



Biological Wealth for Economic Prosperity



Natural Capital Management

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WHAT IS NATURAL CAPITAL?

Nature's assets. More than 50% of global GDP, \$44 trillion of economic value, depends on natural resources.

Renewable
(includes living things and non-living things that can regenerate)

50%
of global GDP

\$44
trillion of economic value

...and non-renewable
(fossil fuels, soil and minerals that exist in finite amounts)

Nature's important benefits are called "**ecosystem services**". They include:



Food and water



Pollination



CO₂ capture

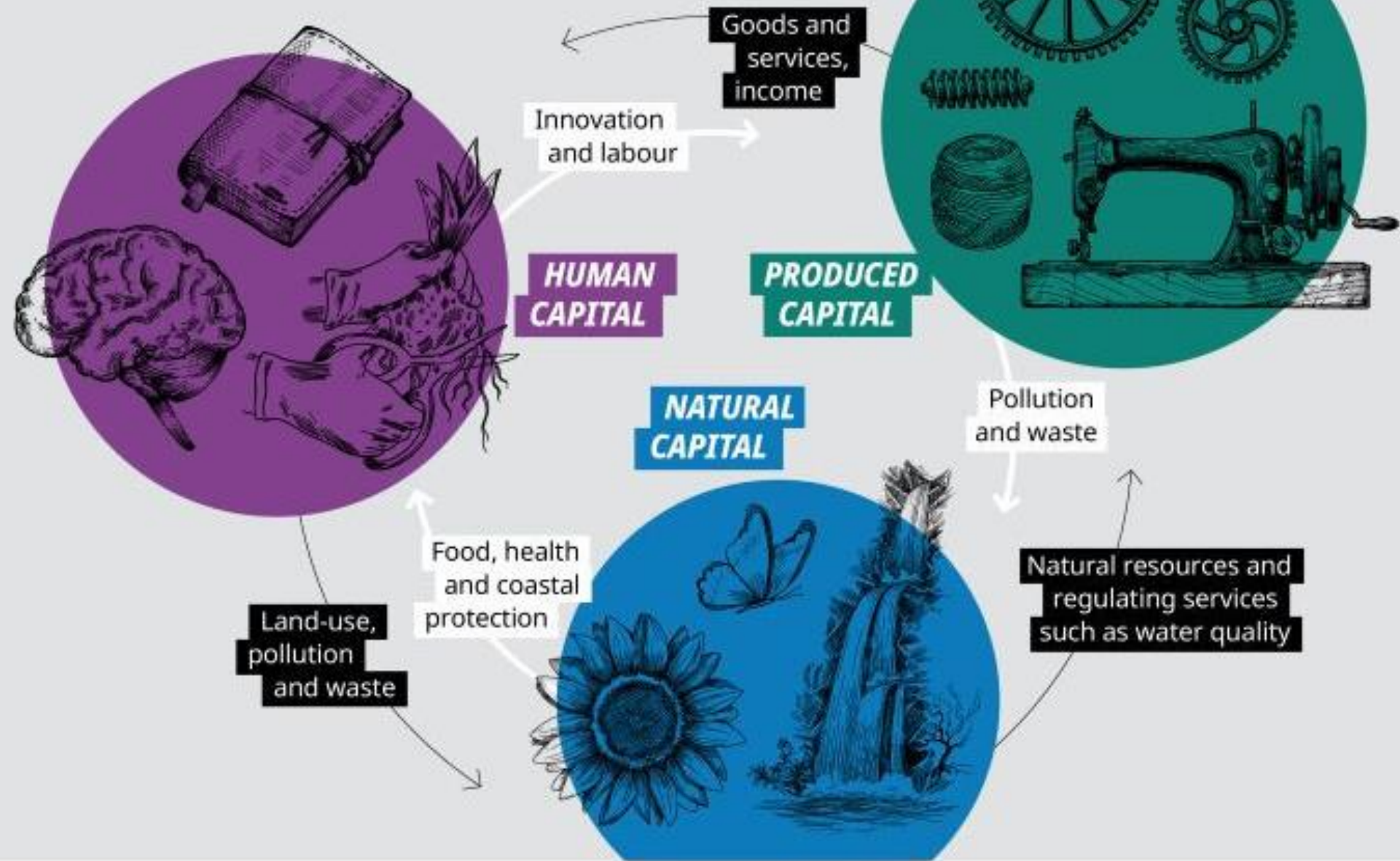
\$3
trillion

cash value of what oceans will provide us annually from

2030



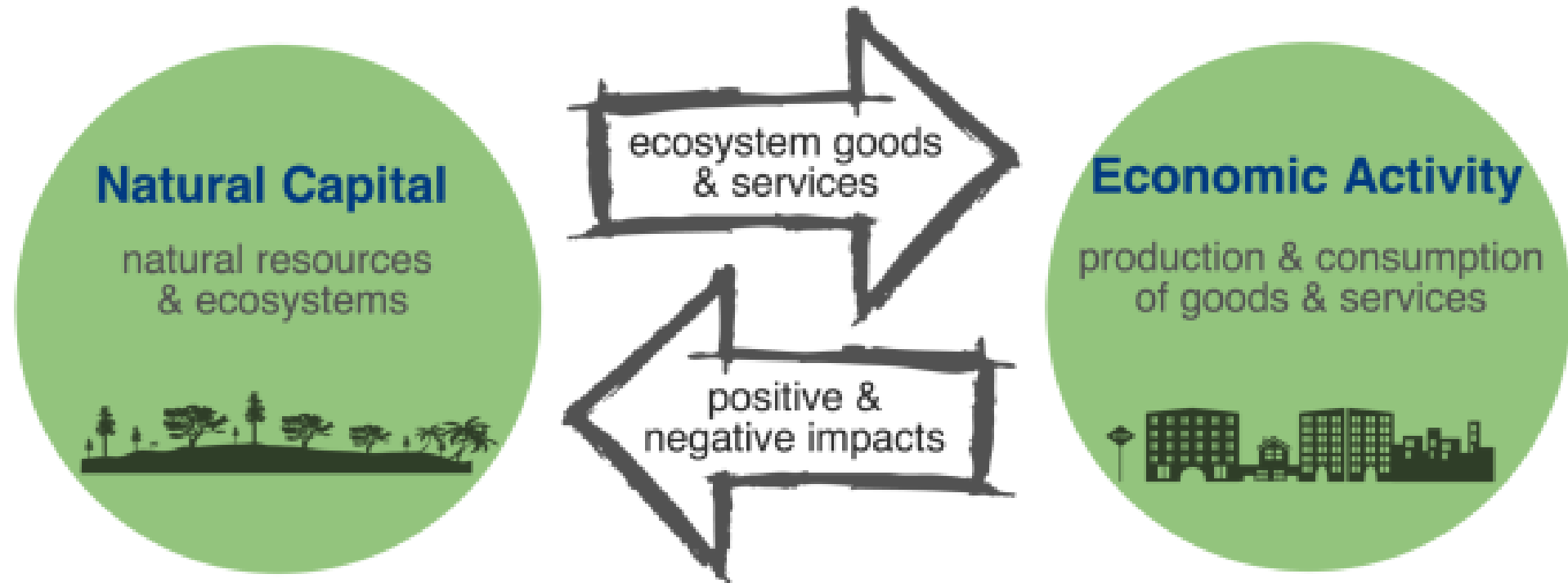
INTERACTION BETWEEN THE CAPITALS



Sources: The Economics of Biodiversity: The Dasgupta Review. CS3164,

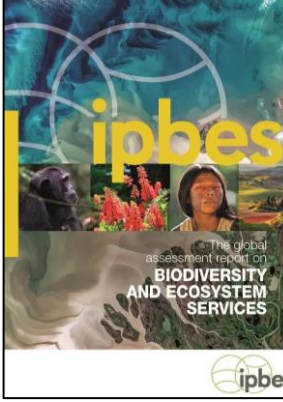
Why is Natural Capital Important?

Natural capital and economic activity are highly linked. . .



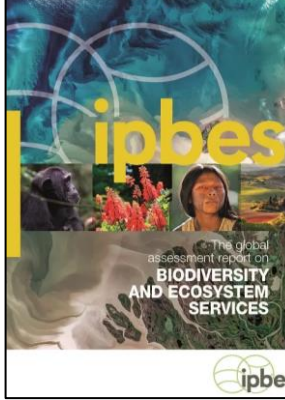
. . . if we extract too much from nature or cause environmental damage, we degrade our natural capital and put our economy at risk

