A young Sepik Papuan girl is the central focus of the image. She has white clay or mud painted on her face in a pattern that covers her forehead, eyes, and cheeks. She is smiling broadly, showing her teeth. She is holding a crocodile close to her face. She wears a traditional woven headband and several necklaces made of shells and beads. The background is dark and out of focus.

# Guardians of the Earth: Indigenous Peoples and Environmental Stewardship

Prof Julia E. Fa


Manchester Metropolitan  
University/ CIFOR/University of  
Gibraltar

8<sup>th</sup> Nov. 2023, 6.00pm  
University of Gibraltar

Sepik Papuan girl.  
Ambunti, East Sepik  
River, Papua New  
Guinea.

# Disclaimer

The work presented in this lecture serves to reinforce the extensive efforts undertaken by **Indigenous scholars** on these matters. Their voices have long echoed the importance of cultural and ecological values associated with these lands, well before academics like us became actively engaged. While we are not the pioneers in highlighting these values, **we passionately advocate for their recognition and preservation.**



# Indigenous Peoples

To be recognized as Indigenous Peoples:

- **Self-Identification:** Individuals must identify themselves as Indigenous and be accepted as community members.
- **Historical Continuity:** There should be an enduring link to pre-colonial or pre-settler societies.
- **Strong Territorial Ties:** An enduring connection to specific territories and natural resources is essential.
- **Distinct Systems:** Indigenous groups generally have unique social, economic, and political systems. Often non-dominant groups of society.
- **Cultural Identity:** They possess distinct language, culture, and beliefs.
- **Commitment to Heritage:** They are dedicated to preserving their ancestral environments and traditions as unique communities.

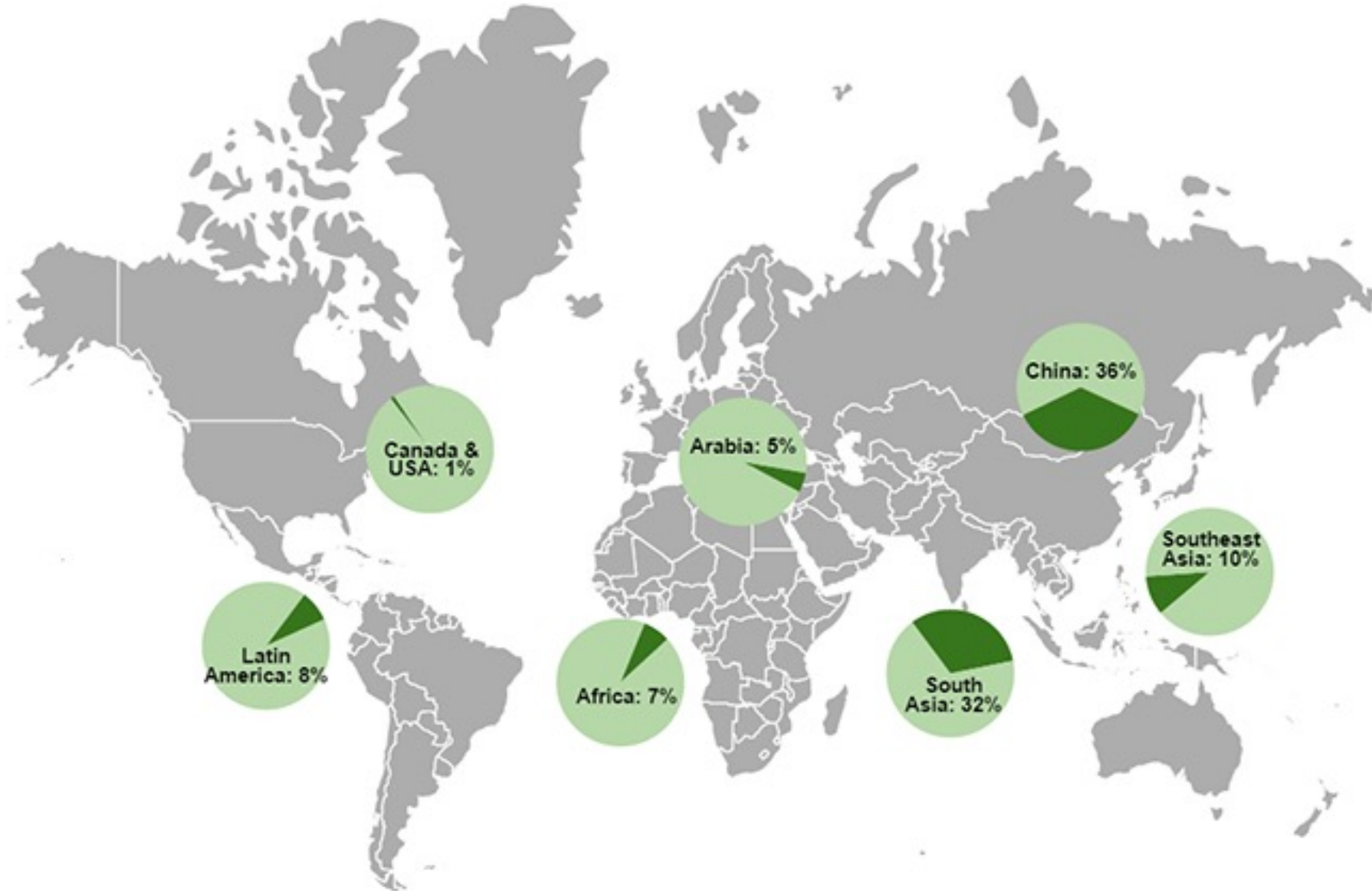


Around the world, there are between **370 and 500 million people** who consider themselves Indigenous, in more than 90 countries.

Although they only constitute just over **6% of the world's population**, they represent **about 15% of the extreme poor**.



# Estimated Distribution of Indigenous Peoples





Uncontacted tribes



# Territories and estimated numbers of uncontacted tribes around the world

Source – Survival International







A Tapestry of Indigenous Expressions

Distinct  
Cultures,  
Unique  
Environments





Célia Nunes Correa, better known as Célia Xakriabá, is an indigenous educator and activist of the Xakriabá people of Brazil



Huli man  
Tari, Hela Province,  
Papua New Guinea

Wodaabe men , Chad, display their intricate make-up for the night's festivities



Women performing matachines, a dance that blends Christian and Rarámuri traditions.





Dani people from the central highlands of Western New Guinea, Indonesia

Kuna Indian women  
sewing molas, San Blas  
Islands, Panama







Cela Ramírez, 10, dressing her  
sister, Rosa Candelaria, 3.  
Rarámuri community,  
Chihuahua, Mexico

Awá families from Posto  
Awá, Brazil



Mbuti Pygmy women and children preparing a family meal, Ituri, DRC



Mbuti Pygmy net  
hunters, Ituri, DRC







Awá women in Brazil bathe while washing their pet turtles.



