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Main Somali biodiversity threats in terrestrial and current restoration approaches

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Somali Biodiversity

- Somalia is an arid and semi-arid country which has fragile ecosystems, subjecting it to harsh weather conditions, erratic and scarce amount of rainfall, making these areas susceptible to environmental degradation. However, it is one of the biodiversity-rich countries in the Horn of Africa with high level of endemic species, (local) a number of which are endangered.
- The country's main natural resources such as trees, wood and grasslands, and aquatic resources (marine and freshwater), are the basis for people's livelihood security. Pastoralist production, based on livestock, fisheries and natural products (including frankincense, myrrh, gum Arabic etc) are the backbone of the national economy, supporting over 80% of the population. In the south, agricultural and irrigated productivity and livelihoods are dependent and impacted upon by the rain-fed / crops depending on seasonality flow of the SHABELLE and JUBBA Rivers, which are the source of irrigation.

Somali Biodiversity

- This rich biodiversity and its ecosystem provide fundamental ecosystems goods and services important to social economic, cultural and human well-being of the Somali population. The importance of biodiversity to the human well-being are the provision of:

a) Plants and animal products,

b) Genetically important materials, bio-chemistry and pharmaceuticals

c) Important species.

d) Fuel and energy.

e) Fiber.

f) Non-living materials (building, firewood and charcoal).

The biodiversity and its ecosystem is therefore the foundation for economic growth and development in the country. The harsh conditions and unsustainable livelihood patterns have also contributed to environmental degradation and increased the intensity of exploitation of environment resources.

Threats

- There is evidence of overgrazing in many rangelands. Energy supply and charcoal production are stripping bare the remaining forests. Water depletion is a permanent crisis in many areas. Urban refuse and waste accumulation has become common place. Illegal harvesting of marine resources by foreign vessels and wildlife exploitation are of major concern.
- The effects of climate change. Tsunami, prolonged civil war, increased population pressure, natural resources based conflicts, and increased urbanization imposes additional pressures.

Threats

- The main threats to biodiversity and its ecosystems comes from habitat loses and degradation, climate change effects, overexploitation, pollution, invasive alien species, civil war and Tsunami.
- Habitat loses and degradation comes from urbanization, agriculture expansion, waste disposal and overexploitation of genetic resources, charcoal production for exports and unsustainable use of water.
- Overexploitation involves over illegal fishing, overgrazing, deforestation caused by charcoal production for export, wildlife depletion and overuse of water resource.
- Climate change effects come from drought, El-nino floods and sea level rises. Pollution comes from burning of fossil fuel and use of fertilizers, agro-chemicals, run offs, waste disposal and dumping toxic waste.

Threats

- Invasive species involves alteration of habitats and inhabiting indigenous species to grow.
- In addition to the above threats, civil war resulted in the movement of the population, restriction of livestock movement, abandonment of agricultural land, land disputes and illegal occupation of the private and public property by land grabbers.
- A tsunami effect involves deaths, displacement of people, loss of assets and livelihoods.

Restoration Approaches

- Alternative Approaches of flora Restoration.

❑Restoration Approaches: This is the process of returning a degraded resource into its original state. The rapidly growing field of restoration ecology is attempting to return many ecosystems, such as tall grass degraded grasslands and wetlands into their original state. Mining activities in most cases alter the nature of landscape and many plants are cleared and their existence is therefore threatened. After mining operations especially open cast mining deliberate efforts should be taken to restore the origin landscape i.e scenery of the place in question and its plant population.

Modern Restoration Approaches

- *Farmer Managed Natural Regeneration (FMNR):* is a rapid, low cost and easily replicated approach to restoring and improving agricultural, forested and pasture lands. FMNR is based on encouraging the systematic re-growth of existing trees or self-sown seeds. It can be used wherever there are living tree stumps with the ability to coppice (re-sprout) or seeds in the soil that can germinate. Vast areas of land around the world, particularly in the tropics and semi-arid tropics, still have coppicing tree trunks, roots, and seeds in the ground from which there is the potential for FMNR.

Modern Restoration Approaches

- Soil and water Conservation structures approache:

❑To revive natural vegetation's and balance environmental Ecosystem —when the water is harvested and the soil is protected from erosive energy of wind and water, naturally the production supports the livestock if the drought continues in the future.

❑Prior to agro-pastorals there plantation was solely dependent on Gum production which was passed to them through ancestors, moreover the gum production drastically reduced due to the returning natural disaster

Beerato FMNR Site *Before* Photos

Beerato FMNR Site *Before* Photos

Beerato FMNR Site *Before* Photos

Beerato FMNR Site *After* Photos

Beerato FMNR Site *After* Photos

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