Degradation drivers and the potential of landscape restoration in Kenya

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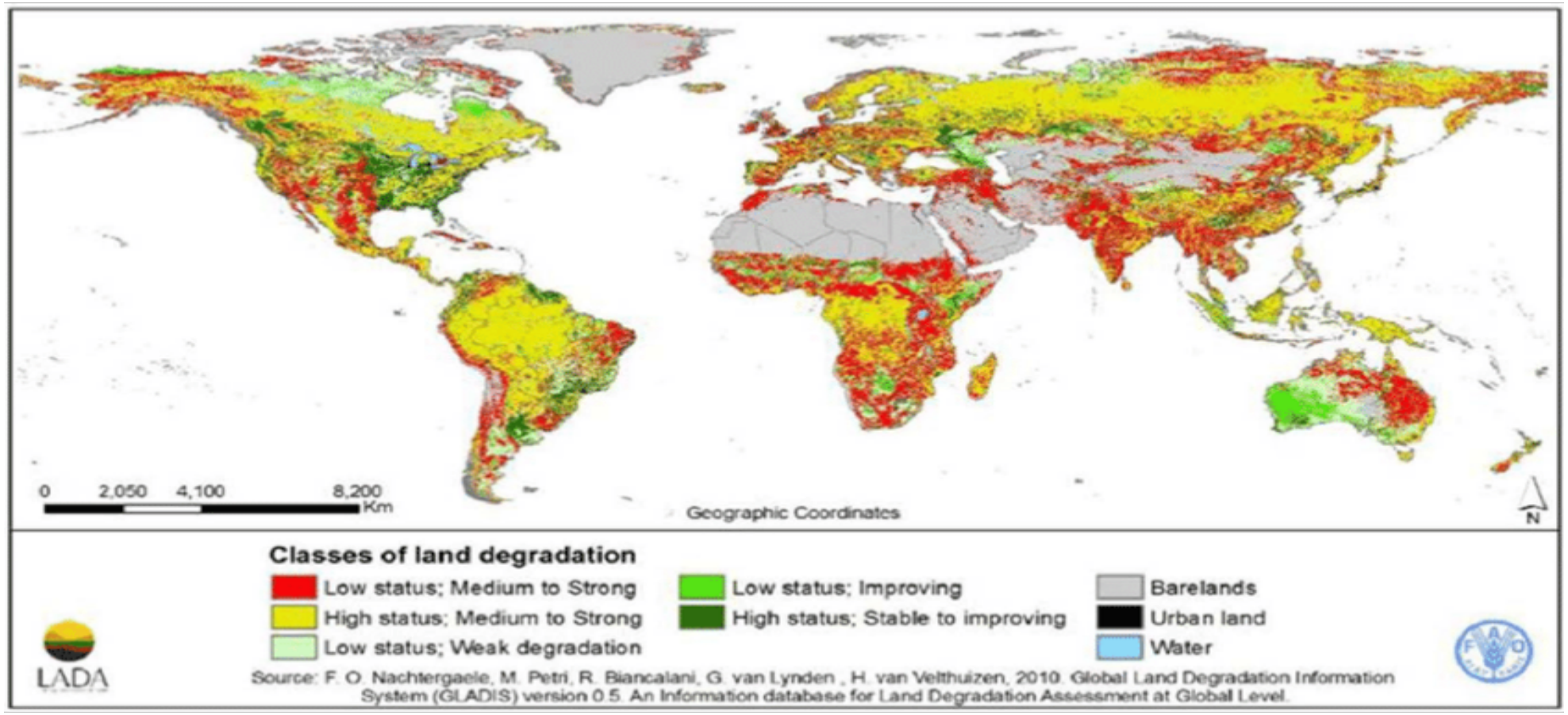
Land Degradation is a global problem?



- Global ecosystems services loss value is estimated between USD 4.3 to 20.2 Trillion per year (Gibbs et al 2015).
- Hence the Bonn Challenge and the New York Declaration (Targeting 350 Million ha restored by 2030) restored