Bull-jumping ceremony,  
Hamar people, Ethiopia

Similar Customs: Lip Plates



Mursi woman, Ethiopia

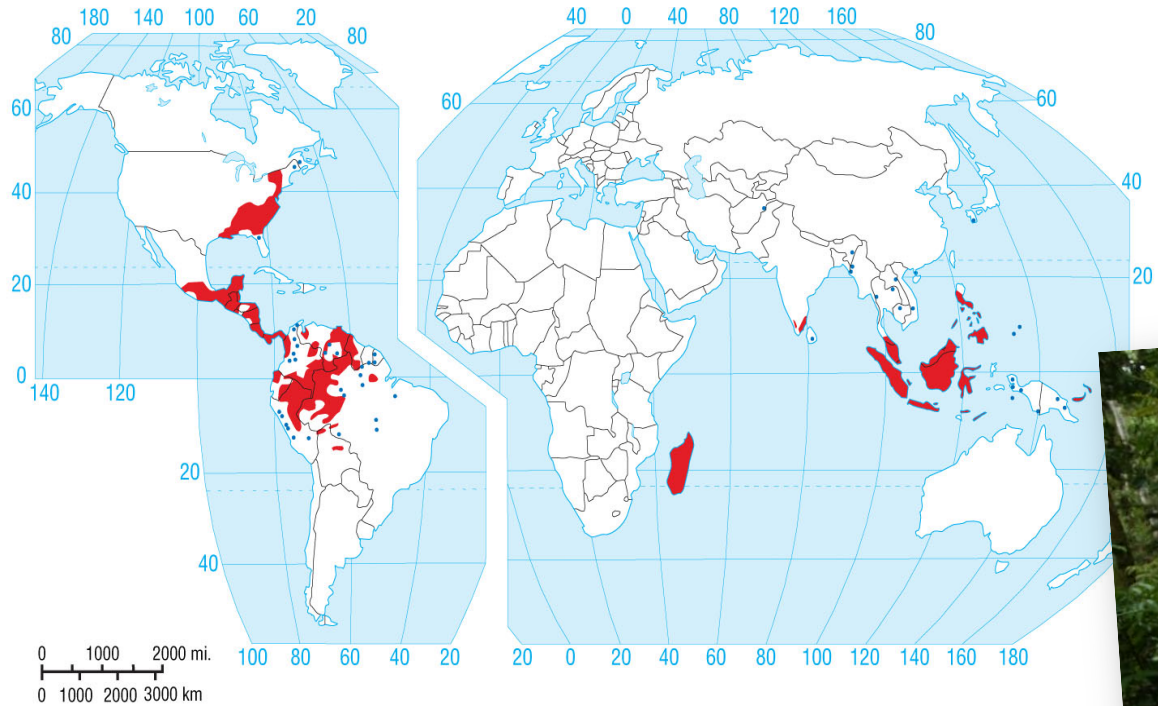


Kayapo chief Raoni Metuktire





# Similar Customs: Blow Guns





Commonalities: Hunting Wildlife for Food

# Indigenous Peoples and Hunting

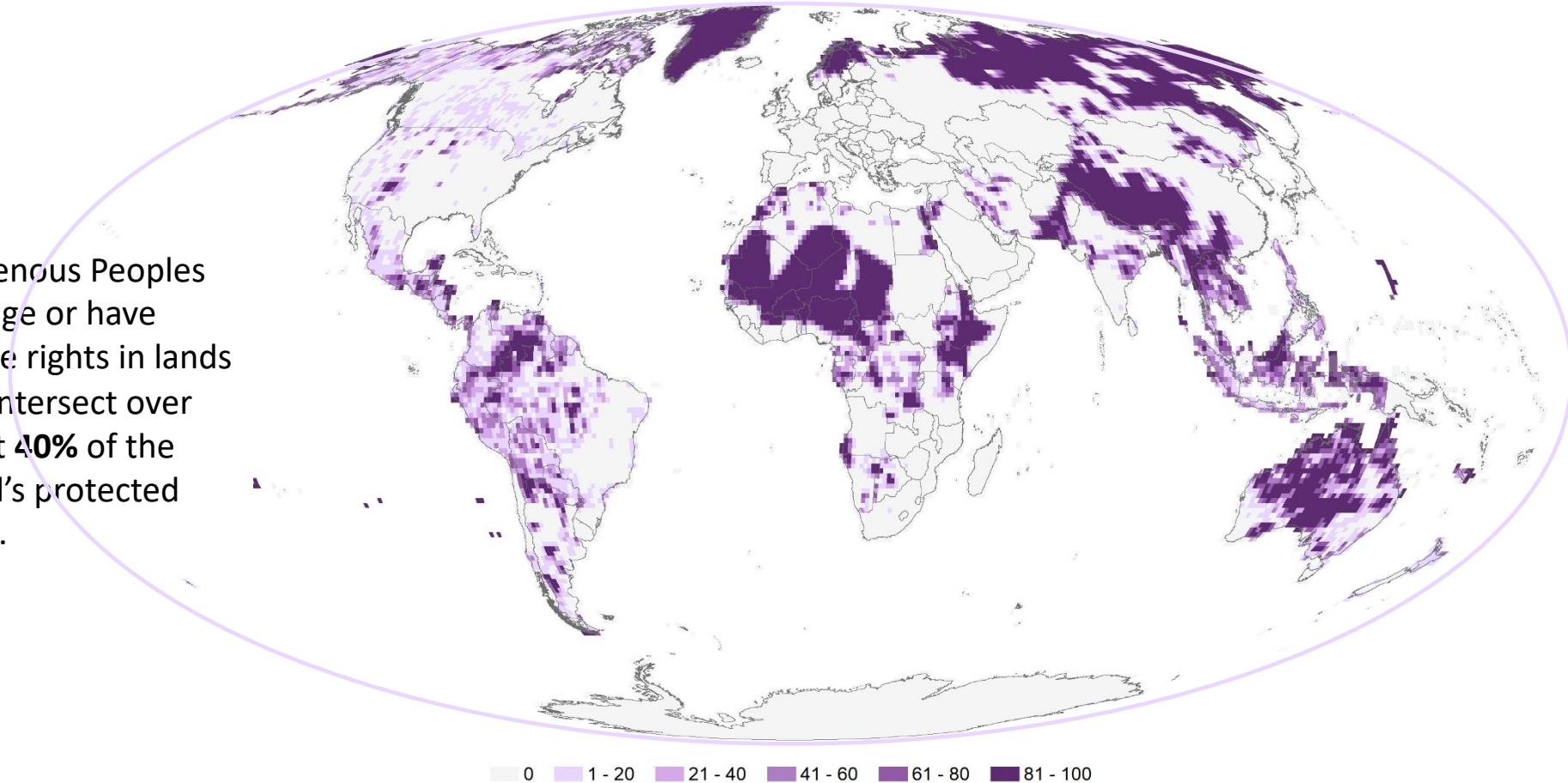




Indigenous Peoples Lands are important for global biodiversity conservation

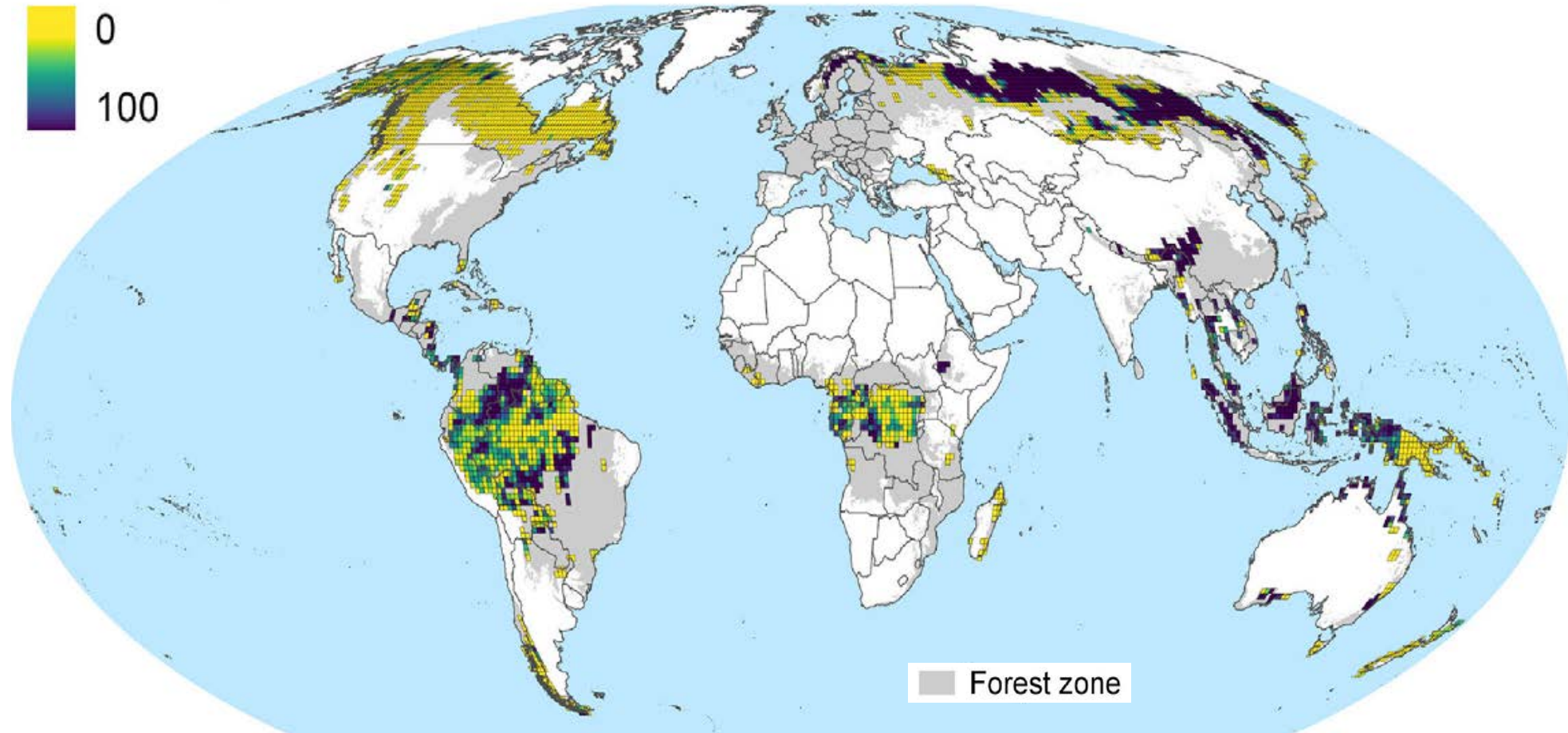
# Indigenous Peoples' Lands (IPLs)

Indigenous Peoples manage or have tenure rights in lands that intersect over about **40%** of the world's protected areas.



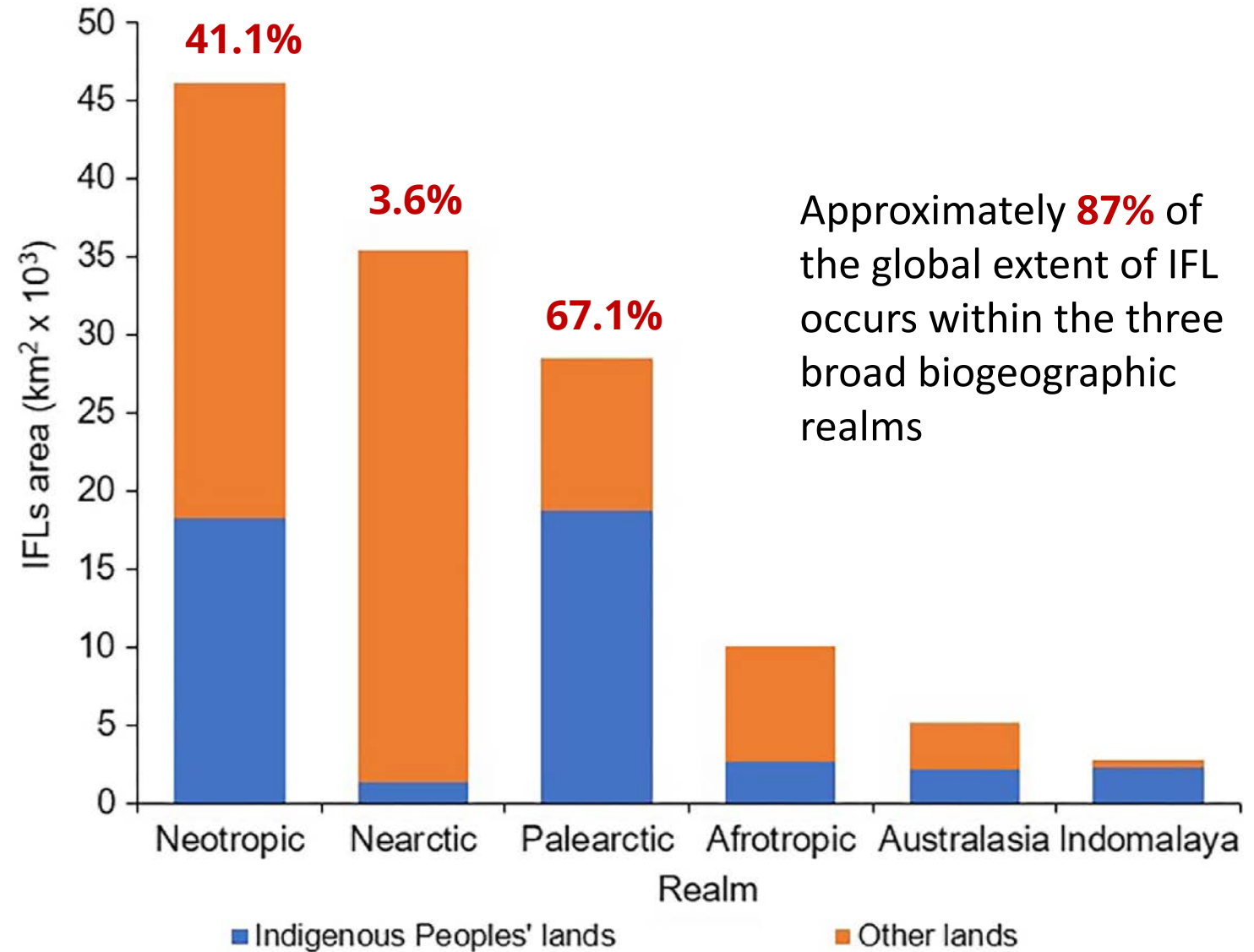
**Percentage of each square of a degree mapped as Indigenous in at least one of the 127 source documents**

# Intact Forest Landscapes (IFL)



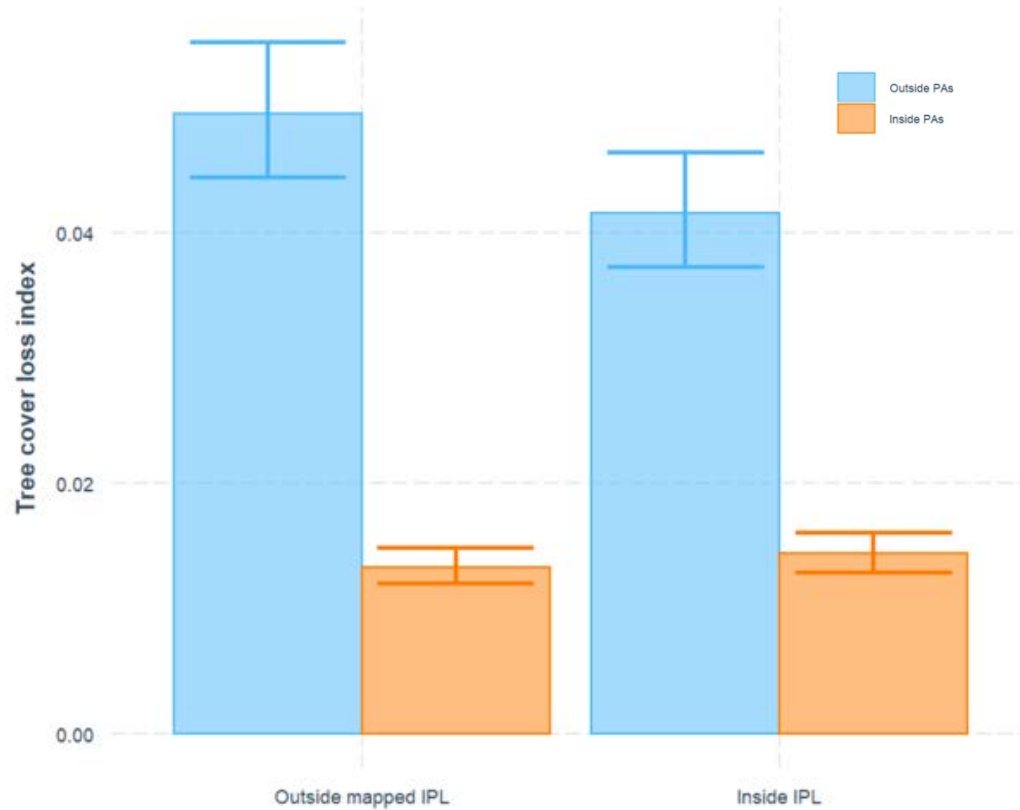
**IFL within IPL cover at least 4.2 million km<sup>2</sup> or 36.2% of the world's IFL area, which covers a total of 11.6 million km<sup>2</sup>**

