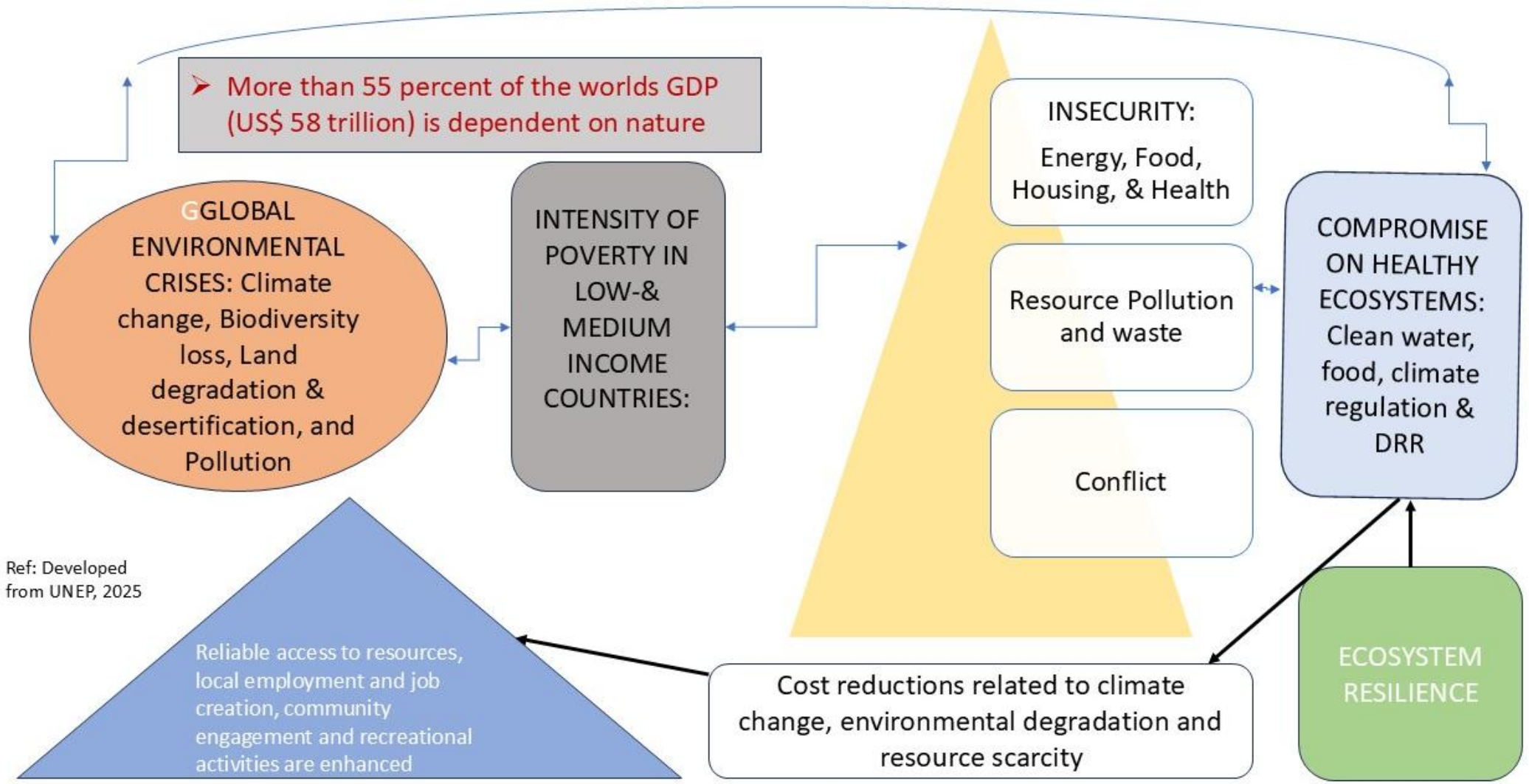


AFRICA'S ROLE IN GREEN TRANSITION

Prof. Alice A. Odingo, University of Nairobi &
Biocarbon Imperatives-Africa/Operation Got Owaga

GLOBAL ENVIRONMENTAL CRISES ARE INTENSIFYING POVERTY LEADING TO INSECURITY AND POOR ECOSYSTEM HEALTH



1. Africa’s environmental challenges

IMPACTS OF ENVIRONMENTAL CRISES IN AFRICA

- Inability to achieve socioeconomic targets like the SDG and African Union Agenda 2063.
- Human displacement and Health issues due to **droughts and floods.**
- Degradation of terrestrial, marine and freshwater ecosystems from threats of **deforestation, soil erosion, salinization of rivers** and unsustainable exploitation of land and water resources.
- About 500,00Km2 of **Africa's land is degraded**, affecting 484 million people and costing US$ 9.3 billion annually.
- Africa has **lost 4.4 million Ha of forest** between 2015 and 2020, affecting 65 percent of the population who rely on forests for food and fuel.
- Besides, Africa also experiences acute **financial constraints with limited access to advanced technologies** and infrastructure and insufficient technical expertise, policy makers, and high upfront costs of renewable energy which also hinder widespread adoption. (UNEP (2025) GEO 7 2025 Report)

2. Africa’s potentials: natural capital

AFRICA'S NATURAL CAPITAL POTENTIAL IN GREEN TRANSITION

Africa is currently among the **world richest regions in natural capital** yet remains least able to convert that wealth into Sustainable Development (SD) outcomes.

