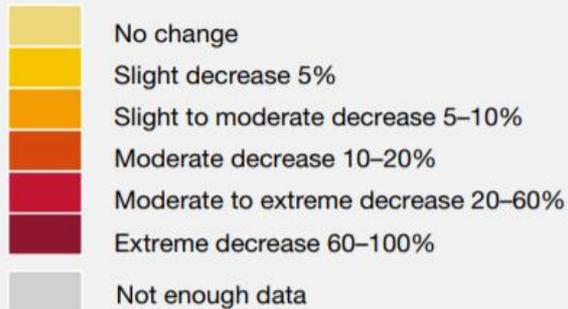
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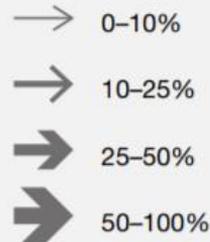
SUB REGIONS		Grazing land management	Croplands and agroforestry management	Native forest and tree plantation management	Non-timber natural resource extraction	Extractive industry and energy development	Fire regime change	Infrastructure, industrial development, and urbanization	Introduction of invasive species
AFRICA	Eastern	↗	→	↗	↗	↗*	→	↗	→
	Northern	□	□	□	□	↘*	□	□	→
	Central	→	→	↗	↗	↗	□	→*	→
	Southern	→	↗	→	↗	↗	→	↗	→
	Western	↗	↗	↗	↗	↗*	→*	↗*	↗

**BIODIVERSITY AND ECOSYSTEM SERVICES**



**EXTENT** of land affected by degradation driver

- as a % of the total land area of that land use type
- as a % of total land area of the sub-region



**TREND** in land degradation from 2005 to 2015 due to specific drivers



\* denotes assessment made by 2 experts

# C

**The implementation of known, proven actions to combat land degradation and thereby transform the lives of millions of people across the planet will become more difficult and costly over time. An urgent step change in effort is needed to prevent irreversible land degradation and accelerate the implementation of restoration measures**

**More relevant, credible and accessible information** is needed to allow decision makers to improve the long-term stewardship of land and sustainability of natural resource use

**Coordinated policy agendas** that simultaneously encourage more sustainable production and consumption practices of land based commodities

**Eliminating perverse incentives** that promote degradation and devising positive incentives that reward the adoption of sustainable land management practices

**Landscape-wide approaches that integrate** the development of agricultural, forest, energy, water and infrastructure agendas, all informed by the best available knowledge and experience – no one-size-fits-all approaches work for SLM

**Responses to reduce environmental impacts of urbanization** can also significantly improve quality of life while simultaneously contributing to climate change mitigation and adaptation.

Commitments to protect land resources is reflected in Sustainable Development Goal 15 – Target 15.3 – Achieving Land Degradation Neutrality (LDN)

**Land degradation neutrality** is a simple but revolutionary **idea** that can connect the dots between most global goals and targets. It is a commitment to avoid degradation, to move towards **sustainable land management** and at the same time to massively **scale up the rehabilitation** of degraded land and soil. It may come to redefine our relationship with the nature.

Almost all countries in Africa have committed to setting LDN targets – and ALL SIX countries have developed their own LDN strategies

15 LIFE  
ON LAND





 ipbes merci !

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