Percent of IFL that overlap mapped Indigenous Peoples' lands

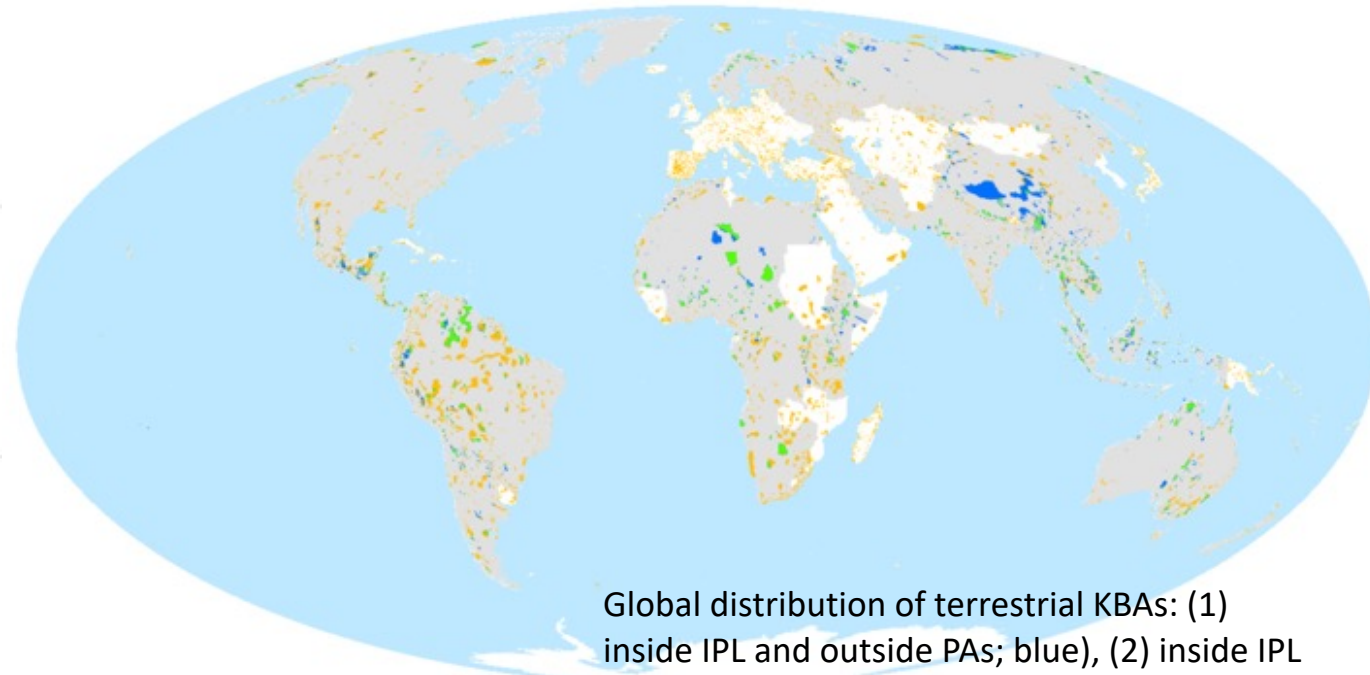


# Key Biodiversity Areas

## Tree Cover Loss Rate



## Global Distribution

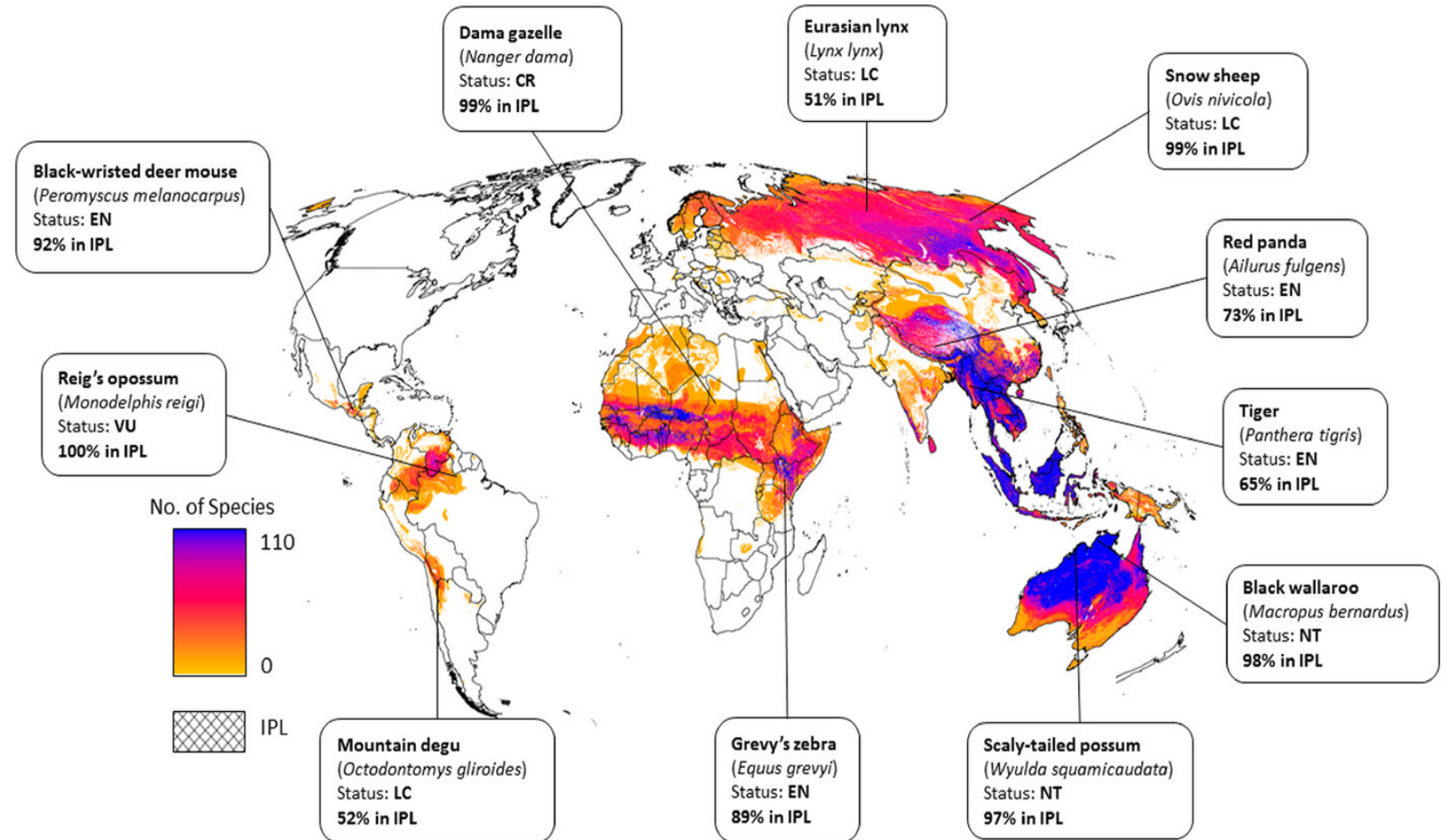


Global distribution of terrestrial KBAs: (1) inside IPL and outside PAs; blue), (2) inside IPL and inside PA(green) and (3) outside mapped IPL(orange).

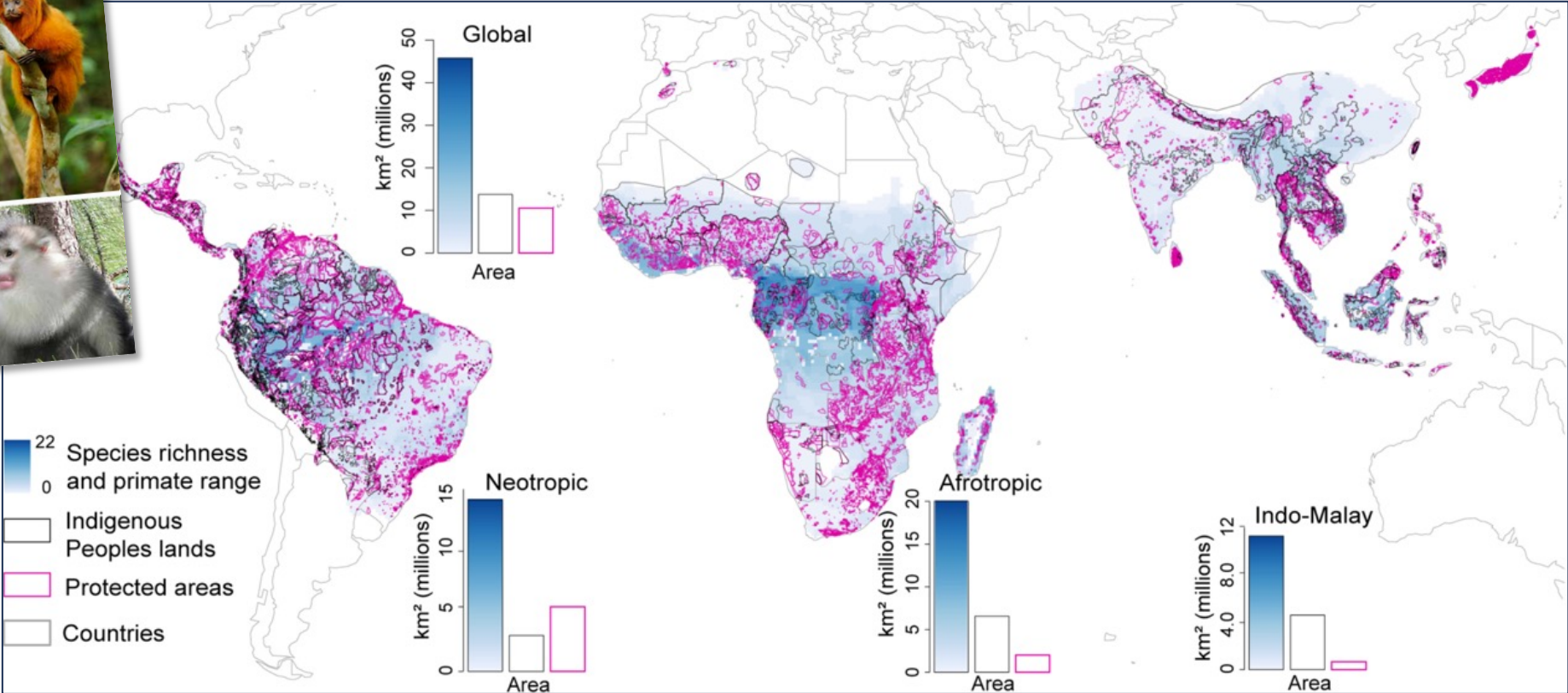


# Terrestrial Mammal Conservation

Number of mammal species that have >50% of their habitat in mapped Indigenous Peoples' lands (IPL) and locations of a subset of species (hatching, mapped IPL; LC, least concern; NT, near threatened; EN, endangered; CR, critically endangered).