Africa's Nature capital

- ¼ of global biodiversity
- 9 of the world's 36 recognized biodiversity hotspots
- More than ½ of the land area on Grasslands and forest cover - supporting 70 percent of the people of Sub-Saharan Africa (SSA)
- The Congo Basin-the world's second largest rainforest (the planets' carbon sinks)
- Natural capital is valued at US$ 7.6 trillion
- 30 percent of world's mineral reserves
- 60 percent of the GDP from natural resources
- Over 500 CoP members from 48 countries

Ref. Dorsouma, A. 2026. Africa's biodiversity paradox: turning natural wealth into nature-positive growth. African Development Bank (AfDB),
AfDB, World Bank, 2026. African Policy Forum on Natural Capital. AfDB

Challenges Facing the African Nature Capital

- The Natural capital remains **insufficiently reflected in accounting**, **budget and investment**
- Valuation is important to: Optimise GDP; Improve credit ratings; Unlock financing for green transitions and SD
- Africa remains highly exposed to nature-related risks with limited access to biodiversity finance (difficult to harness **natural capital as a driver of green and inclusive growth**).
- The Natural capital that is undefined, undervalued and degrading becomes a drag on development rather than a source of prosperity

Ref. World bank, 2025. Accounting for natural capital: How African Nations are redefining Economic Value for Resilient Development

A JOURNEY INTO THE FUTURE

Can African countries mobilize the financing, institutions and partnerships needed to implement biodiversity conservation commitments?

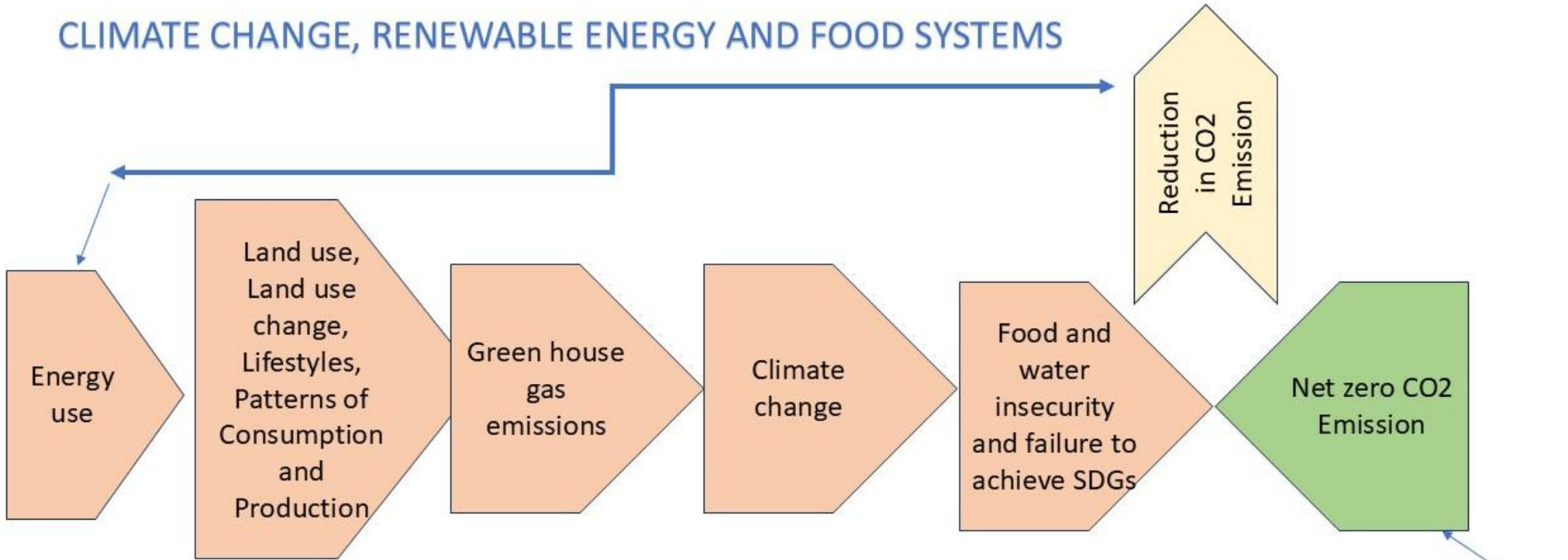
- Biodiversity should be a **core development priority** rather than a conservation concern.
- For instance, the Kunming – Montreal Global Biodiversity Framework, adopted in 2022 committed countries to conserve and manage at least 30 percent of land and marine ecosystems by 2030.
- African governments have therefore been developing **national Biodiversity strategies and action plans** to translate global targets into national action and manage biodiversity as an asset rather than a liability.