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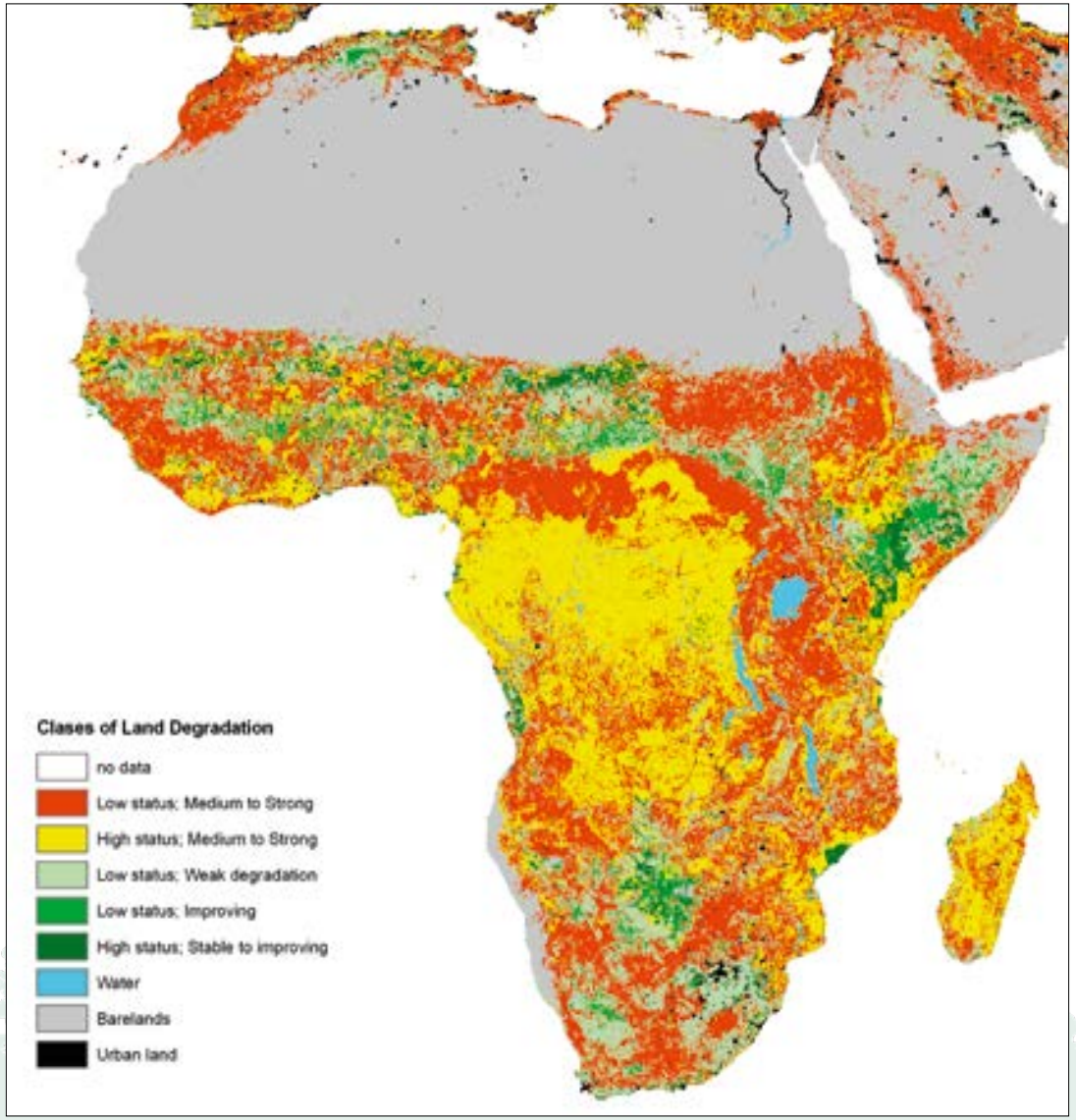
But Africa is one of the most hard hit.

- It is among the most vulnurable and most affected continents by land degradation;
- Millions of hectares already impacted by land degradation- up to 500 million ha
- 55% of this area at high or very high risk of further degradation
- In 2007 an ECA report stated that 65% of Africa's population was directly impacted by land degradation
- Africa looses at least 56 billion Euros annually
- Hence AFR 100 targeting Targeting 100 Million Ha

GLADIS map of land degradation
(Source: Nachtergaele, et al., 2011b)