Global Assessment Report on biodiversity and ecosystem services (IPBES, 2019)



- (1) Humans have extensively altered 75% of the Earth land area
- (2) Agricultural production has increased, but the quality of soil and the diversity of pollinators have both declined;
- (3) Natural ecosystems have declined by 47%
- (4) More than 85% of the world's wetlands are already lost
- (5) In terrestrial communities, native species have declined in abundance by 23%; and
- (6) The biomass of wild mammals has decreased by 82% and one million animal and plant species (of an estimated 8 million) are threatened with extinction.

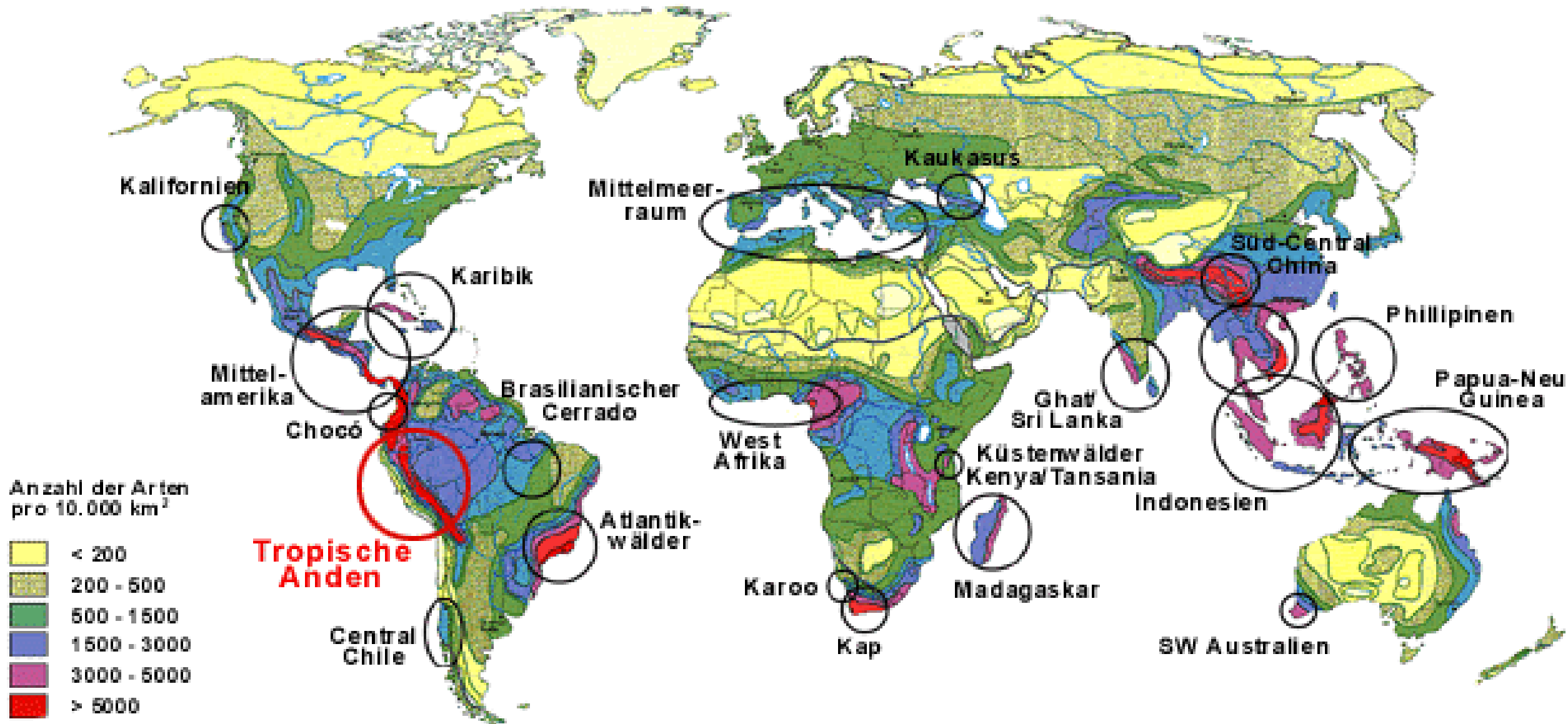
Global Assessment Report on biodiversity and ecosystem services (IPBES, 2019)



- (1) About 66% of marine areas are facing multiple and increasing threats
- (2) Since 1870, about half the world's corals reefs have been lost and the rest are being degraded and lost at an accelerating rate because of climate change impacts
- (3) Since 1908, marine plastic pollution has increased by ten times, impacting 86% of marine turtles, 44% of seabirds and 43% of marine mammals

If biodiversity losses are accounted for, the decline in GDP would reach 2.7 trillion USD in 2030.