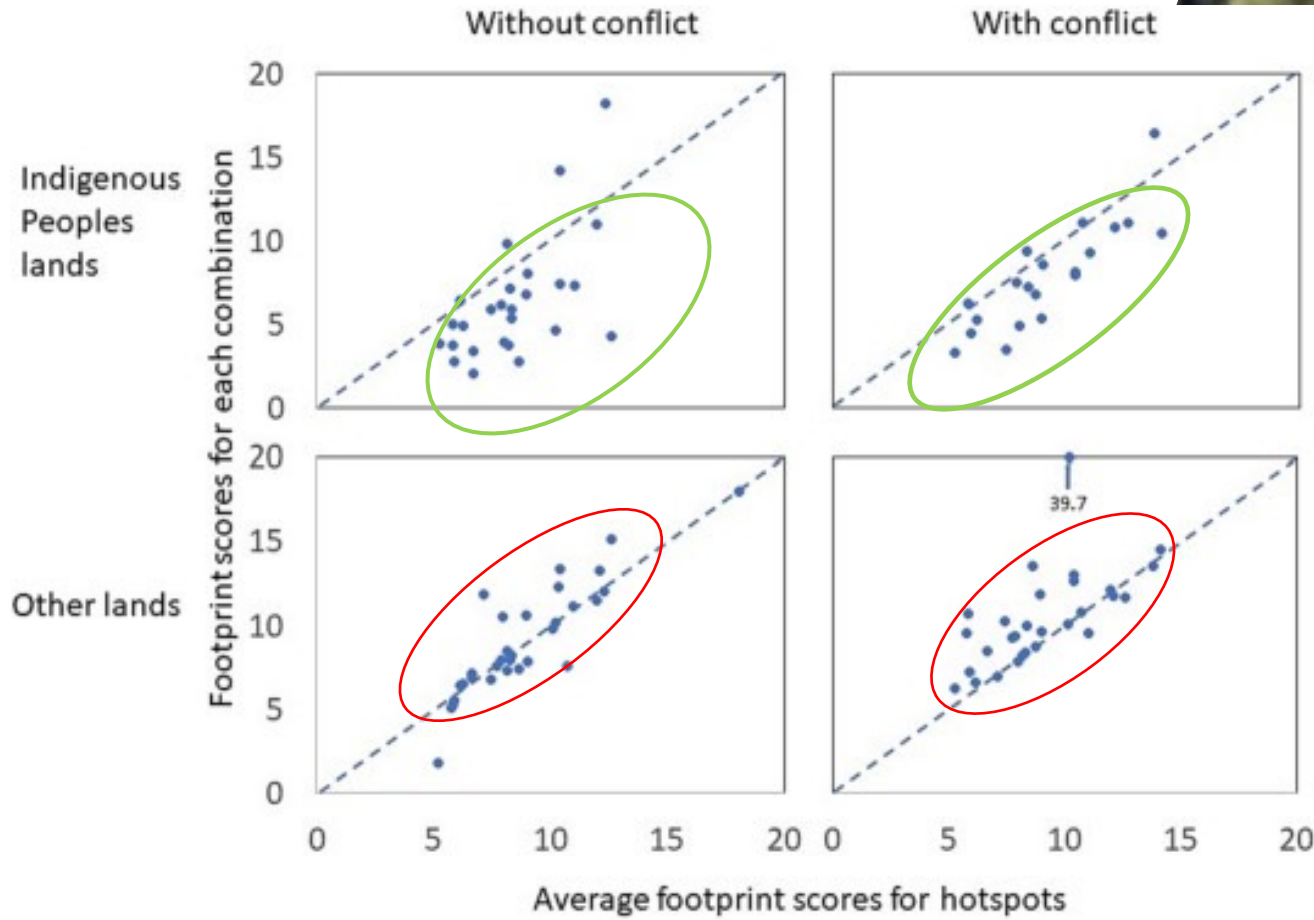


# Importance of IPLs for World Primates



Estrada, A. et al. (2022). Global importance of Indigenous Peoples, their lands, and knowledge systems for saving the world’s primates from extinction. *Science Advances* 8, 32, DOI: (10.1126/sciadv.abn2927)

# Comparisons of Mean Human Footprint



A herd of elephants of various sizes is gathered in a muddy, water-filled clearing in a savanna. The elephants are engaged in social activities, with some standing and others partially submerged in the mud. The background features a dense forest of tall, thin trees under a soft, overcast sky. A white horizontal line is drawn across the upper portion of the image, above the text.

Despite comprising 6.2% of the global population, Indigenous Peoples formally or customarily govern at least one-quarter of the world's terrestrial surface.



Due to their stewardship—combined with their lifeways, knowledge systems and connection to place—the vast majority (~92% or 35.4 million km<sup>2</sup>) of Indigenous Peoples' lands remain in good to moderate condition, accounting for 39% of Earth's most ecologically intact lands.

Indigenous Peoples thus play an outsized role in protecting places that provide local benefits such as food, medicine and cultural well-being as well as critical global benefits such as biodiversity protection, climate-change mitigation and other ecosystem services.





More than **1,000** rainforest cultures still exist, but nearly all of them face a grim future. **50 million people** live in rainforests worldwide.

Forests without people living within them risk being lost, because there will be no local advocates to protect the trees from being cut down, and the wildlife from being hunted to extinction.





Tropical forests provide ecological goods and services that ensure survival of local populations

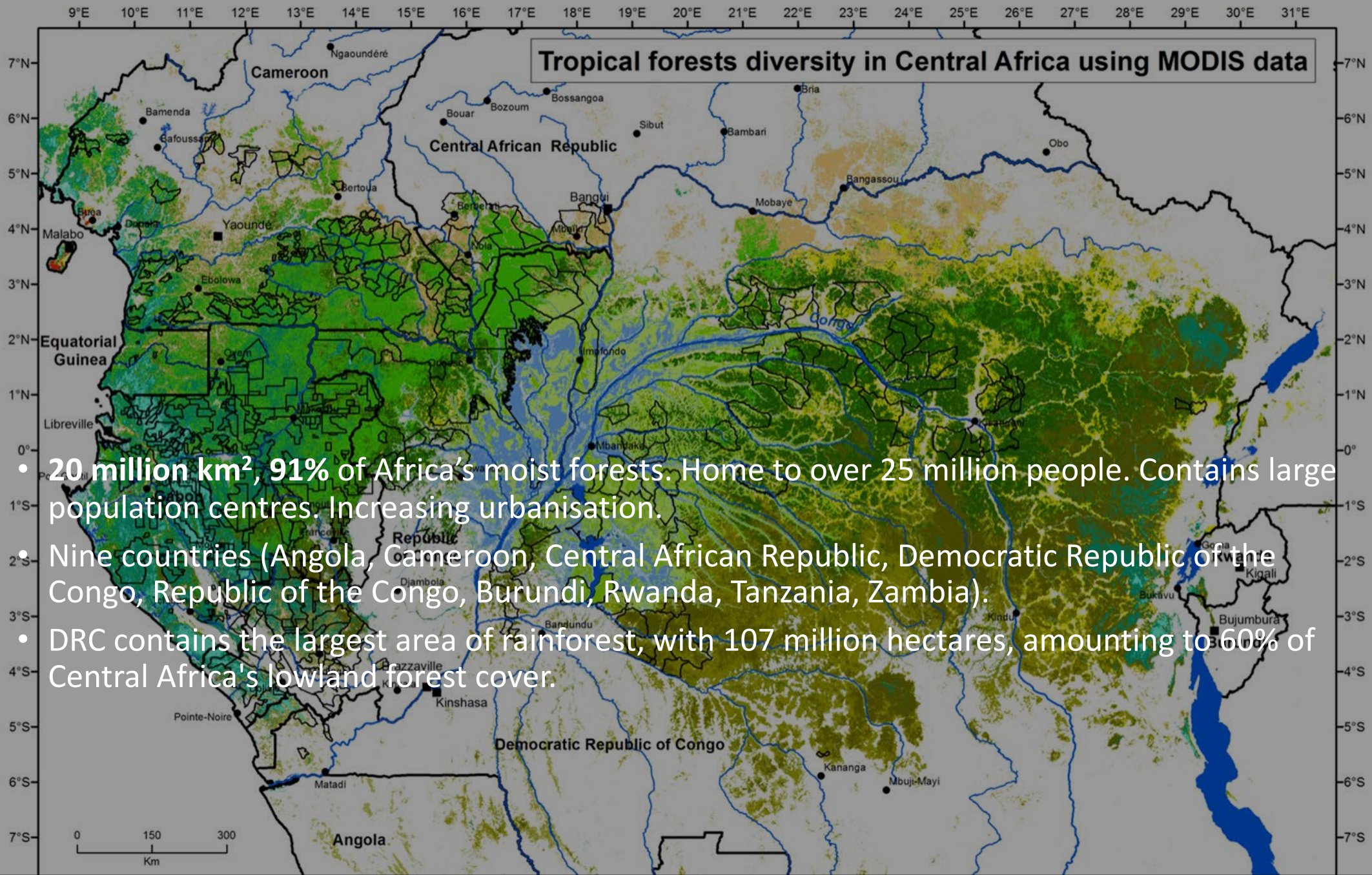


Over generations,  
Indigenous communities  
have accumulated  
valuable knowledge  
about the natural world,  
health, technology,  
rituals, and cultural  
expressions.





Traditional knowledge, languages, practices, and resources, which Indigenous peoples have stewarded for centuries, have been eroded and lost due to the influence of colonizers and post-colonial states.



**Tropical forests diversity in Central Africa using MODIS data**

- **20 million km<sup>2</sup>**, 91% of Africa's moist forests. Home to over 25 million people. Contains large population centres. Increasing urbanisation.
- Nine countries (Angola, Cameroon, Central African Republic, Democratic Republic of the Congo, Republic of the Congo, Burundi, Rwanda, Tanzania, Zambia).
- DRC contains the largest area of rainforest, with 107 million hectares, amounting to 60% of Central Africa's lowland forest cover.

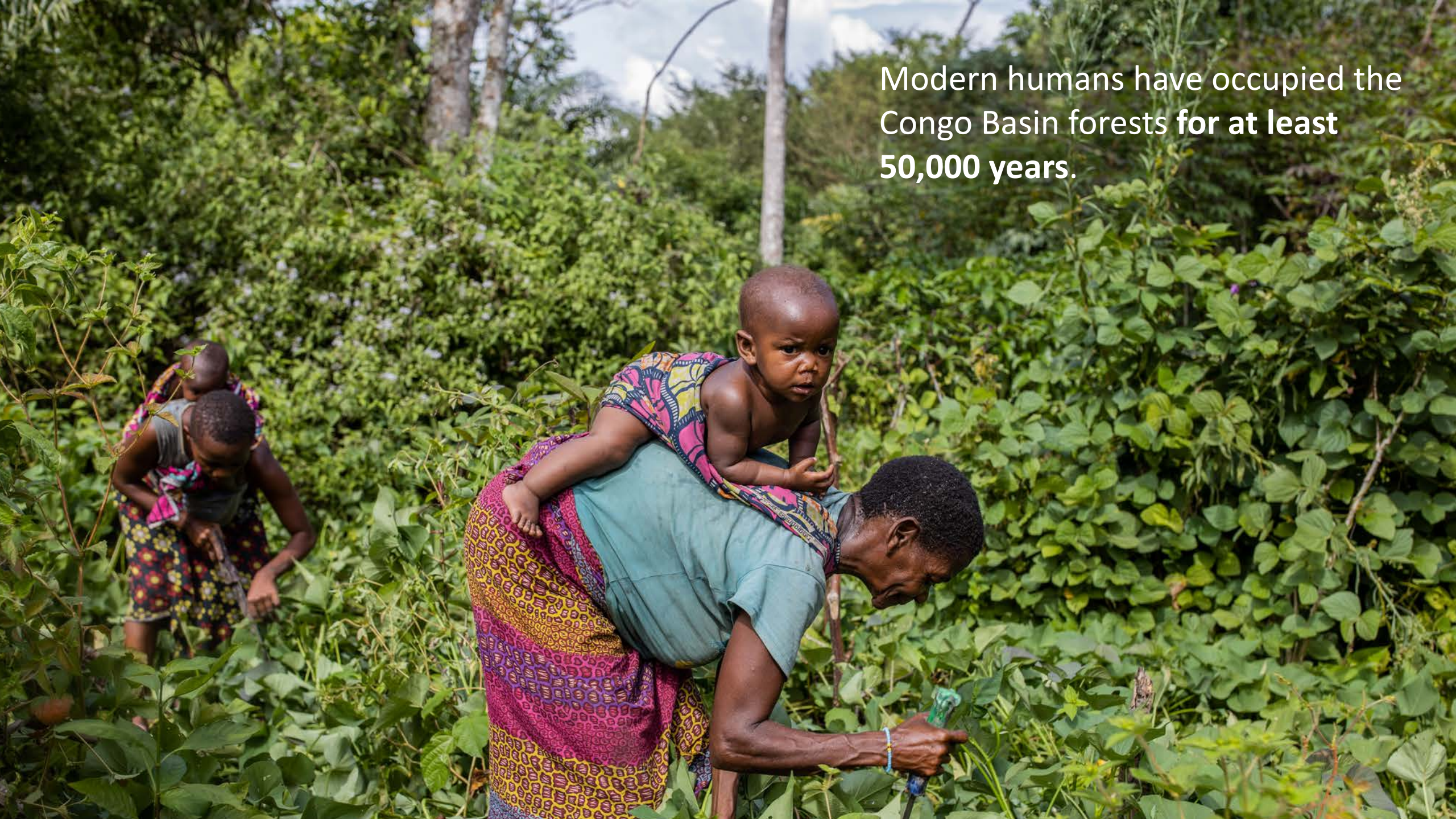
## Indigenous Peoples of the Congo Basin

---

In the 1860s, two Western explorers, Paul du Chaillu and Georg Schweinfurth, claimed to have found the mythical Pygmies of Homer when encountering relatively short-statured populations in Central Africa. By the end of the 19th century, more than 20 populations throughout the Congo Basin were called 'Pygmies'.



Modern humans have occupied the Congo Basin forests for at least 50,000 years.



Mbuti net hunters, Ituri  
Forest, DRC

Pygmies are the original inhabitants of African tropical forests. Evidence of their presence for at least **20,000 years**. They are hunter-gatherers and for centuries have traded with neighbouring farmers.