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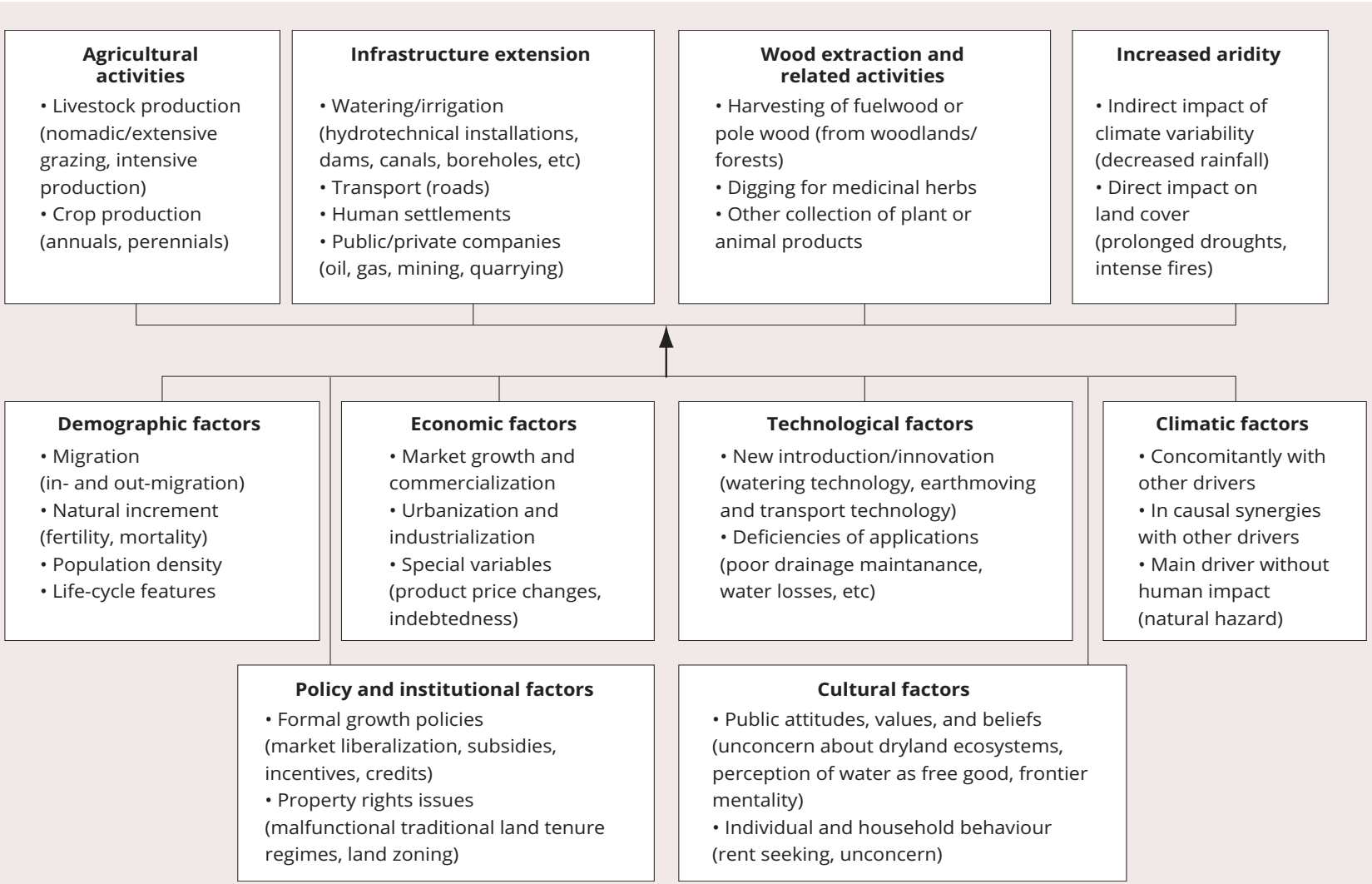
Main Drivers of land degradation

Causes of land degradation: drivers and pressures

(Source: Geist, H., and Lambin, E. 2004, cited in (Svensson, 2008))