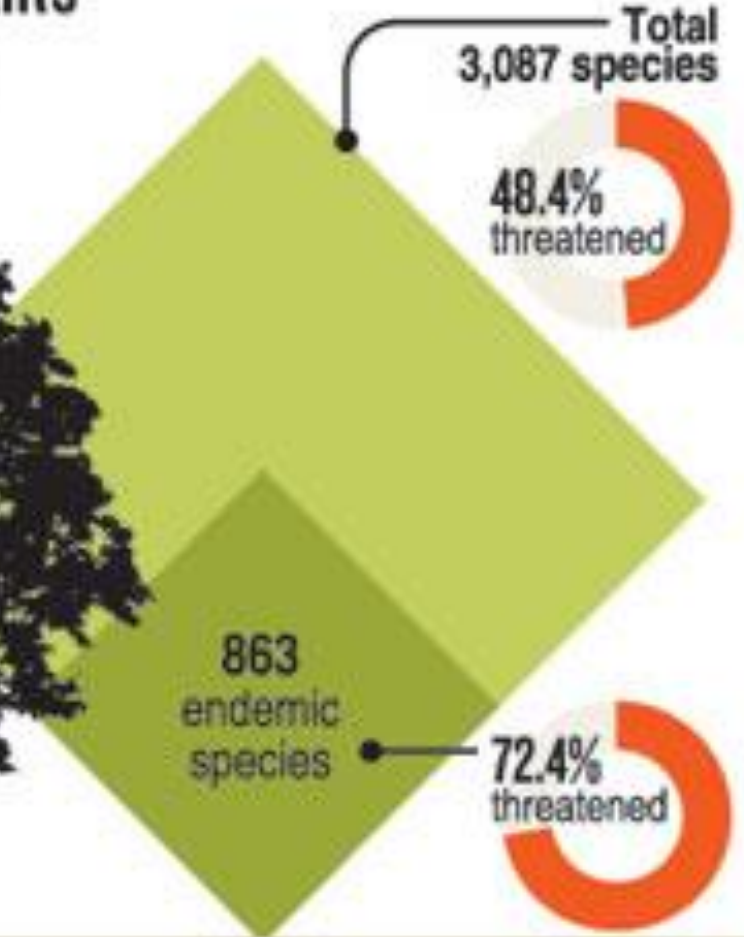
High potential for agriculture and high biological diversity



■ Total species
 ■ Endemic species
 ■ threatened

Flowering Plants

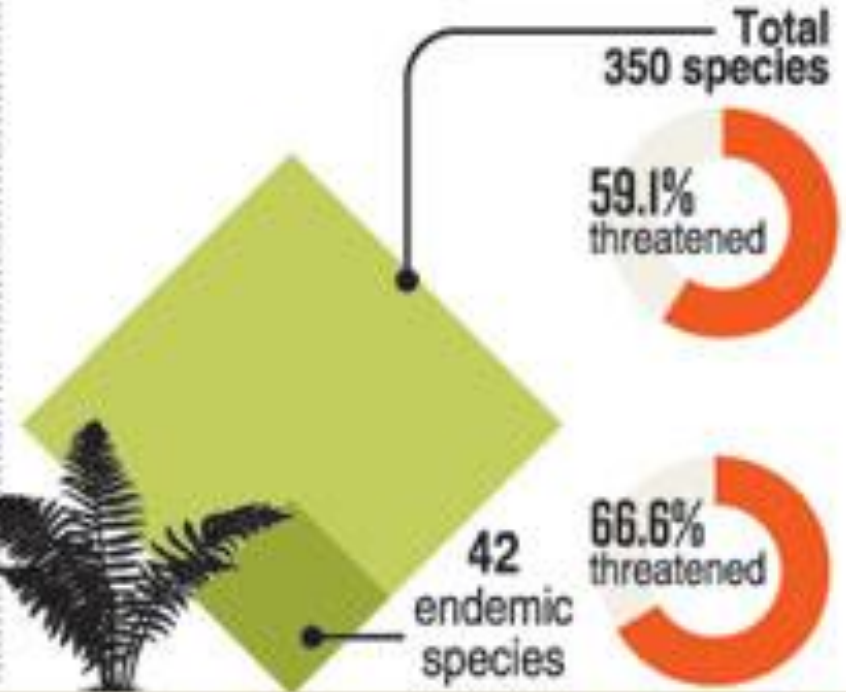
(Angiosperms)
 186 families
 3,087 species



128 species (including 54 endemic species) have not been seen in this century meaning that those species may possibly be extinct too.
 Two species are extinct in the wild

Ferns

31 families
 350 species



25 species (including 4 endemic species) have not been collected in this century. Those species may possibly be extinct.