Current implementation barriers:

- Chronic underfinancing
- Weak institutions
- Competing short-term priorities and biodiversity's peripheral place in development plans

3. African green transition

CLIMATE CHANGE, RENEWABLE ENERGY AND FOOD SYSTEMS



- Limiting human-induced global warming requires net zero CO_2 emissions (Pathways consistent with 1.5^0C carbon budgets-rapid, deep and immediate GHGs reduction in all sectors)

Large reductions can come from options costing less than US$ $20tCO_2eq^{-1}$, including solar and wind energy, energy efficiency improvements and methane

CLIMATE CHANGE, ENERGY AND GREEN TRANSITION

- **Solar voltaic and wind turbines** have potential to lead sustainable renewable energy pathways in the future while also safeguarding fresh water ecosystems due to their 90 percent and 60 percent decrease in costs, respectively.

- Incentivising **the adoption of electric vehicles**, including buses and motorcycles, with robust charging infrastructure can reduce Africa's reliance on fossil fuels in the transport sector

- **Integrating renewable energy with agriculture, water and sanitation** and health care can create synergies to address the interconnected challenges of the global environmental crises.

- **Sustainable construction, resource-efficient manufacturing and material efficient technologies** can leapfrog Africa to circularity.

- Rural electrification
- Household connection of underserved to national grid
- Increasing deployment of energy-efficient renewables-solar, wind and geothermal
- Facing out coal operations
- Reforming fossil fuel subsidies
- Leveraging on technologies to boost yields and Agriculture and embracing circular models in both industrial and urban system

AFRICAN GREEN ENERGY TRANSITION

Better livelihoods. Climate and ecosystem resilience, public revenue, sustainable food security (sustainable development)

CURRENT PRACTICES IN RENEWABLES

Green base loads: Increasing the penetration of Renewable energy in power systems, with a strong focus on power system stability and delivering alternatives to fossil fuel base loads

Green mini grids: Accelerating electricity access to underserved populations through clean energy mini-grid solutions

Energy efficiency: Improving the efficiency of energy services delivered through a variety of technologies and business models, also including clean cooking pico-solar technologies

ONGOING ACTIVITIES AND INVESTMENT OPPORTUNITIES

- AfDB signed in 2026 an Agreement with Denmark on Private Capital Mobilisation (including blended finance, guarantees and risk sharing and has received support from different organizations and countries, including Italy.

- The Agreement was to build on Renewable Energy, Climate Adaptation, Water security and green infrastructure.

- The Sustainable Energy Fund for Africa (SEFA) also involves Private sector Investment in Renewable Energy and Energy Efficiency and concessional finance instruments to remove market barriers, build more robust pipeline of projects and improve The Risk-return profile of individual investments.

Goal: Contribute to universal access to affordable, reliable, sustainable and modern energy services for all in Africa in line with New Deal on Energy for Africa and SD (7).

Ref.

AfDB, 2026. African Development bank Group and Demark Deepen Cooperation to Advance African Green transition and Mobilize Private Capital. AfDB, 2026. Sustainable Energy Fund for Africa: Accelerating the energy Transition in Africa.

4. A good practice: the bio-carbon imperative project

THE GOT OWAGA RESTORATION PROJECT IN KENYA



Biocarbon Imperatives-Africa, P. O. Box 66863,00800,
Westlands, NAIROBI. https://www.biocarbonimperatives.org/
Email: info@biocarbonimperatives.org

Objectives:

- Founded in June 2009 by Professor Richard Samson Odingo in 2009 after the Award on the Environmental Prize: Premio Gambrinus Giuseppe Mazzotti Prize by Bioforest, Italy
- The Project spearheads sustainable environmental Conservation activities
- It is aimed at securing a sustainable and a healthy environment for the future generations
- The organization mainly focuses its activities to the rural communities and the youth whose activities directly or indirectly impact the natural ecosystem



a) School children managing waste



b) Women and solar lanterns



g) Apiary

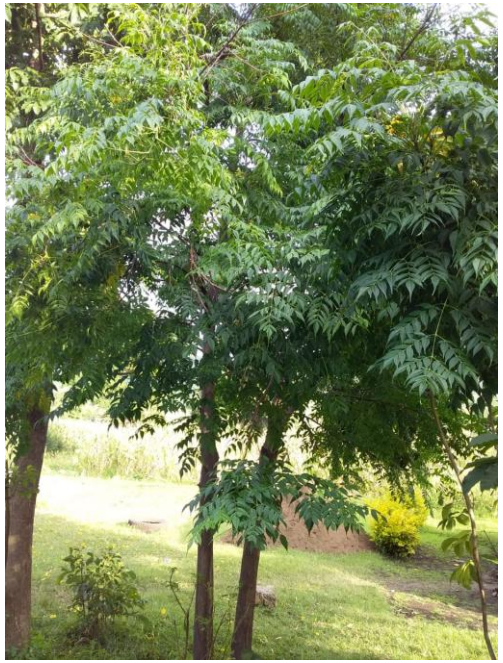


c) Students planting trees



d) Women and agro-forestry





e) Medicinal plants



f) Dairy goats



i) The forest



j) Forest -2



k) Community water supply



THANK YOU! GRAZIE!