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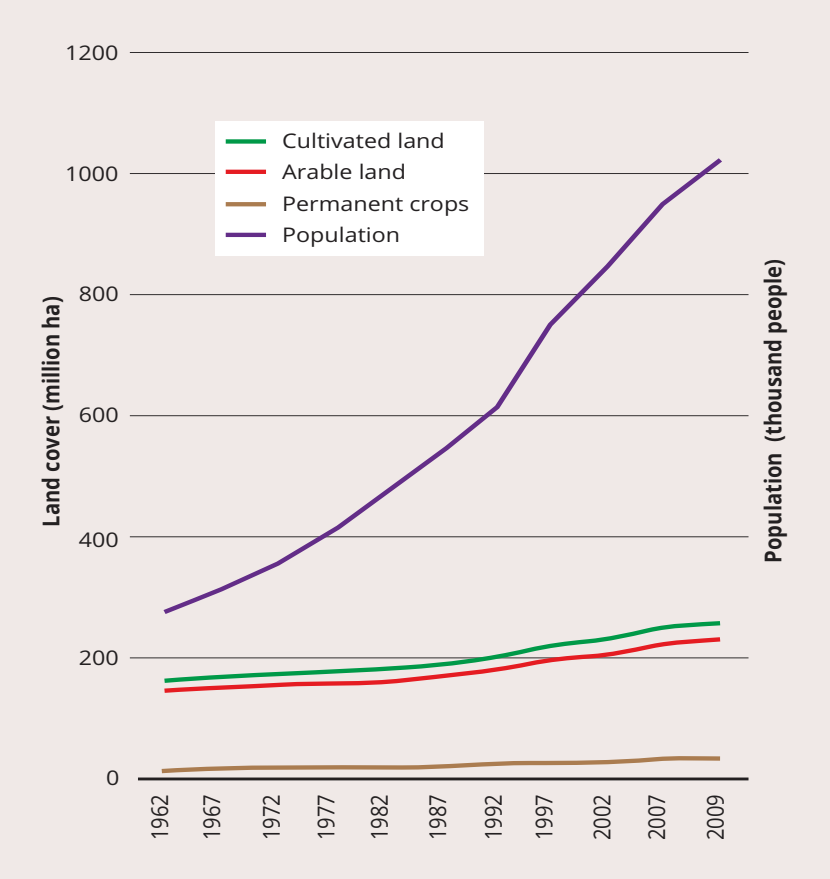
Growing Population, Poverty and Poor Governance stand out as significant Indirect Drivers

Correlation between population growth and the conversion of land to agriculture
(Source: FAO Aquastat/JRC cited in (Jones, et al., 2013))



GOVERNANCE

- Land Tenure Issues
- Corruption
- Poor Enforcement of land laws
- Weak Incentives (financial, economic and bahavioural)
- Low investments

POVERTY

- Poverty still a big driver of shifting cultivation and extensification of agriculture;
- Poverty driving dependence on extractive dimensions of land such as fuelwood, etc

POPULATION

- Fast growing- almost 300% in last 20 years
- Increasing pressure on land

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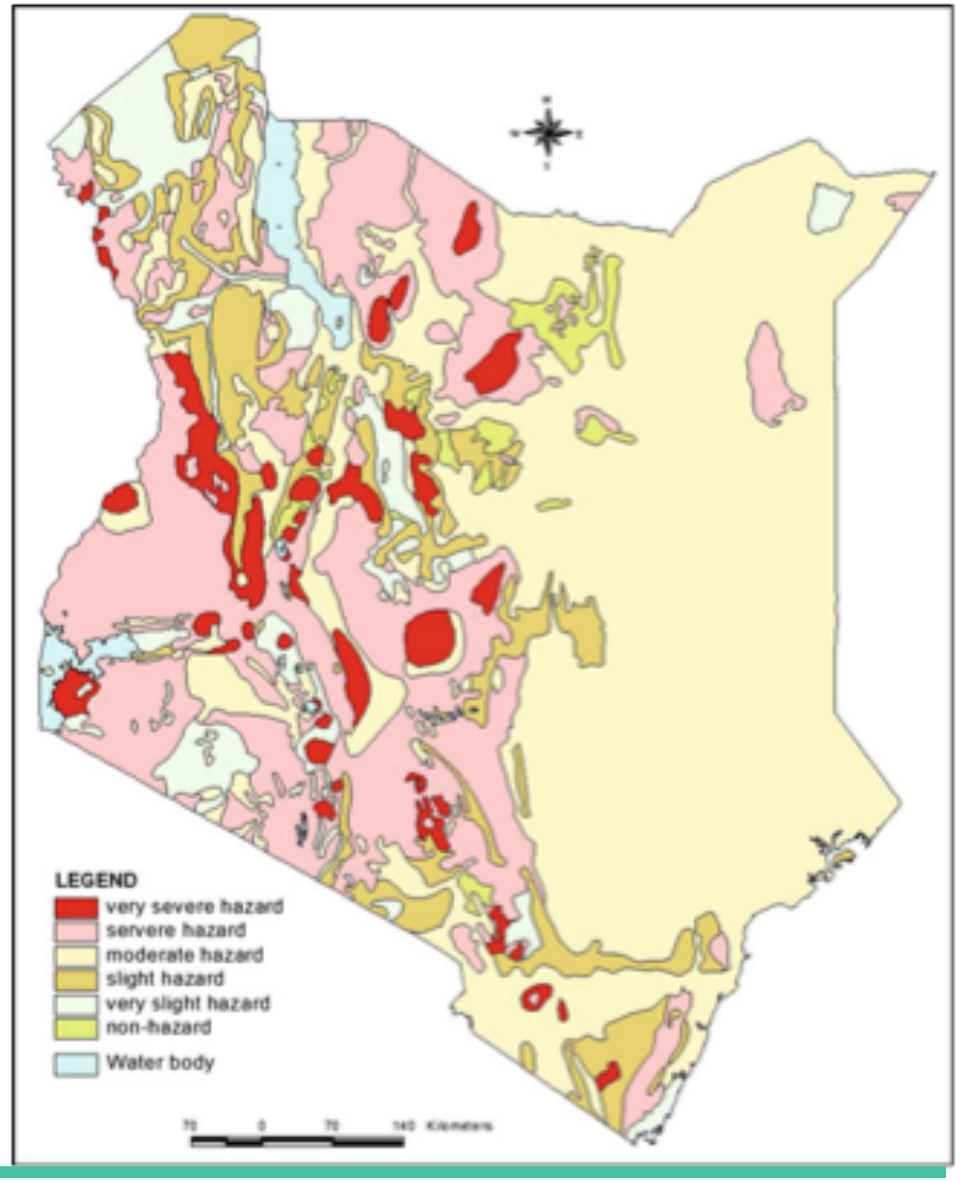
Kenya is not very different