Gymnosperms

1 families
 2 species

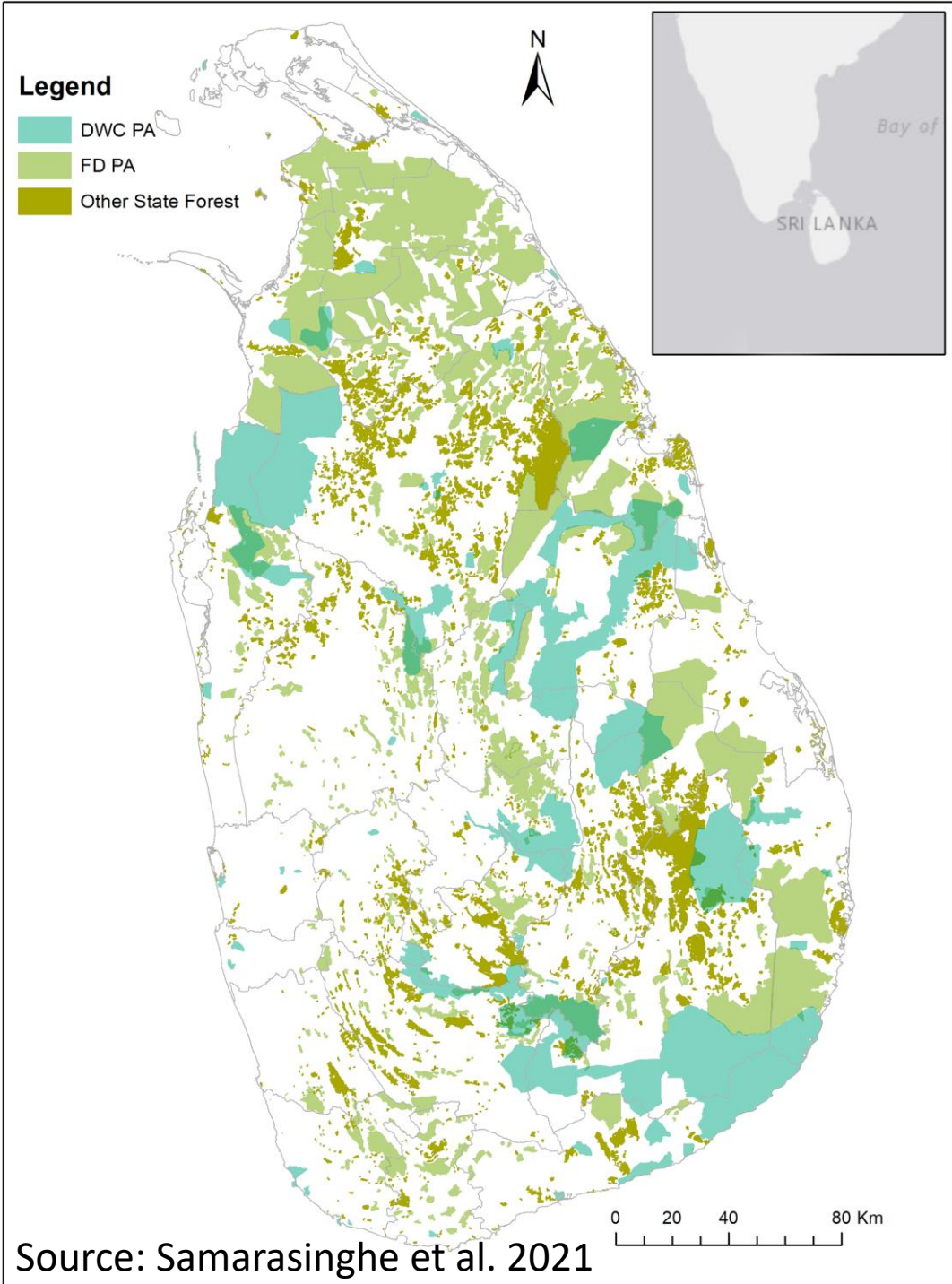


Maha madu (*Cycas zeylanica*) Critically Endangered.

Sri Lanka

- Three climatic zones
 - Seven agro-climatic zones
 - 46 agro-ecological regions
 - Seven soil orders (as per USDA Classification)
 - More than 200 soil series
-
- The highest density of biodiversity in Asia
 - One of the 34 Biodiversity hot spots
 - Approx. 27% of flowering plants 22% of mammals are endemic