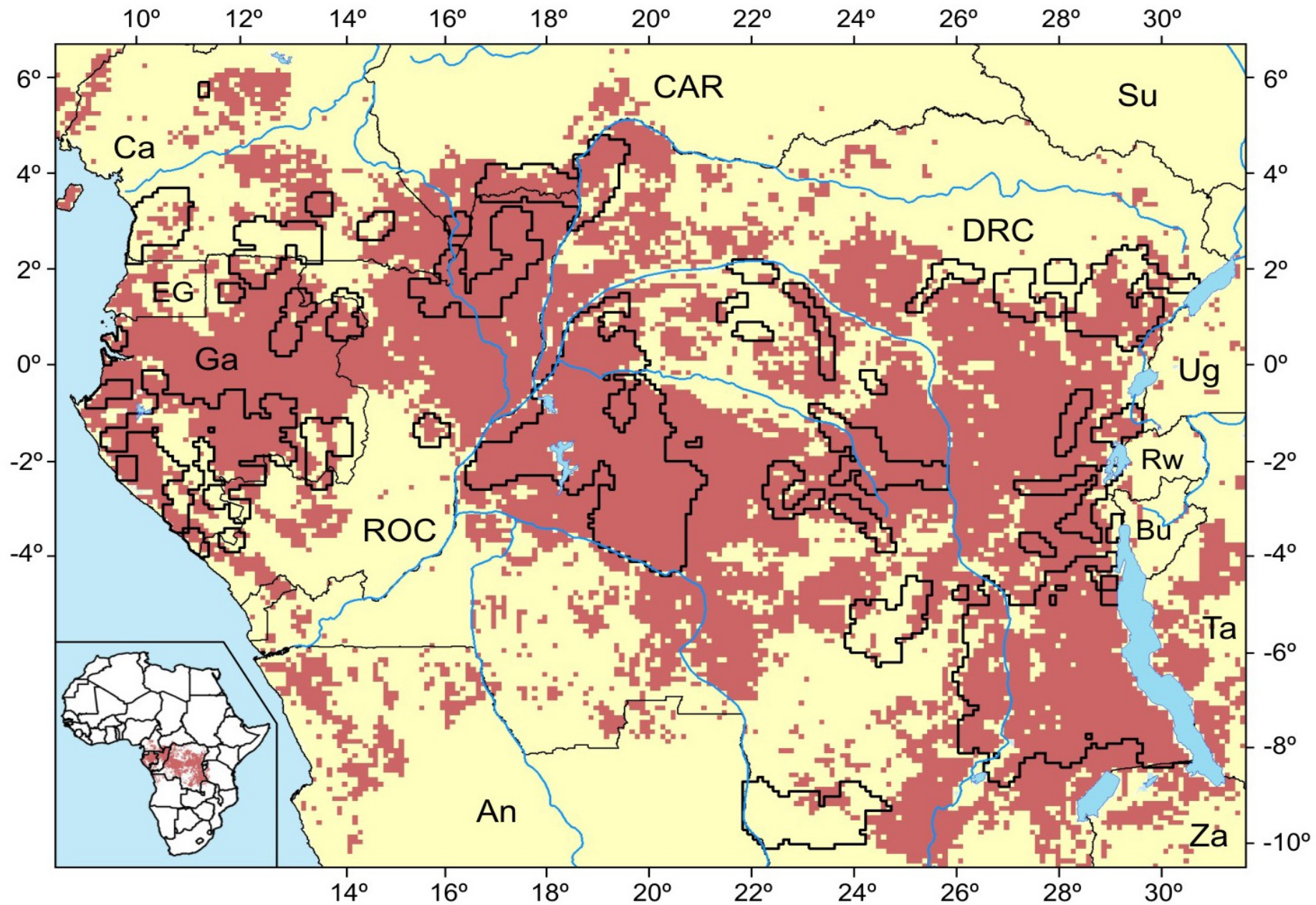




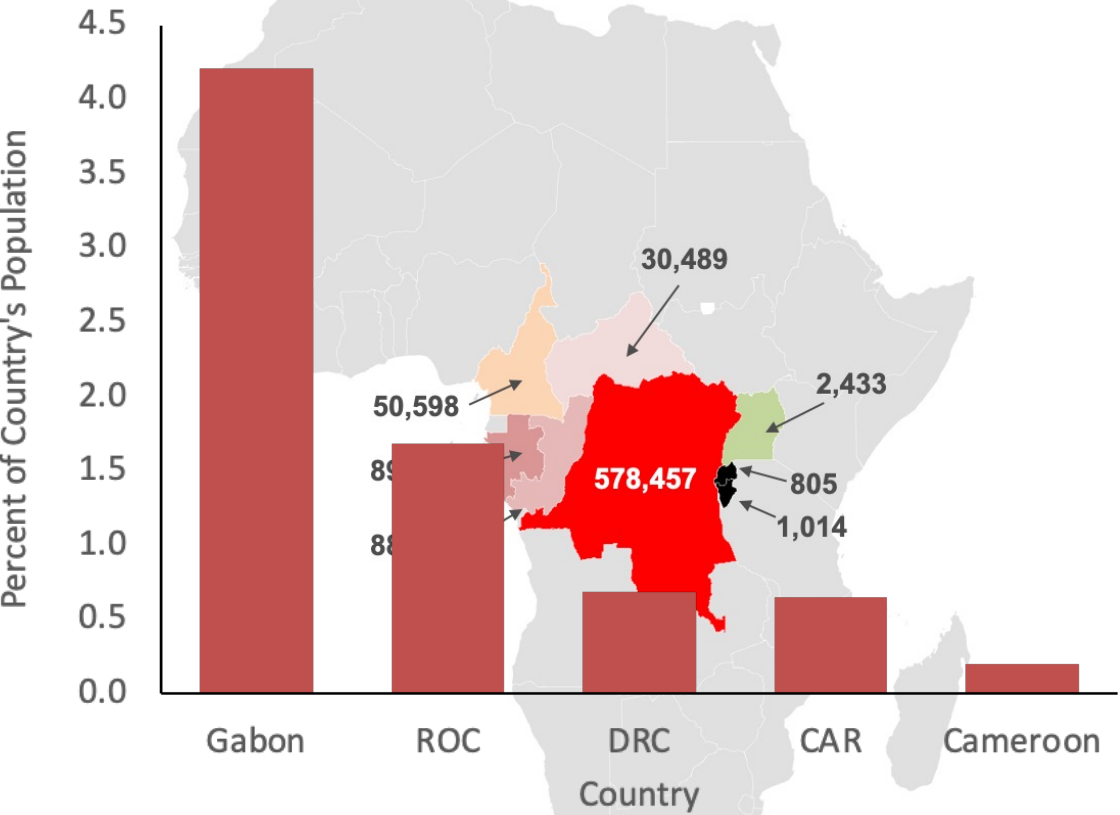




# Distribution

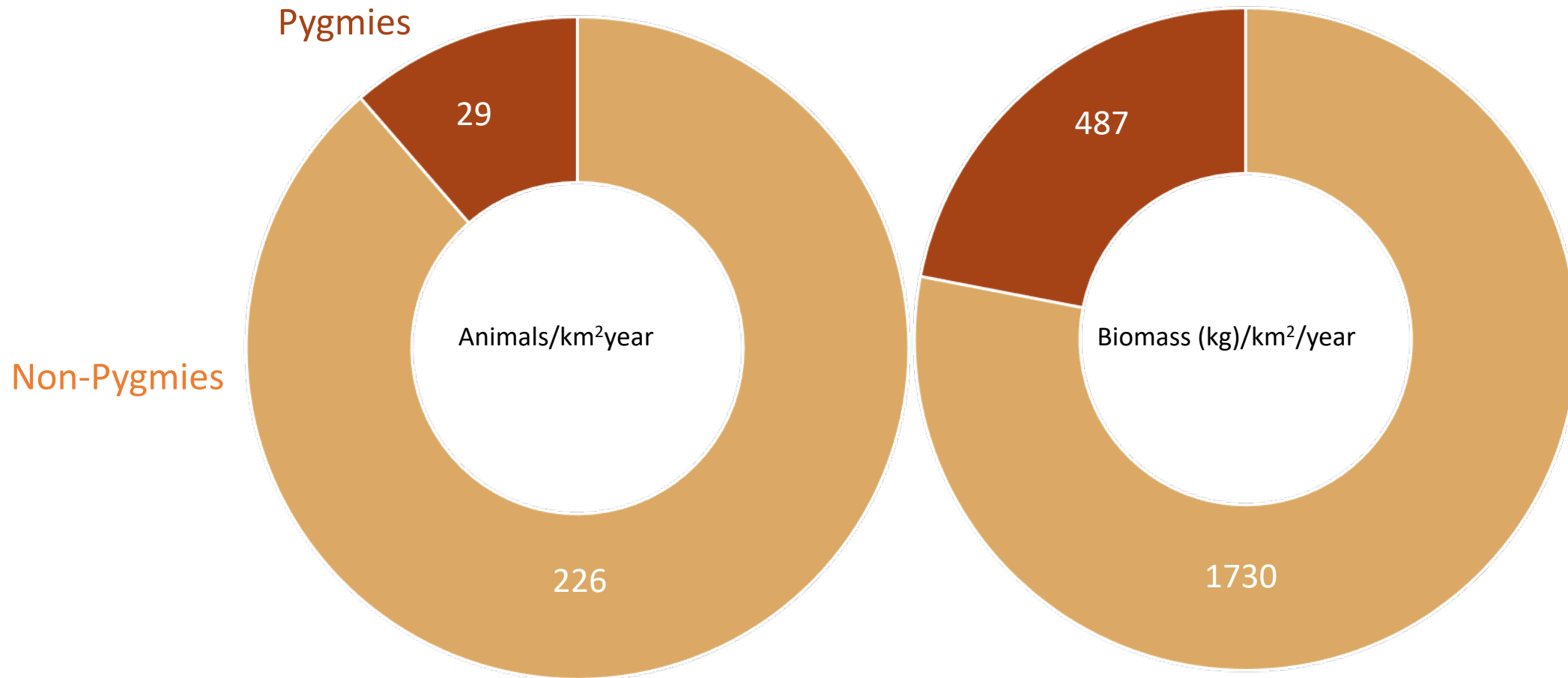


# Population

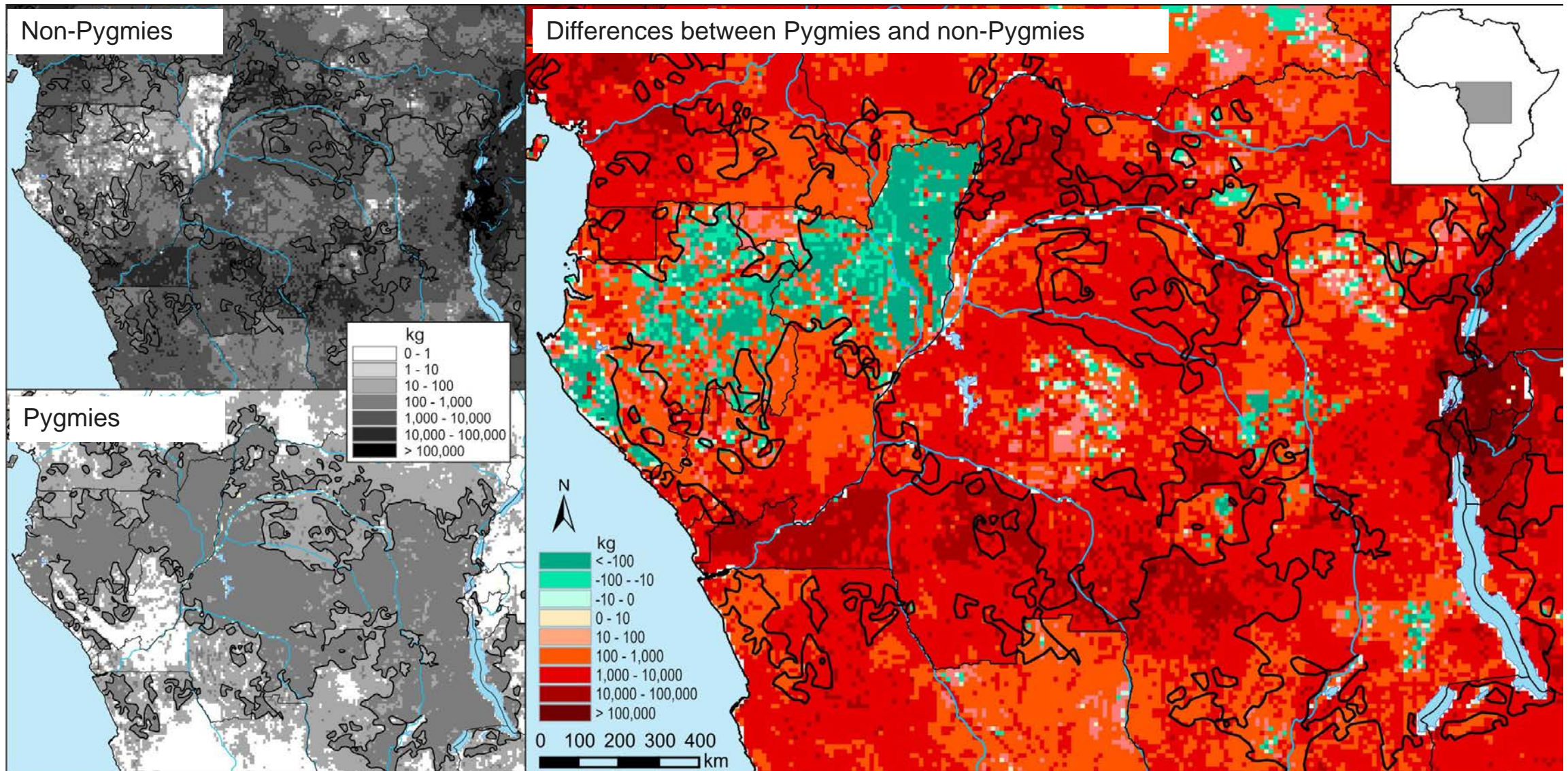


Olivero J, Fa JE, Farfán MA, Lewis J, Hewlett B, et al. (2016) Distribution and Numbers of Pygmies in Central African Forests. PLOS ONE 11(1): e0144499. <https://doi.org/10.1371/journal.pone.0144499>

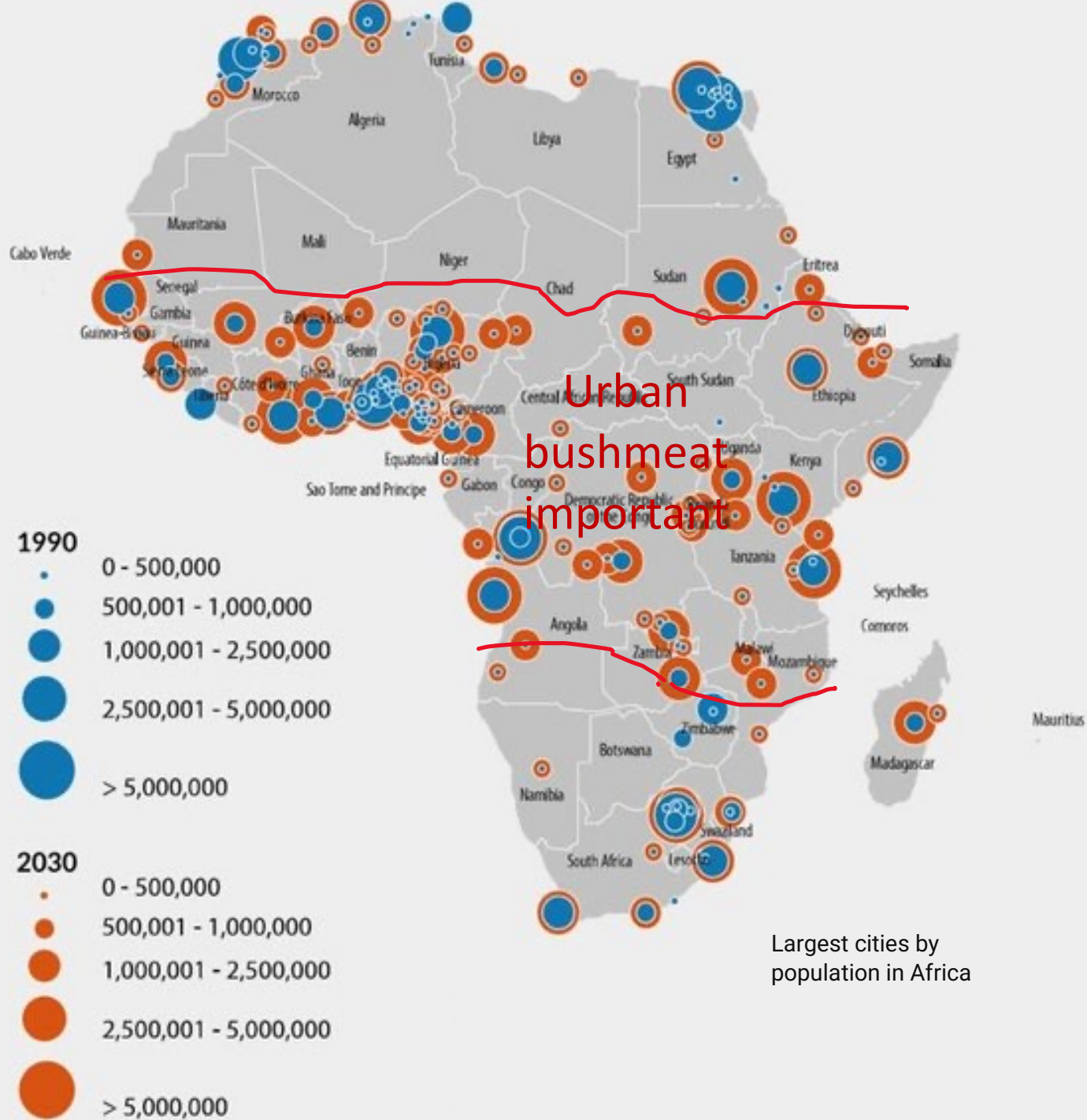
# Differences in wild meat extraction



# Differences in wild meat harvest rates (kg/person/year)







Pressure from urban wild meat demand



Bushmeat sellers in Kisangani market, Democratic Republic of Congo

Resettlement has had significant cultural and social impacts on Indigenous Peoples. They may face challenges in adapting to a more urban or roadside lifestyle, and their traditional knowledge and practices may be at risk of being lost.

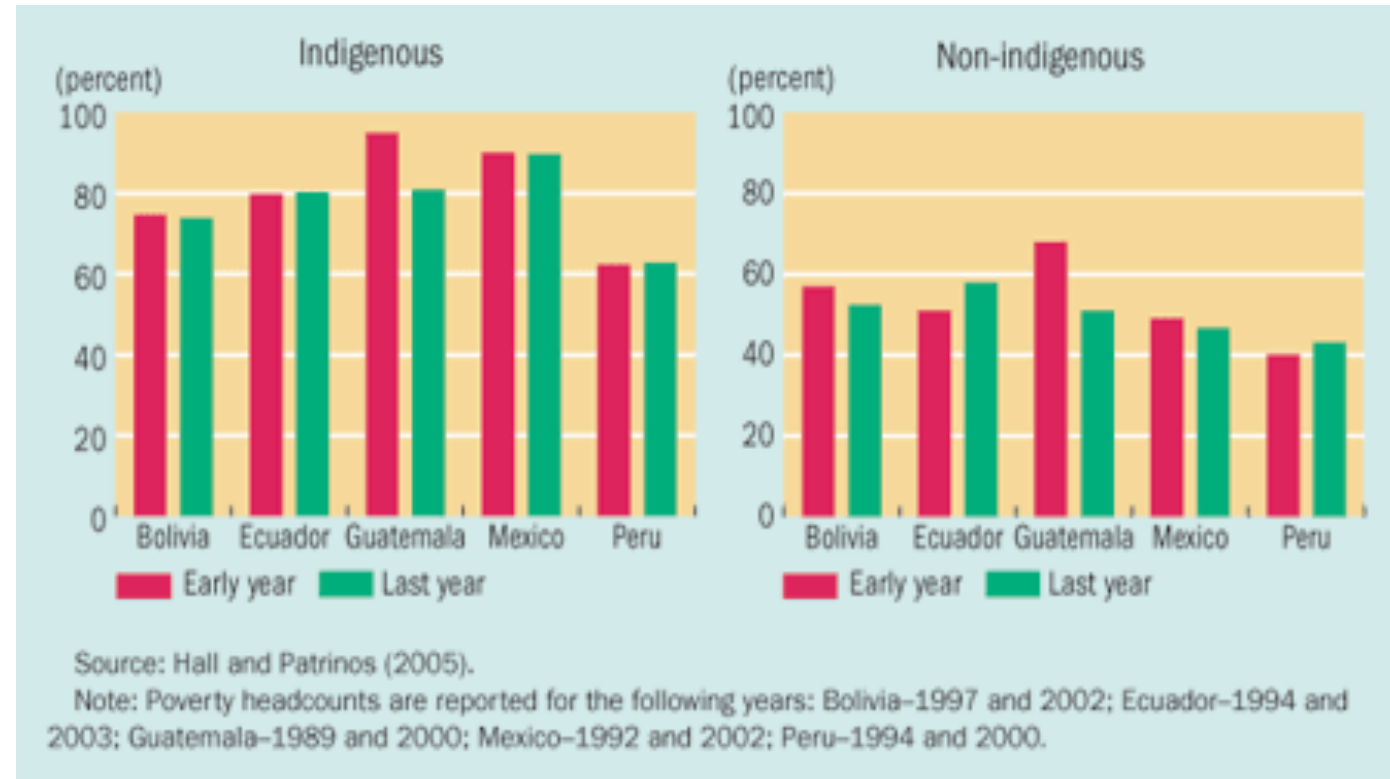