- Annual cost of land degradation is estimated at around 1.3 Billion USD annually
  - Cropland costs = 270 Millions USD annually
  - Rangeland costs = 80 Million USD annually
  - For comparison, coffee earns about 230 Million USD annually in foreign exchange (4th after Horticulture, Tourism and Tea)
- Land degradation negatively impacts multiple ecosystem services including
  - Water and watershed protection
  - food, (and soil protection)
  - medicine,
  - fuel wood,
  - fodder,
  - timber,
  - biodiversity, (and tourism)
  - Climate Change Mitigation and Adaptation

Nkonya et al, 2016



Why restoration is so critical for Kenya and its economy

Arguments [Restoration needs]	Facts and evidences
1. We need to restore our forests and woodlands because they are key sources of wood for construction and energy.	**68% of Kenya's national energy** requirements is sourced from biomass.
2. We need to restore our woodlands (forests, savannah, rangelands, etc) because the wild animals and habitats that attract local and internation tourists are dependent on these ecosystems.	Tourism contirbuted **7.9 billion USD** to the Kenyan Economy by 2019.
3. We need to restore our agricultural lands because our entire food systems depend on how healthy our soils are.	Agriculture is key to Kenya's economy, contributing **26 per cent of the GDP** and another **27 per cent of GDP** indirectly through linkages with other sectors. Employs
	The sector employs **>40 per cent of the total population and more than 70 per cent of Kenya's rural people.**
4. We need to restore our water towers because our water supply systems totally depend on the watershed functions of the water towers.	**Kenya's electricity (80%) is** generated from reservoirs drained by rivers from Kenya's water towers.
5. Deforestation is costing us so much.	Deforestation costs the Kenyan economy an estimated **KES 5.8 billion per year** (Source KEFRI).

These are why we need to restore our ecosystems and if these arguments are not compelling enough, we are not getting the points.