Native Biodiversity



Agro-biodiversity

Diversity of rice in Sri Lanka



Diversity of cattle in Sri Lanka

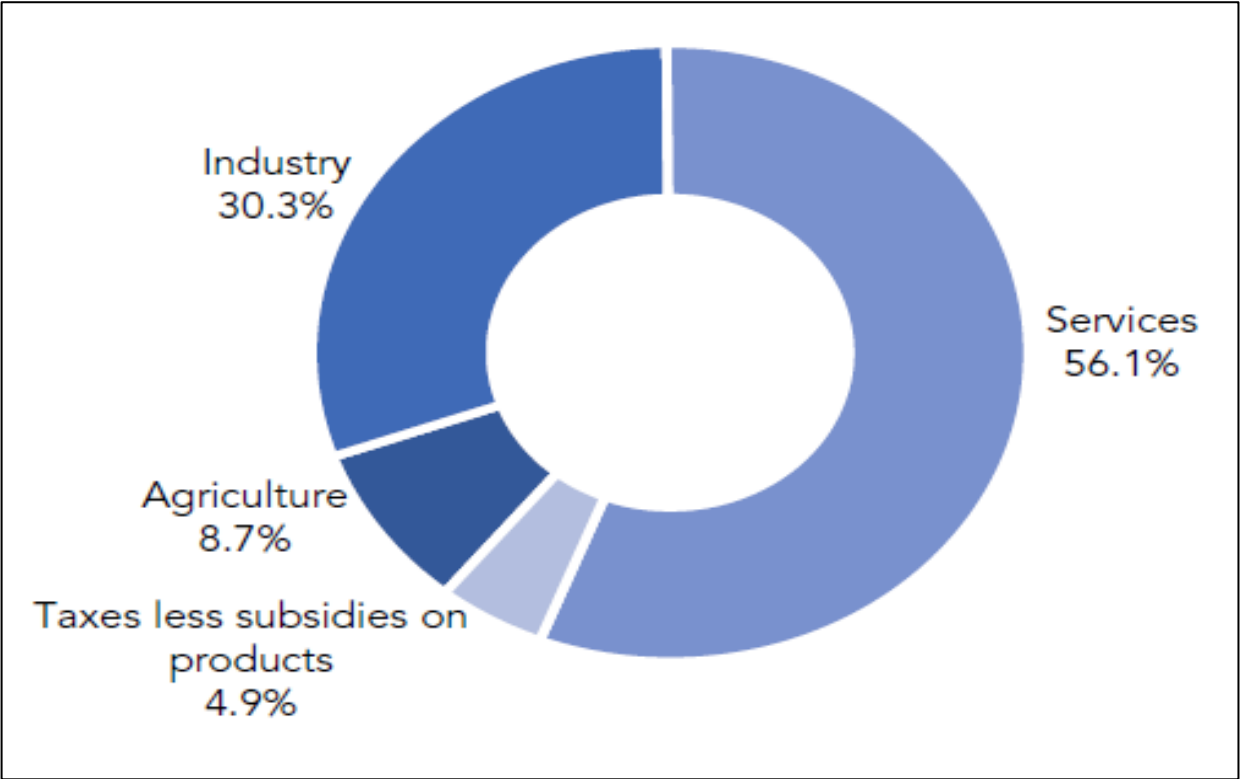
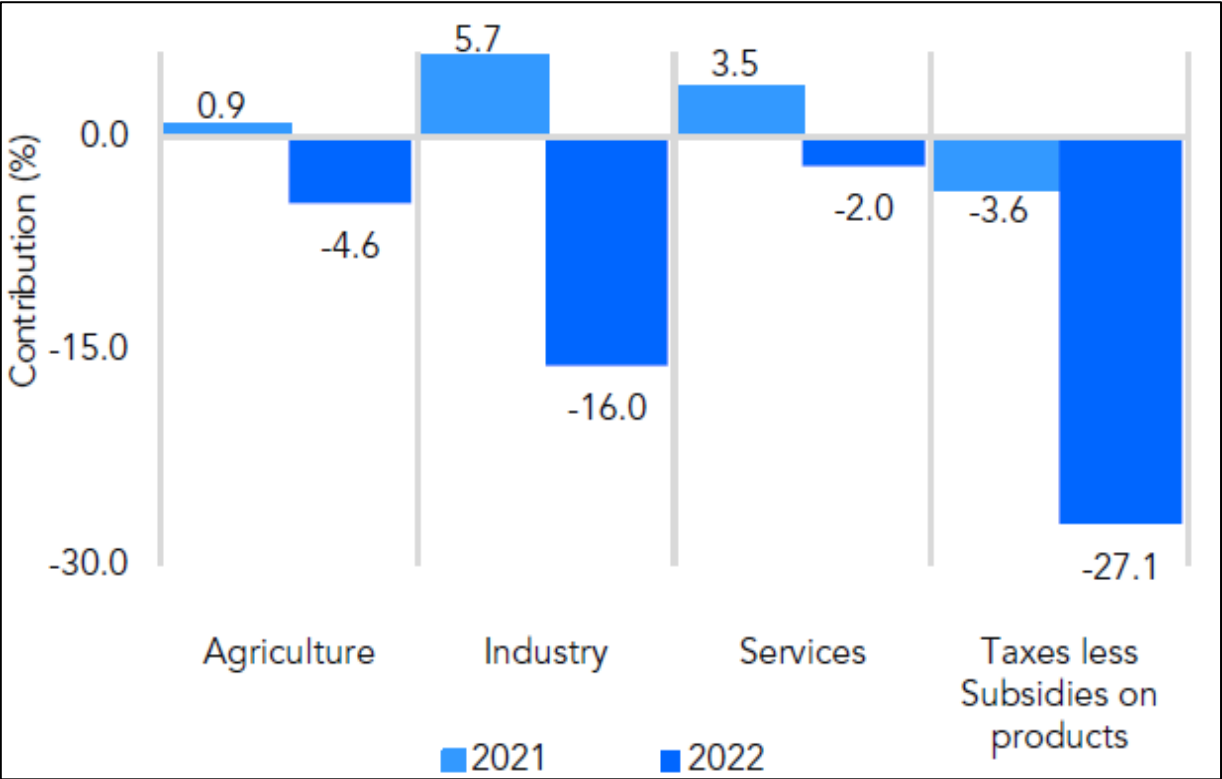


Diversity of chicken in Sri Lanka



Sri Lanka - Economy

- Sri Lanka's economy contracted by 7.8% in 2022
- The per capita GDP of Sri Lanka declined to USD 3,393 in 2022, from USD 4,016 in 2021.



What is wealth?



Produced capital

Machinery, buildings, equipment, and urban land.

Natural capital

Fossil fuels and minerals, agricultural land (crop and pasture land), forests (timber and some non-timber forest products), and terrestrial protected areas.

