

DEAD SOIL, DEAD FUTURE

Desertification – The problems and ways of combating it

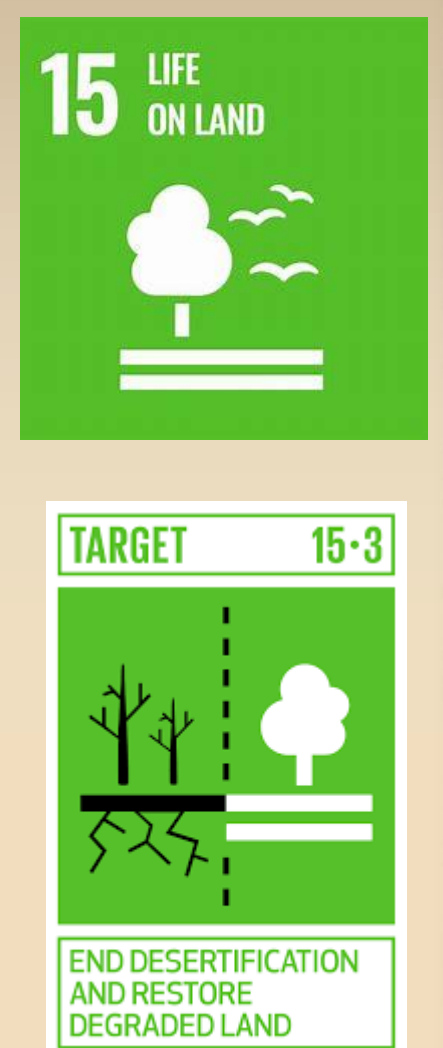
Carolin Behr, Lukas Dietzel, Fredrik Eikevik, Savanna Nylund, Nina Srebro, Sandra Frotjold Øien

WHAT IS DESERTIFICATION?

- **Land degradation** in areas that are already dry
- Negative trend in land condition as a direct or indirect **consequence of human activities**
- Disruption of water cycles, loss of vegetation and fertile soil leading to a persistent decline in productivity

WHAT CAUSES DESERTIFICATION?

- **Overexploitation of natural resources**
- Growing populations of humans and livestock that consume more wood and vegetation (animal feed)
- Intense agriculture leaching nutrients from the soil



END DESERTIFICATION AND RESTORE DEGRADED LAND



Figure 1: Visualization of an area experiencing desertification
1. Desert with low biodiversity and dry grounds with sand
2. Desertification transition area, has few species and poor soil
3. Forest with high biodiversity, soil nutrients and water content

CONSEQUENCES – ON MULTIPLE SCALES



Instability of economy in affected areas



Decline of agricultural productivity leads to increased **food insecurity**



Negative impact on human health due to dust storms → damage of respiratory and cardiovascular systems



Increase of soil erosion, salinization and **decreased rainfall/precipitation**



Increase of rural-urban migration → **overcrowding** in urban areas



Biodiversity loss and carbon leaking from dry soil

POSSIBLE SOLUTIONS – CASE STUDIES

Gobi Desert, China

- Green Wall afforestation program
- Planted trees lead to stabilized ground, improved air quality and retained water

Chihuahua Desert, Mexico

- Shift to sustainable and holistic grazing regimes
- Soil disturbance from cattle ranching and manure, aerate soil and improve infiltration of water
- Cattle fill the ecological niche of historic wild bison herds

