

## **What is land degradation?**

Land degradation is any change in the condition of the land which reduces its productive potential. It is the deterioration in the quality of land, its topsoil, vegetation, and/or water resources, caused usually by excessive or inappropriate exploitation. It is caused by multiple forces, including extreme weather conditions particularly drought and human activities that degrade the quality of soils affecting food production, livelihoods and the production and provision of other ecosystem goods and services. Land degradation is a global issue, with serious implications worldwide on biodiversity, eco-safety, poverty eradication, socio-economic stability and sustainable development. The United Nations Convention to Combat Desertification (UNCCD) estimates that 50 million people may be displaced within the next 10 years as a result of desertification, which is a form of land degradation. Globally 70% of all dry lands are already classified as degraded, representing 14% of the earth's land surface area. In Africa 73% of agricultural dry land is thought to be degraded and 70% of Africa's 500 million population depends directly on the environment for livelihoods.

## **An overview of land degradation in Zimbabwe?**

Zimbabwe has not been spared, from the adverse impacts of land degradation desertification, and drought. It is estimated that 10% of its soils are under high risk of erosion due to the nature of soils, which are sodic. These are soils whose sodium (salt) concentration affects the soil structure. One such area is the Hwange Sanyati Biological Corridor. The soils break into fine particles and tunnel subsequently collapsing and forming gullies. Soil erosion carries away an annual average of 1,6 million tonnes of nitrogen, 15,6 million tonnes of organic matter and 0,24 million tonnes of phosphorus. On this basis, arable lands alone lose 17,8 million tonnes of soil nutrients each year due to land degradation. The chief drivers of this phenomenon in Zimbabwe are erosion from poor land management practices and poor soil structures, veld fires and the propagation of invasive alien species.

## **What are the major causes of land degradation?**

Biophysical and socio-economic and political factors which include urbanization; competition for scarce water, unsustainable water management and policies contribute to land degradation. Biophysical factors include;

- Soil erosion;
- Poor farming practices and the absence of conservation works;
- Buildup of salts in soils;

- Loss of vegetation cover due to overgrazing, over exploitation and deforestation
- Invasive alien species-these grow prolifically and threaten indigenous plants and decrease the land's biological productivity, pushing out indigenous plants, reducing biodiversity, contributing to soil erosion, reducing grazing areas and reducing the capacity of indigenous plants to reproduce;
- Overuse of irrigation water;
- Inappropriate use of marginal land and
- Veld fires.

#### **What is the impact of land degradation?**

- Increased risks of floods and erosion leading to the formation of gullies;
- Loss of soil fertility leading to poor crop yields;
- Shortage of local surface water resources;
- Increased level of salt groundwater;
- Propagation of invasive species;
- Loss of vegetation- Vegetation plays a major role in determining the biological composition of the soil. Studies have shown that, in many environments, the rate of erosion and runoff decreases greatly with increased vegetation cover. Unprotected, dry soil surfaces blow away with the wind or are washed away by flash floods, leaving infertile lower soil layers that bake in the sun and become an unproductive hardpan.
- Sodic soils form an impermeable crust which reduces infiltration resulting in water scarcity.

#### **What can we do to reduce land degradation?**

- Reforestation and tree regeneration;
- Water management such as adopting rain water harvesting;
- Preoccupying the soil through the use of sand fences, shelter belts, woodlots and windbreaks;
- Enrichment and hyper-fertilizing of soil through planting;
- Farmer Managed Natural Regeneration (FMNR), enabling native sprouting tree

growth through selective pruning of shrub shoots. The residue from pruned tress can be used to provide mulching for fields thus increasing soil water retention and reducing evaporation.

### **Land degradation effects on a global scale**

- 2.6 billion people depend directly on agriculture, but 52% of the land used for agriculture is moderately or severely affected by soil degradation.
- Land degradation affects 1, 5 billion people globally.
- Arable land loss estimated at 30 to 35 times the historical rate.
- Due to drought and desertification each year 12 million hectares are lost, where 20 million tons of grain could have been grown.
- 74% of the poor (42% of the very and 32% of the moderately poor) are directly affected by land degradation globally (UNCCD).

### **Sustainable land management practices**

Land degradation can be effectively tackled, solutions are possible, whose key tools lie in strengthened community participation and co-operation at all levels.

- Integrated approaches are needed because short term cannot solve slowly evolving conditions;
- Great value must be placed on local environmental knowledge systems

Biophysical solutions include

- Water conservation and harvesting
- erosion reduction
- Grazing management
- Veld fire management
- Sustainable agricultural practices such as contour ploughing, erecting stone walls and grass strips in fields to reduce erosion, crop rotation, no till farming, growing wind breaks, incorporating organic matter back into fields and avoiding the use of chemical fertilisers because they contain salt.

**What is EMA doing to contain land degradation?**

EMA's mandate is to promote the sustainable utilisation of natural resources of which land is one of them. The Agency has embarked on several initiatives which include but are not limited to engaging farmers, miners and mapping activities meant to quantify the damage and initiating rehabilitation projects in affected communities. One such project is the Hwange Sanyati Biological Corridor Project where enrichment planting, stabilisation of gullies by planting vetiver grass, construction of stabilisation structures across medium sized gullies, construction of conservation works and the establishment of agro-forestry systems are being done. This is against a background of two billion people who are dependent on ecosystems in dry land areas, 90% of whom live in developing countries.

**QUOTE OF THE WEEK:** *"Sustainable land use is a prerequisite for lifting billions from poverty, enabling food and nutrition security, and safeguarding water supplies. It is a cornerstone of sustainable development."* ~ UN Secretary-General Ban Ki-moon

***Please talk to us we are always ready to listen. Email: [eep@ema.co.zw](mailto:eep@ema.co.zw) or 04 305543 / Toll free 08080028, sms/whatsapp 0779 777 094, Like our Facebook Page- Environmental Management Agency or follow us on Twitter @EMAeep.***