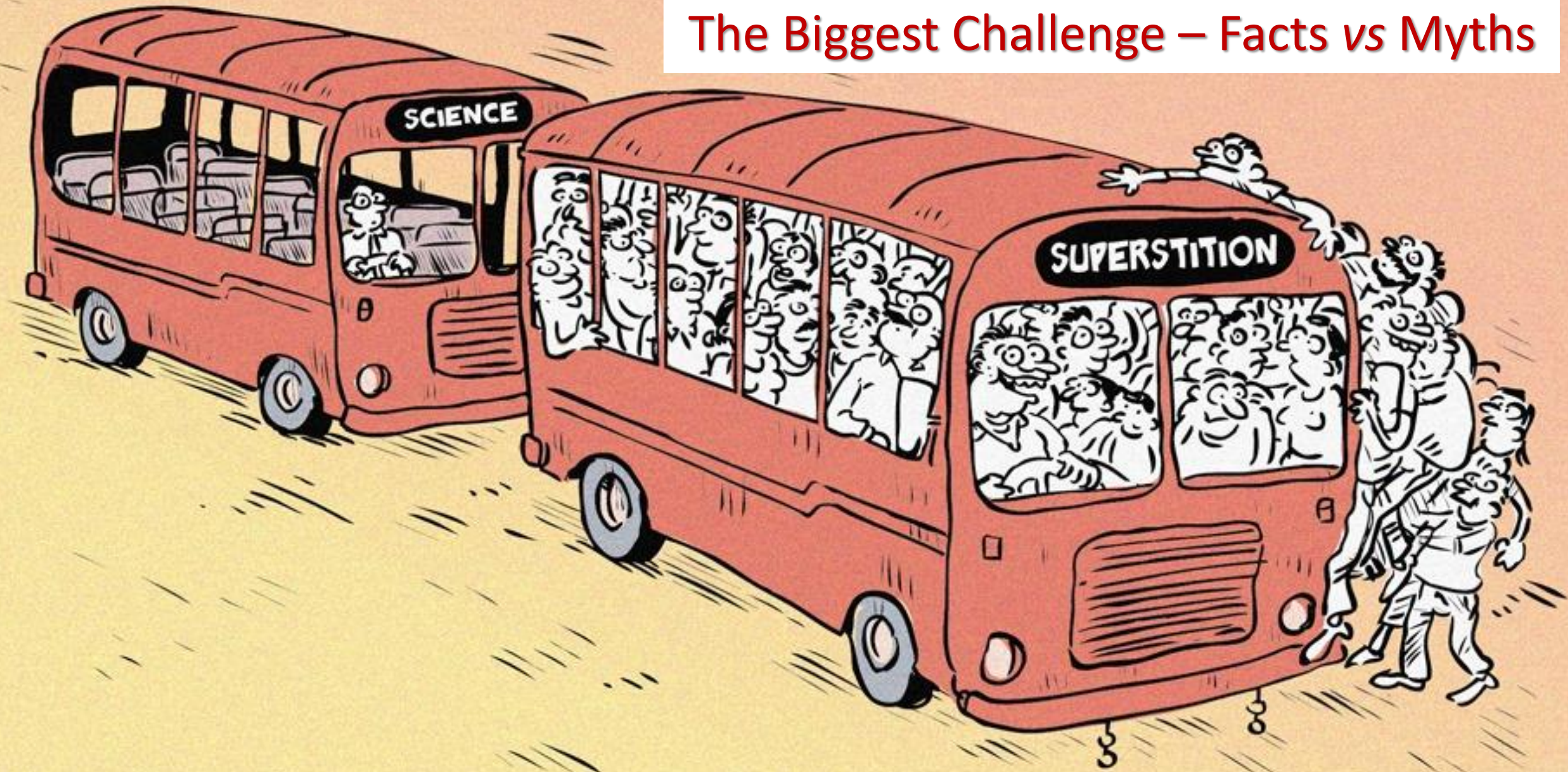
Human capital

The present value of future earnings for the labor force.

Net foreign assets

Foreign assets minus liabilities.

The Biggest Challenge – Facts vs Myths



Sri Lanka – Green Accounting



- **1990s:** the Ministry of Environment (MoE) attempted to introduce green accounting into the national accounting systems.
- **2007:** the MoE, in collaboration with other government agencies, initiated a Green Accounting Framework for Sri Lanka
- **2010:** a national steering committee for Green Accounting was established within the MoE
- Capacity building programmes - for a range of national level government officers

Sri Lanka – Green Accounting

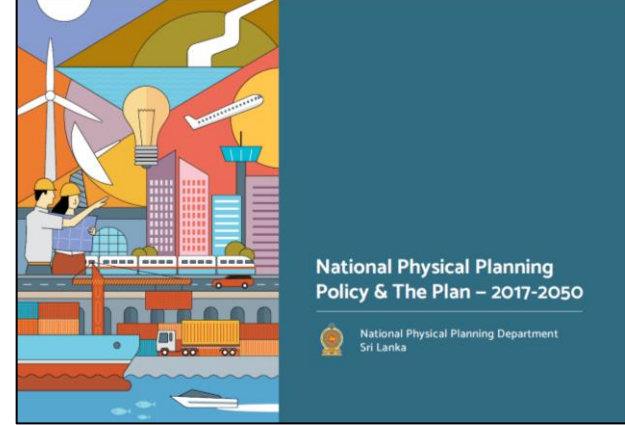


- Working groups for sub-sectors (forestry, water, land, minerals, fisheries, waste, and industries) were established with the participation of key sectoral agencies
- Lack of national capacity to account for benefits of ecosystem services
- Inadequate multi-sector approaches to adopt ecosystem accounting and joint planning
- Inability to account for the human induced pollution and degradation in planning
- Did not succeed in mainstreaming this process into decision-making/national budget

Sri Lanka – Decision making on Land use

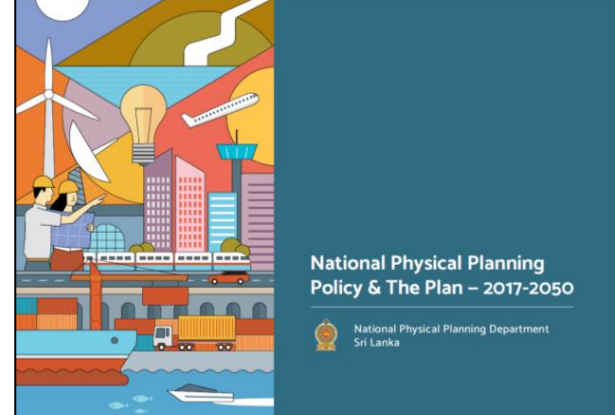
- Currently land use decisions are largely made on commercial values of land, excluding the immense values of ecosystem services.
- There are multiple areas in planning related to natural capital related decision-making – to be strengthened by Natural Capital Assessment and Accounting, and Management Effectiveness Tracking.
- Need a clear approach to assess the value of natural capital along with potential ecosystem services (supply) and the utilization of natural capital (use), long-term biodiversity conservation and to ensure Global Environment Benefits.

Sri Lanka



- National Physical Plan 2017-2050: prescribes in broad terms the need to enhance conservation using the network of Protected Areas (PAs).
- Currently, PAs span over about 35% of the total area of Sri Lanka
 - Forest Department (FD) manages about 56.5%
 - Department of Wildlife Conservation (DWC) manages about 43.5%

Sri Lanka

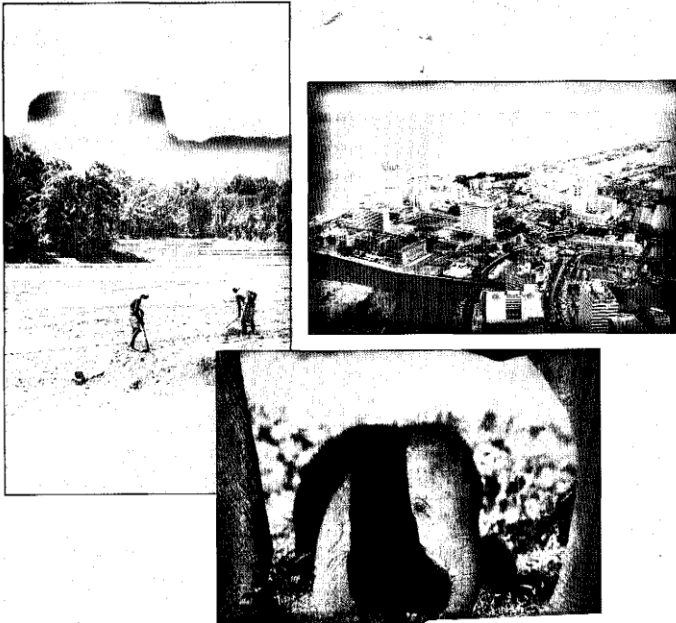


- The PAs designated by FD: over 875 sites (128 Conservation Forests, 747 Forest Reserves, one National Heritage Wilderness Area and unspecified number of Village Forests)
 - More than 200 km² located in steep hill slopes (over 500-meter elevation) are under extensive production landscapes.
 - Around 70 km² are in coastal areas (within 300 m from shore) with multiple coastal environmental issues.
 - Four forest areas have been recognized as Natural World Heritage Sites and seven wetlands as Ramsar sites, including the first Ramsar Wetland City in Asia
 - There are 14 identified marine protected areas.