Often, because of resettlement, Indigenous Peoples bear a greater burden of nutrition-related issues and face higher levels of food insecurity compared to non-Indigenous populations. This elevated risk of malnutrition is particularly pronounced in more remote areas.



A 1994 World Bank report marked the first regional assessment of living standards among Indigenous Peoples in Latin America, revealing starkly poorer socioeconomic conditions compared to the general population.

A decade later, a significant follow-up study by the World Bank indicated that despite efforts to enhance healthcare and education access, indigenous communities continued to face persistently high poverty rates in the region.



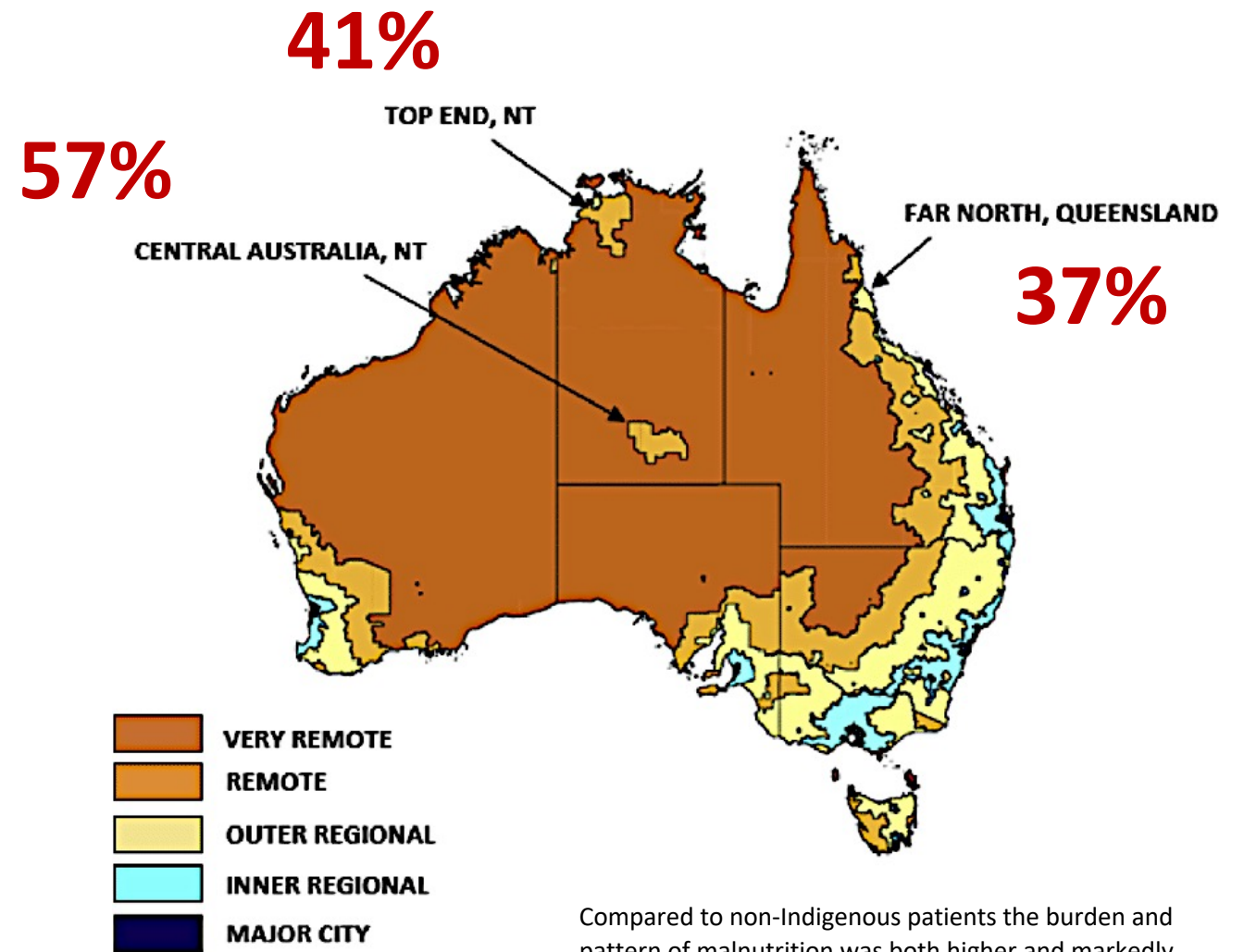


Australia is one of the wealthiest countries on Earth - enriched by the bounty of a once-in-a-lifetime mining boom - but it remains bedevilled by a rising number of its Indigenous Peoples living in poverty.