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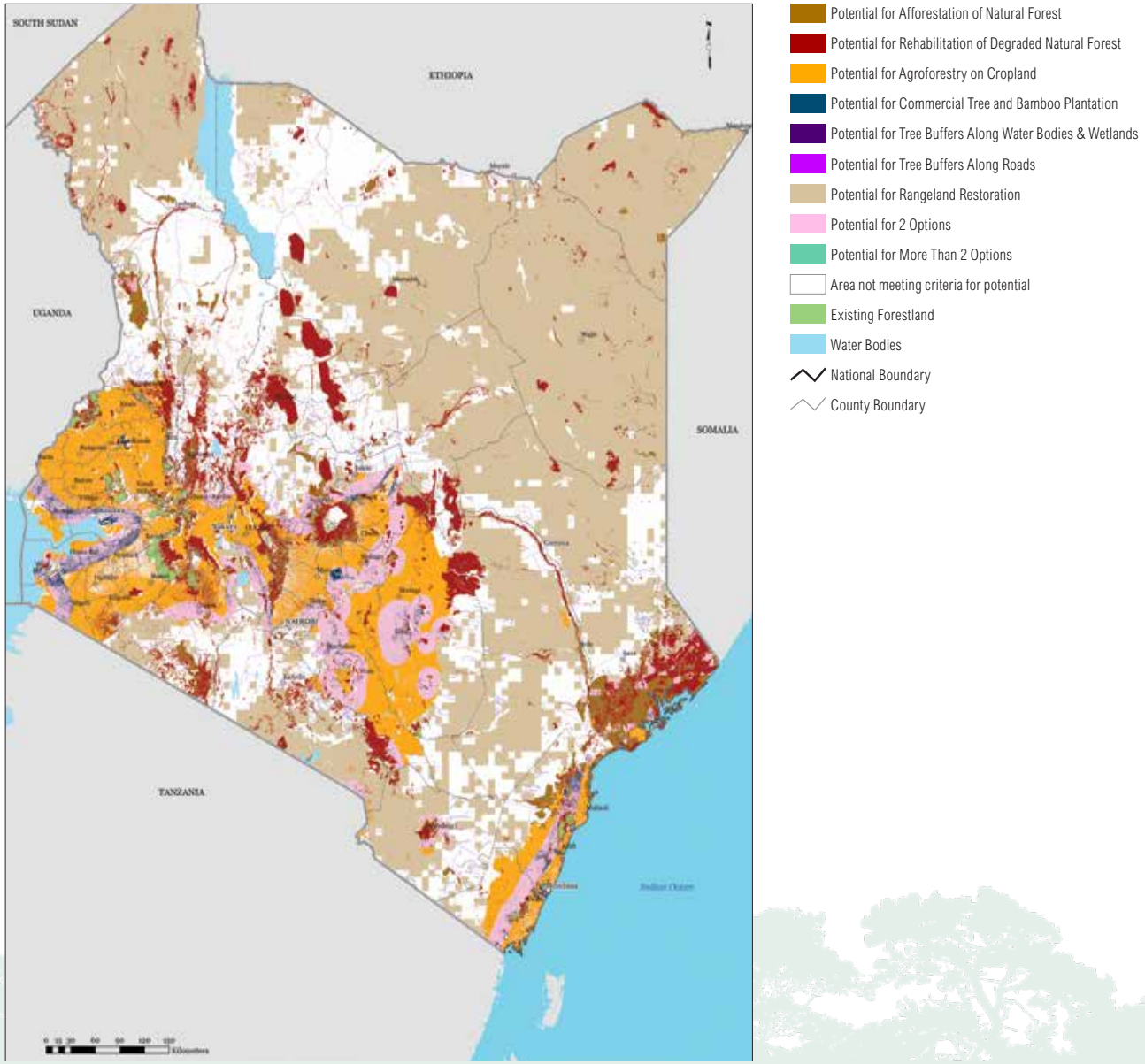
Restoration Potential / Options

No	Restoration options	Total Area Ha
1	Afforestation and reforestation of natural forests	**1.5 million**
2	Rehabilitation of degraded natural forests	**2.9 million**
3	Agro-forestry/farm forestry	**8.8 million**
4	Commercial Plantations in Low-productivity Cropland(including bamboo)	**3.4 million**
5	Silvo-pastoral and grassland restoration	**22 million**
6	Tree-based buffer zones along water bodies and wetlands	**100,000**
7	Tree-based buffer zones along roadways	**50,000**



Credits – GoK (MENR)

Drivers of Restoration

ECONOMIC DRIVERS

- **Anchored on Green Value Chains / Enterprise**
    - E.g . Tree and agricultural commodities and or bioenergy
    - Small and Medium-sized enterprises- Finance and know-how
    - Profitable and green business models
- **Domestic public investments and incentives**

SOCIAL / POLICTICAL DRIVERS

Leverage local knowldege and capacity

- Building on local / traditional practices (e.g.?)
- Involve women and youth
- Establish a threshold of local / national institutions that can navigate local tenure, bring local actors together etc

Build on Devolution

- Enable devolution mandate for restoration
- Counties own a share of national restoration targets

ENVIRONMENTAL DRIVERS

Ensure equitable and effective benefits flows to local people (cash and ecosystems services)

Adaptive response to loss of ecosystems services

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