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NATURAL RESOURCES OF SRI LANKA

Conditions and Trends



A REPORT PREPARED FOR THE NATURAL RESOURCES, ENERGY AND SCIENCE AUTHORITY

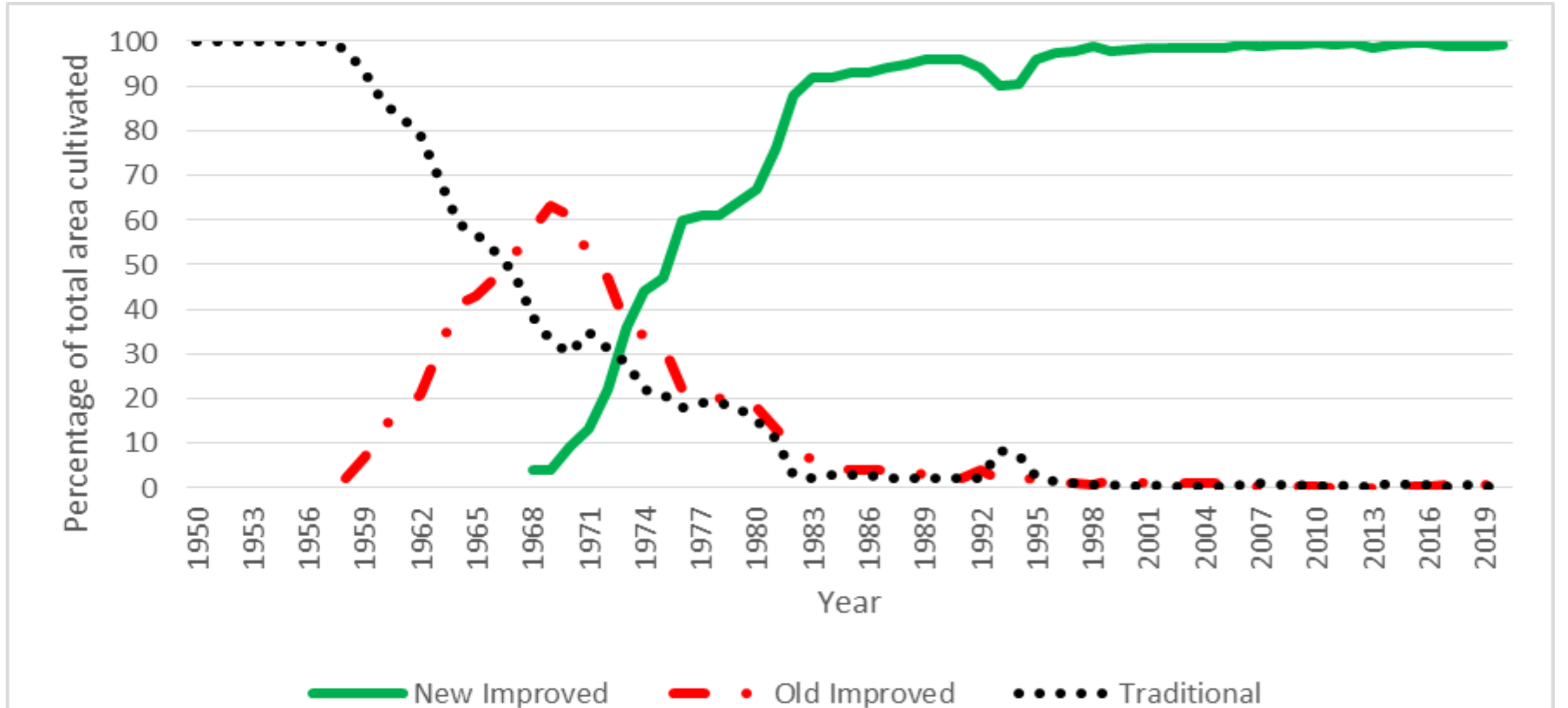
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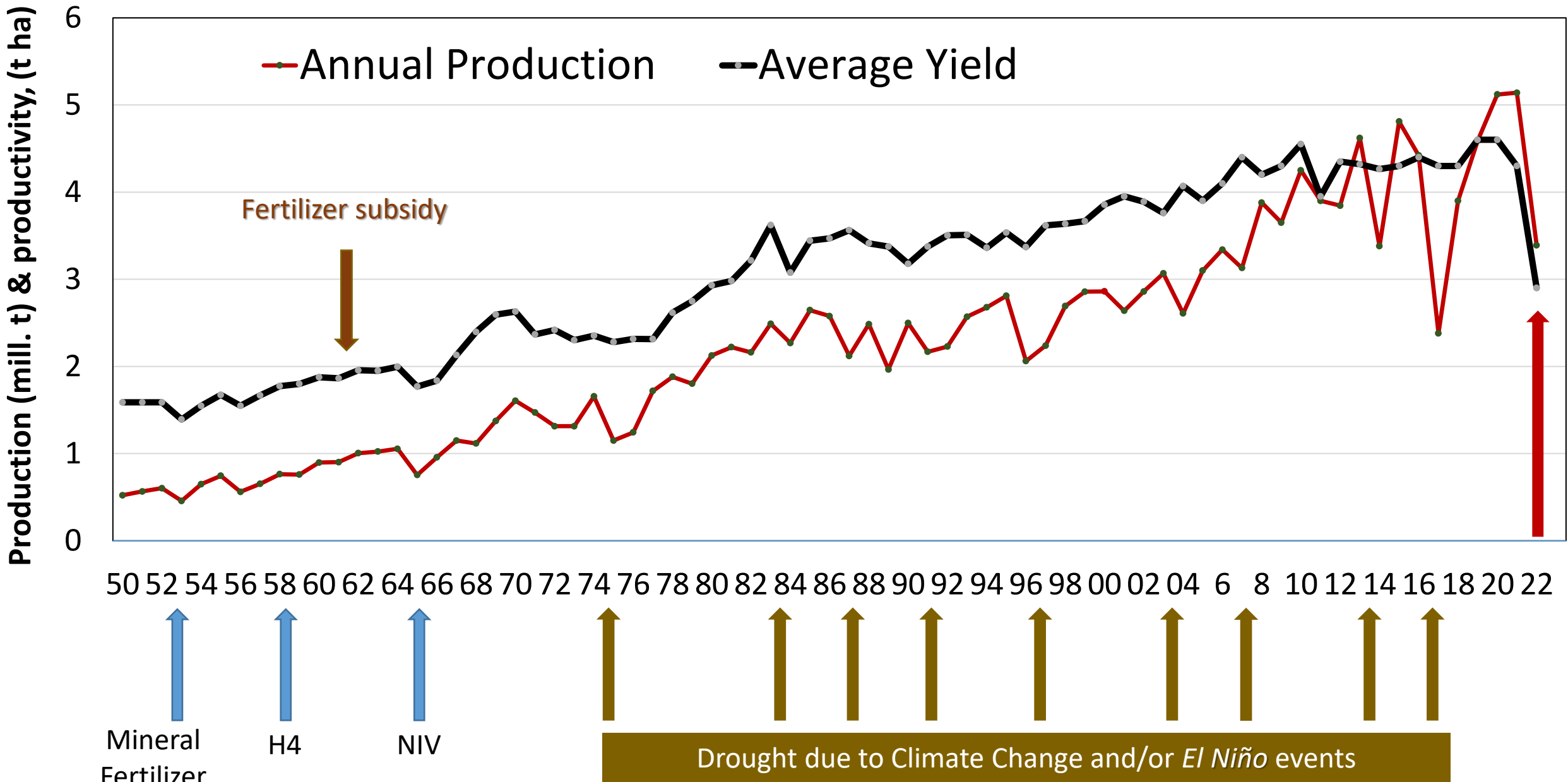
Natural Resources of Sri Lanka