An Aboriginal man from Pormpuraaw, located in the Gulf of Carpentaria on Cape York, Australia. Despite Australia's rich Indigenous history, with Aboriginal communities having inhabited the land for over 50,000 years, the arrival of British settlers 231 years ago marked a significant shift. Today, while Australia's total population has grown to over 24 million, Indigenous Australians make up only 2.8% of the country's population.

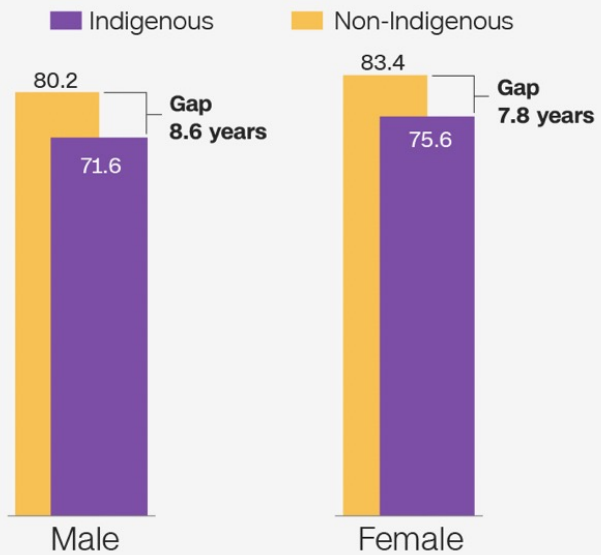
# Malnutrition



Compared to non-Indigenous patients the burden and pattern of malnutrition was both higher and markedly different among Indigenous patients.

# Life Expectancy

Life expectancy in Australia



Australia has one of the highest life expectancies in the world, ranking ninth in 2021, however, **Indigenous people have shorter** lifespans than non-Indigenous.

Note: Life expectancy at birth estimates are for people born in 2015-2017 and adjusted for age-specific rates of Indigenous identification.

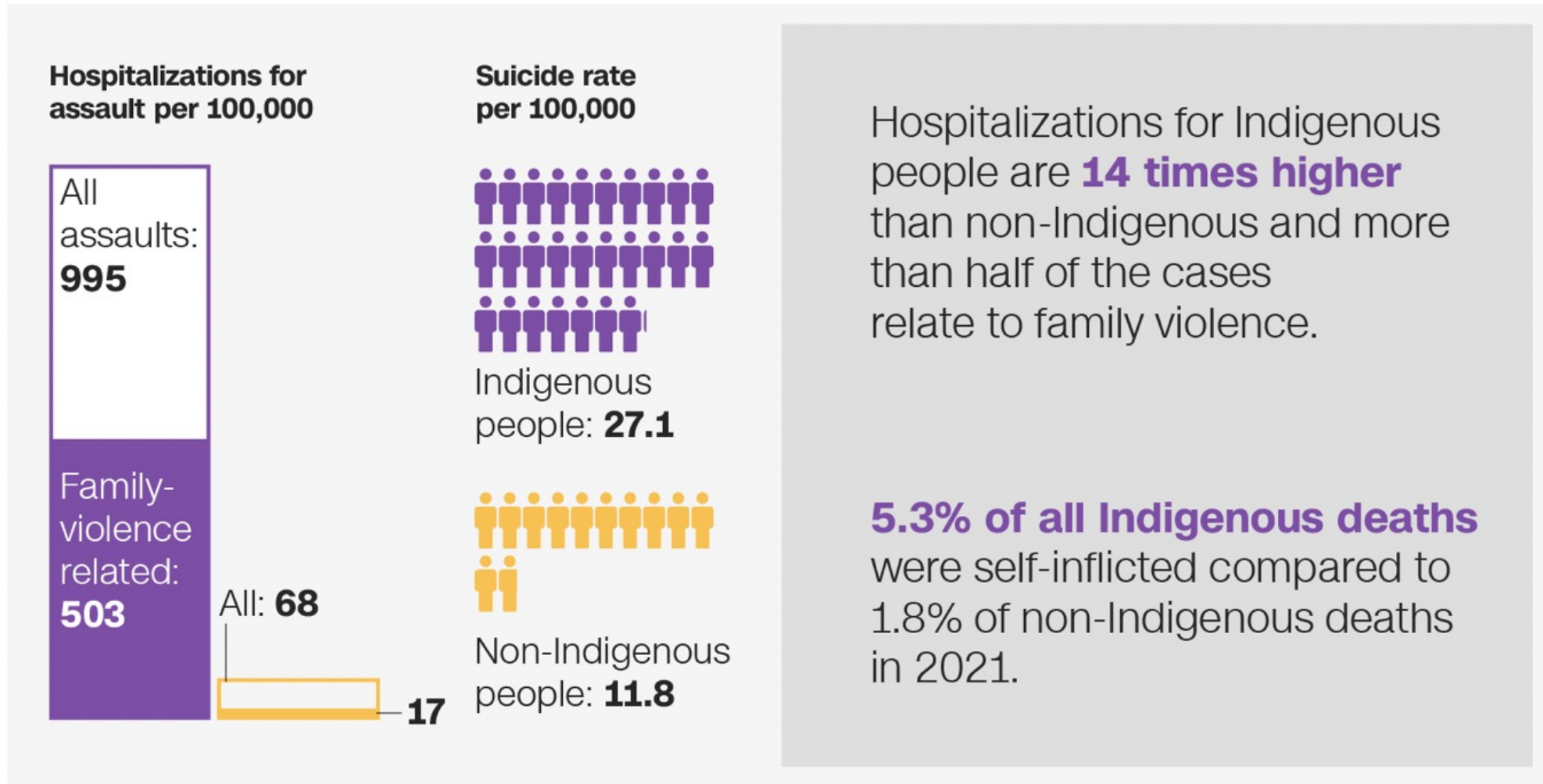
Sources: Australian Bureau of Statistics, World Bank

Graphic: Rosa de Acosta, CNN



Aboriginal woman  
Lockhart River, Cape York, Queensland,  
Australia

# Hospitalization and Suicide Rates



Note: Age-standardized assault hospitalization rates cover 2020-2021, while suicide rate figures are for 2021.

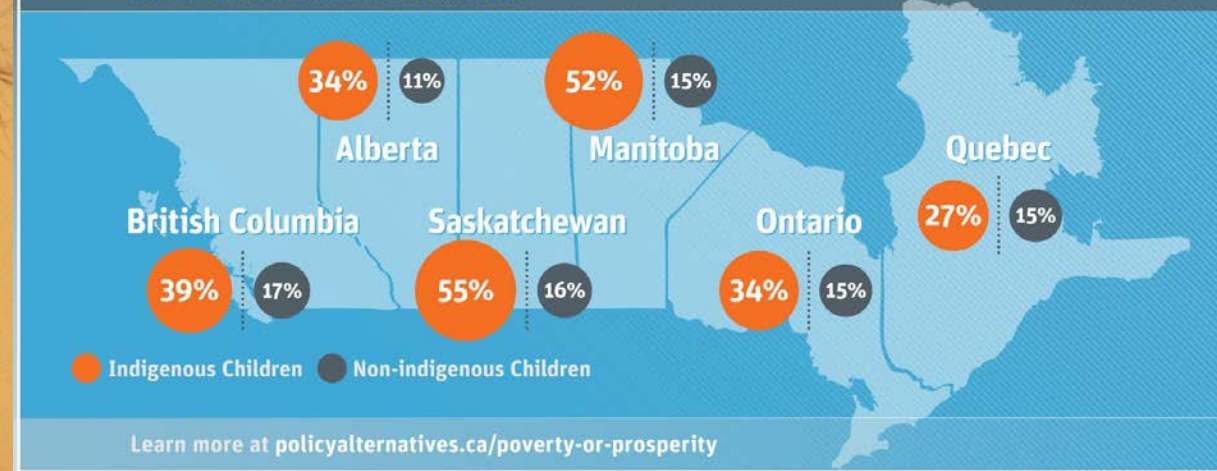
Source: Australian Institute of Health and Welfare



# Poverty

## From Bad to Worse

CHILD POVERTY RATES IN CANADA



Indigenous children in Canada are over two and a half times more likely to live in poverty than non-Indigenous children.

# FIRST NATIONS IN BC AND THE TOXIC DRUG CRISIS

JANUARY - DECEMBER 2020



## COVID-19 Pandemic Results in a Dramatic Increase in Toxic Drug Deaths

**119%**

INCREASE IN TOXIC DRUG DEATHS: 2020 vs 2019

2020: 254 First Nations people died

*The highest number of toxic drug deaths since 2015*



2019: 116 First Nations people died



EQUALS 10 DEATHS

First Nations people are **DISPROPORTIONATELY REPRESENTED** IN TOXIC DRUG DEATHS



**3.3%**

of BC's Population



**11.8%**

IN 2019



**14.7%**

IN 2020

First Nations represent only **3.3%** of BC's population.

**14.7%** of all toxic drug deaths in 2020 were First Nations people. This number was **11.8%** in 2019.



**THE GAP IS WIDENING DRAMATICALLY**



between First Nations and other BC residents.