Conditions, Trends and Prospects

Paddy Varietal Adoption



Change in the national production & productivity of Paddy in Sri Lanka

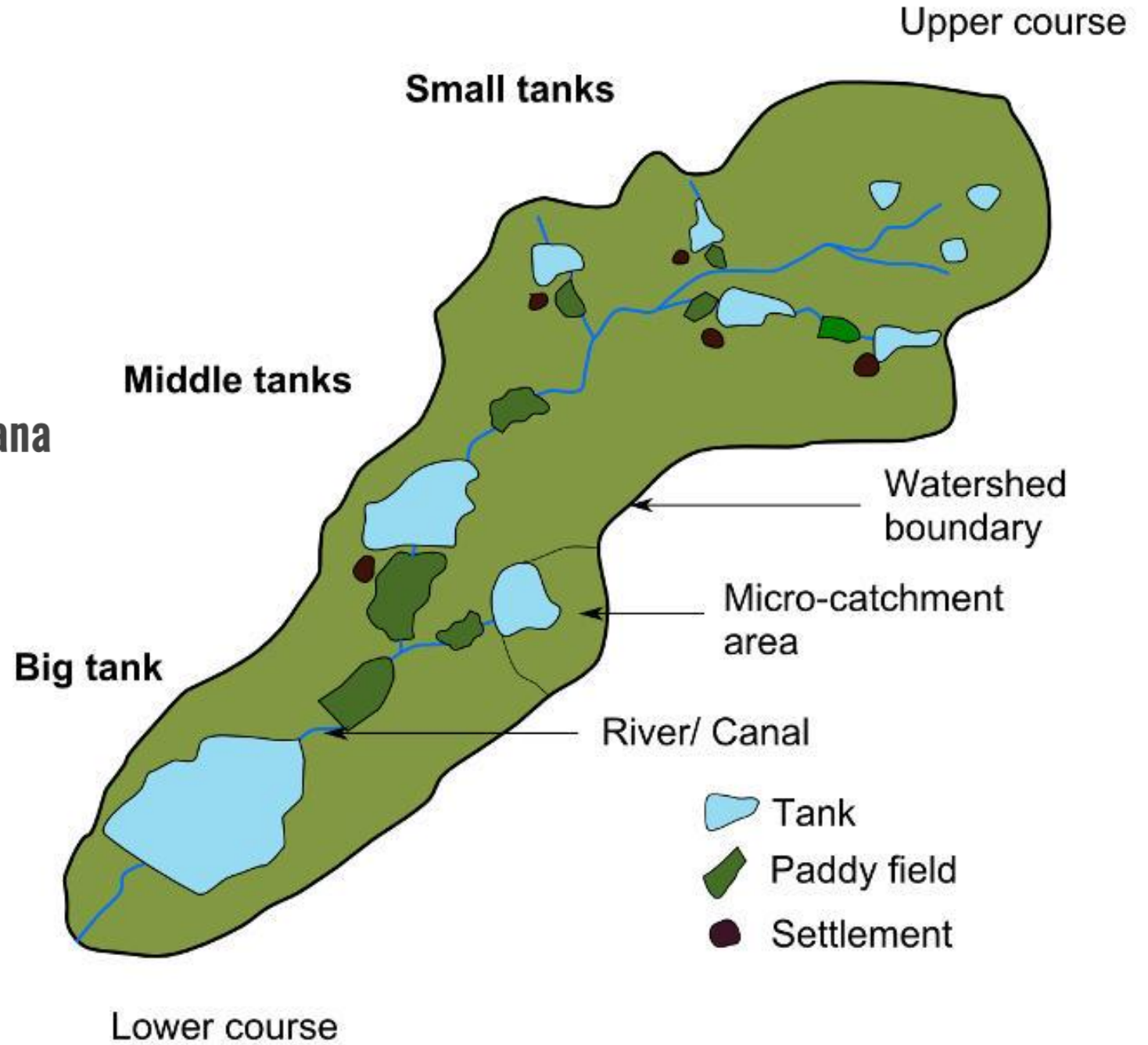






Water - Cascade system

FAO recognizes Sri Lanka's Ellanga Gammana agrarian system as a Globally Important Agricultural Heritage System



<https://www.news.lk/news/political-current-affairs/item/27357-undp-and-reforest-sri-lanka-pledge-to-revive-the-cascades>



<https://www.dailynews.lk/2019/07/05/finance/190259/%E2%80%98horana-plantations-ploughs-forward-intensive-crop-diversification>

**Crop Diversification and
improving land productivity**



Supporting
livelihood
and
Ecosystem
services

Protecting the globally significant biodiversity and living in harmony





Thank you