**5.3x**

First Nations people died at 5.3 times the rate of other BC residents in 2020

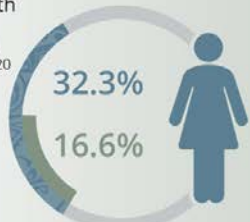
**3.9x**

First Nations people died at 3.9 times the rate of other BC residents in 2019

### FIRST NATIONS WOMEN

experience very high rates of toxic drug death

**32.3%** of First Nations people who died in 2020 were women



**16.6%** of other BC residents who died were women



2020 RECORDED THE HIGHEST NUMBER OF DEATHS AMONG BOTH MEN AND WOMEN



**9.9x** First Nations **women** died at **9.9 times** the rate of other female BC residents

**4.3x** First Nations **men** died at **4.3 times** the rate of other male BC residents



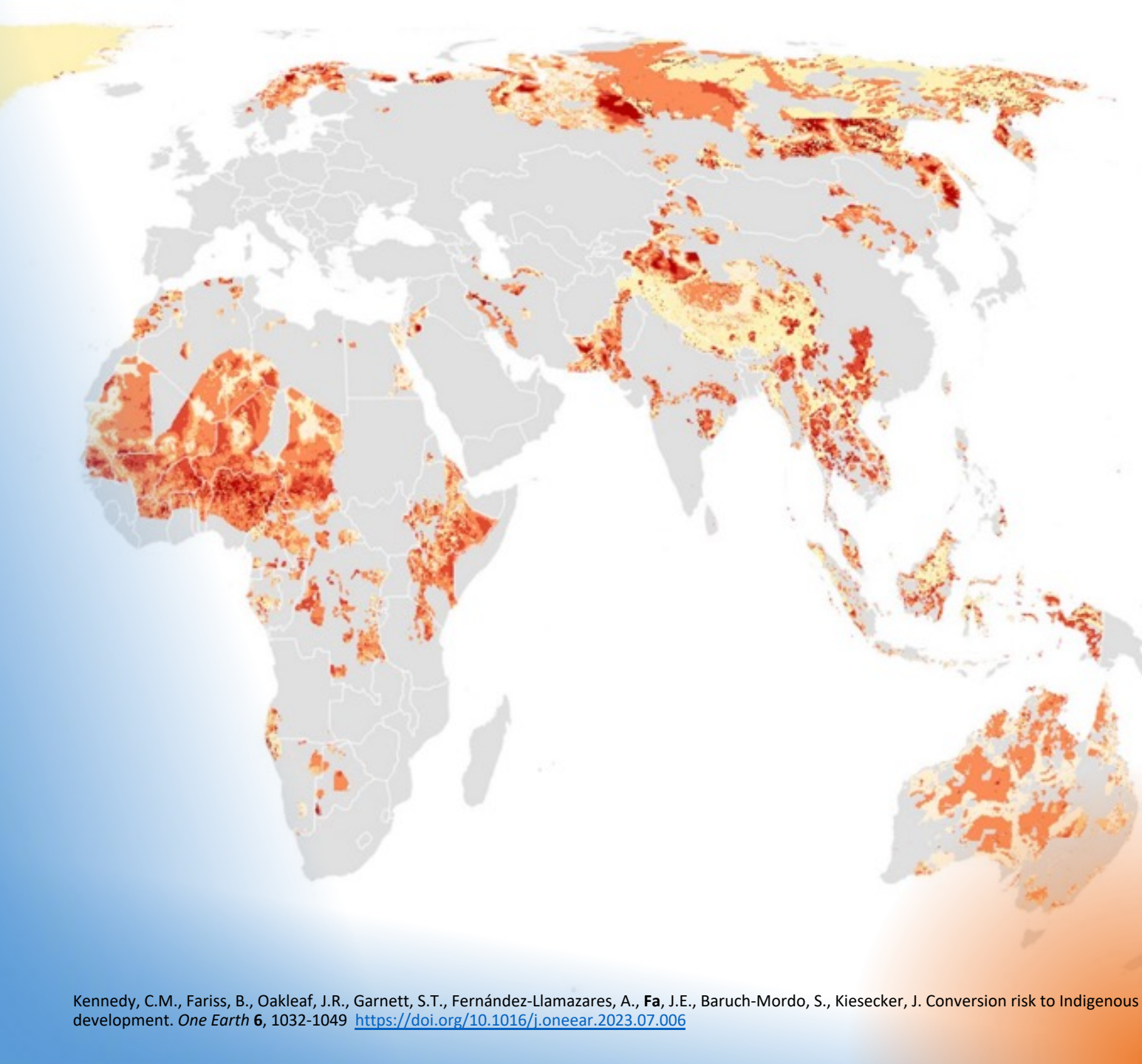
“Despite expanded harm reduction education, services and supports for First Nations people, we continue to be disproportionately represented in both COVID-19 and toxic drug events. This reflects the persistence of root causes and the inequity in the provision of health care services and supports for First Nations people in BC.”

Dr Shannon McDonald, Acting Chief Medical Officer, FNHA



Moreover, their lands are being taken, their basic rights disregarded, and often even their very existence is being ignored. Farming, cities, factories and roads have cleared and converted half (54%) of the earth's original forests.



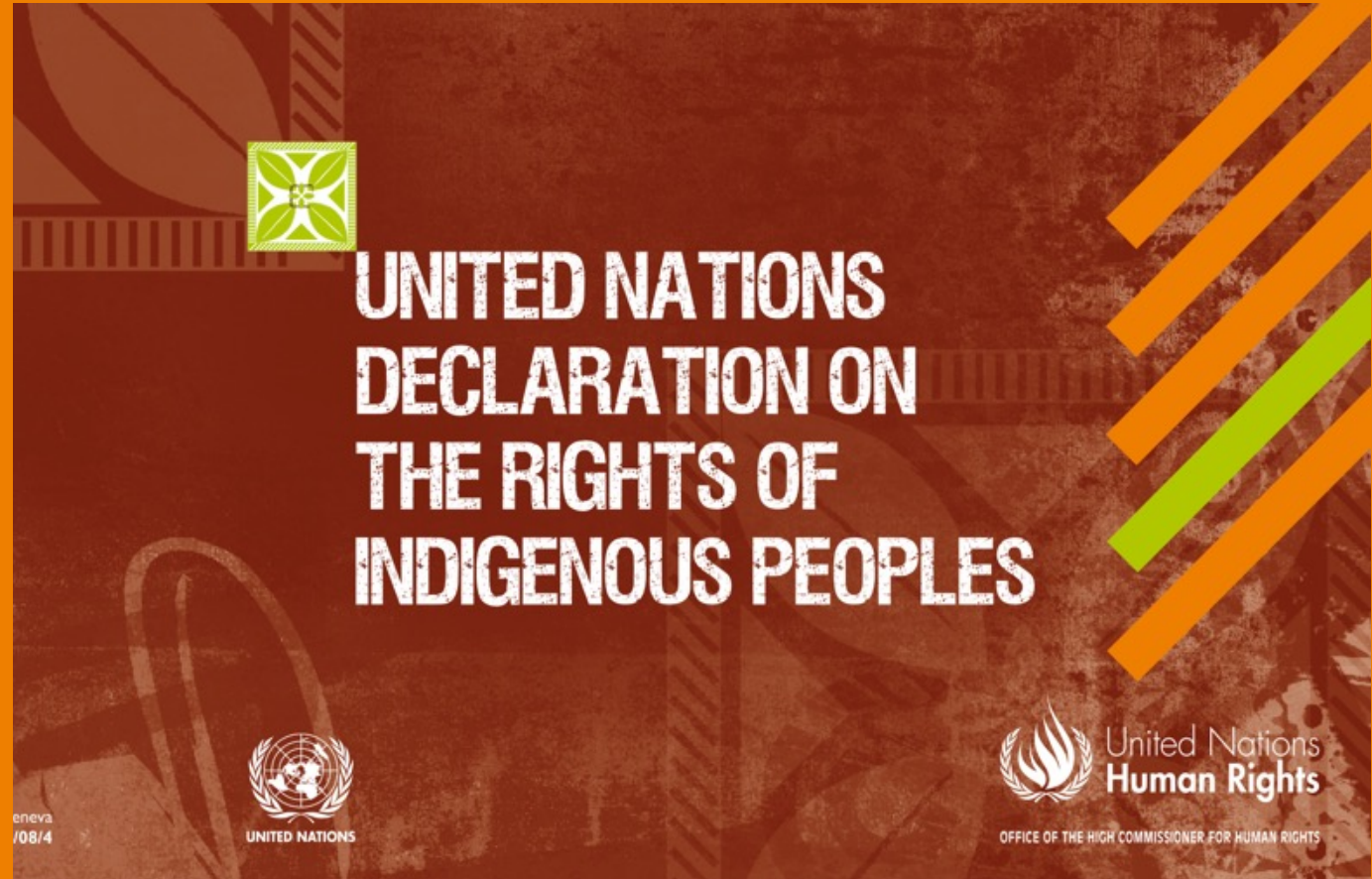


## Conversion risk to Indigenous Peoples' lands

Nearly 60% of Indigenous Peoples' lands (22.7 million km<sup>2</sup>) are threatened in 64 countries. Among the 37 countries with the highest threat, socio-economic and political vulnerabilities increase conversion risk, particularly the limited recognition and protection of territorial rights.

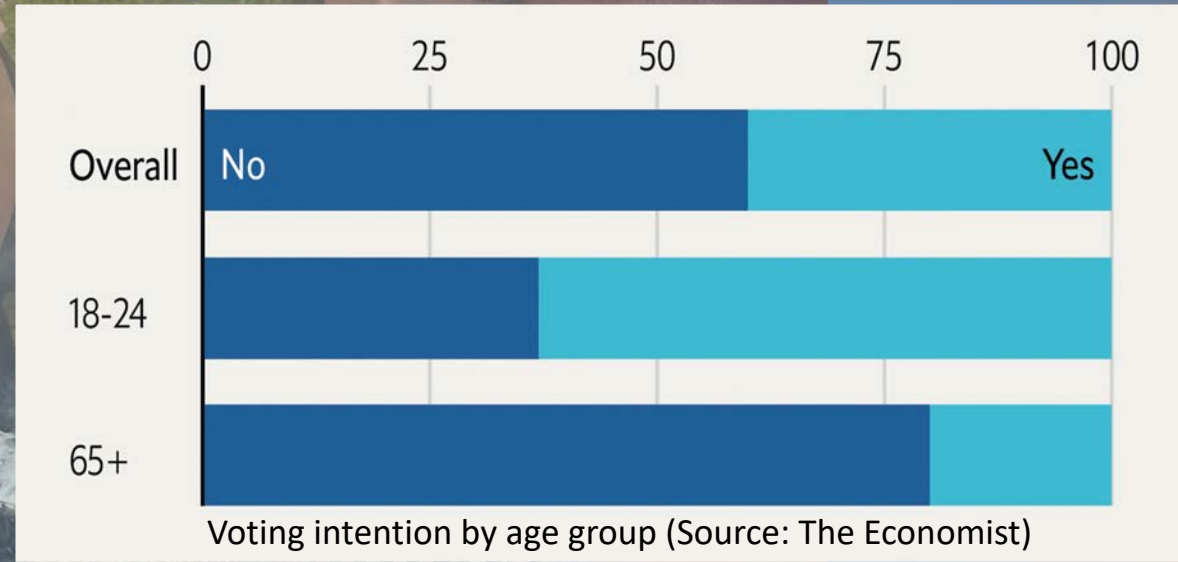
The Declaration is the most comprehensive international instrument outlining the rights of Indigenous Peoples. It sets minimum standards for recognizing, protecting, and promoting these rights, creating a universal framework for the survival, dignity, well-being, and rights of Indigenous Peoples worldwide.

It covers both individual and collective rights, including cultural rights, education, health, employment, and language. The Declaration prohibits discrimination against Indigenous Peoples and supports their full participation in relevant matters. It also upholds their right to maintain their distinct identities and pursue their own priorities in economic, social, and cultural development. Importantly, it promotes harmonious relations between States and Indigenous Peoples.



# The “Voice” referendum to give Indigenous People more influence in politics failed in Australia

Australia’s prime minister, Anthony Albanese, said it would be a chance to unify the country. The reality has been rather different.



The “Voice to Parliament” referendum took place on October 14<sup>th</sup>, 2023.

# In conclusion



In our exploration of Indigenous Peoples' role in biodiversity conservation, we have found that not all Indigenous communities conform to traditional conservation roles. Nevertheless, our evidence underscores that **environmental degradation occurs more slowly in Indigenous Peoples' lands compared to areas outside their influence**, challenging stereotypes and emphasizing the importance of their custodianship and sustainable practices for environmental preservation.

# Future



- Indigenous Peoples play a crucial role in nature conservation, often achieving better results in the areas they manage.
- They actively monitor wildlife and environmental health, improving conservation plans.
- Globally, Indigenous communities advocate for their rights and recognition by participating in environmental negotiations.
- Excluding Indigenous Peoples from decision-making leads to conflicts over land, displacement, and suffering.
- Real change in biodiversity policies needs respect for Indigenous stewardship and rights.
- Engaging Indigenous Peoples in policies is crucial for them to exercise their recognised territorial rights.



<https://www.youtube.com/watch?v=jtHJwndHtO8>



# Photo credits

- **Slide 6, 50, 52** – World in Faces <https://www.un.org/en/exhibits/exhibit/world-in-faces>
- **Slides 8, 10, 11** –Malin Fezehai for *The New York Times*
- **Slide 9** –Tariq Zaidi
- **Slide 14** – <https://www.nationalgeographic.com/magazine/article/isolated-brazil-peru-amazon-tribes-remote-protected>
- **Slides 31, 35-42, 49** – Sustainable Wildlife Management Programme, Thomas Nicolon
- **Slides 27, 28** – Ginebra Peña