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## **Land degradation: a serious consequence of human activities with dramatic implications on food, health and well-being of world population**

Human activities are causing pervasive land degradation that affects food production, water quality and biodiversity, impacting negatively lives of billions of people and, in some cases, forcing them to migrate away from their homes. Irresponsible land management creates pollution, erosion and soil depletion that reduce the global production potential of land, at a time when meeting future demand for food will require a 50% increase food production by 2050.



But it is not too late to react and there are technical means to combat land degradation (e.g. sustainable intensification, conservation agriculture, agroecological practices, agroforestry, grazing pressure management and silvopastoral management). Adopting these technologies should be a priority, as benefits from investing in land protection and restoration largely exceeds costs (more than ten times in case of land restoration). In addition to immediate economic benefits, combatting land degradation will also contribute to increase carbon storage and reduced greenhouse gas emissions.

These are some of the main findings of a major study conducted by more than 100 leading experts from 45 countries, under the aegis of the [Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services](#) (IPBES). The study points at a major phenomenon that is generally poorly recognised and even less attributed to our model of

economic development that gives priority to the short-term. But, in the words of the report, *“short-term gains from unsustainable land management often turn into long-term losses, making the initial avoidance of land degradation an optimal and cost-effective strategy”*. The more we wait to act, the costlier it will be to restore land.

Authors of the report define land degradation of a particular area by either **a loss of biodiversity, ecosystem functions or services**, without necessarily a change in land cover class or use, or by its **transformation to a derived ecosystem type** such as the conversion of natural cover to a crop field.

They add that *“the main direct drivers of land degradation and associated biodiversity loss are expansion of crop and grazing lands into native vegetation, unsustainable agricultural and forestry practices, climate change, and, in specific areas, urban expansion, infrastructure development and extractive industry.”* But these drivers are a direct consequence of, on the one hand, the demand generated by the generalisation of a consumerist culture, as income per person increases, or, on the other hand, of unsustainable practices adopted by the extremely poor population groups. Our lifestyle, made of frantic consumption, and our economic system are such that consumption decisions at one corner of the world impact negatively on land resources at the other end of the planet, often making the relation between our consumption and land degradation not clearly visible.

Today, *“less than one quarter of the Earth’s land surface remains free from substantial human impacts”*. On-going processes of degradation include transformation of forests, rangelands and wetland (87% loss in the last 300 years for this latter category) *“to urban areas and to intensive agricultural systems involving high use of chemicals that frequently leads to eutrophication of water bodies by fertilizers, toxic effects of pesticides on non-target species, and to erosion”*.

The report continues by stating that *“in the future, most [land] degradation and especially transformation is forecasted to occur in Central and South America, sub-Saharan Africa and Asia, which have the largest remaining amount of land suitable for agriculture... By 2050, it is estimated that less than 10 per cent of the Earth’s land surface will remain substantially free of direct human impact. Most of this remnant will be found in deserts, mountainous areas, tundra and polar systems that are unsuitable for human use or settlement”*.

Land degradation affects livelihoods of billions of people by impacting on food and water security, as well as on human health and safety. Erosion, soil fertility loss, pollution and salinization are the main drivers of losses in agricultural production. *“Land degradation impairs water security through a reduction in the reliability, quantity and quality of water flows... such that four-fifths of the world’s population now live in areas where there is a threat to water security”*.

From the health perspective, *“transformation of natural ecosystems to human use-dominated ecosystems can increase the risk of novel diseases such as Ebola, monkeypox and Marburg virus”*. Land degradation also negatively impacts *“on the mental health and spiritual well-being of indigenous peoples and local communities”* and *“increases the risk of storm damage, flooding and landslides, with high socioeconomic costs and human losses”*.

Other major negative impacts also include:

- An exacerbation of income inequalities “*since the negative impacts fall disproportionately on people in vulnerable situations, including women, indigenous peoples and local communities, and lower-income groups*”;
- Desertification, “*defined as land degradation in arid, semi-arid and dry sub-humid areas ... because of human activities and climatic variations*” that currently affects more than 2.7 billion people and is a cause of migration.

The cost of land degradation is estimated every year 10% of global gross product and the damage is likely to increase as degradation continues, if no concerted action is taken to stop the on-going process of deterioration.

Among measures that can be taken, the authors list:

- Removing all subsidies that reward unsustainable land use and production;
- Ensuring that the environmental, social and economic costs of unsustainable land use and production practices are reflected in prices;
- Securing land tenure, property and land-use rights, vested in individuals and/or communities, which helps preventing land degradation and biodiversity loss and is favourable to restoring degraded lands;
- Providing market-based incentives such as “*credit lines, insurance policies and future contracts that reward adoption of more sustainable land management practices, payments for ecosystem services and conservation tenders*”;
- Providing non market-based incentives such as “*joint mitigation and adaptation mechanisms, justice-based initiatives and ecosystem-based adaptation and integrated water co-management schemes*”.

At [hungerexplained.org](http://hungerexplained.org), we commend the authors of the report for making a special summary for decision makers. It is hoped that policy makers will base their future decisions on the evidence provided by this report and that they will be inspired by the recommendations it makes. In the process, they will not only combat the degradation of land - the indispensable base for producing our food - but they will also contribute to the transition towards a more sustainable and more climate-friendly food system.

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To know more:

- R. Scholes, L.Montanarella *et al.*, Summary for policymakers of the thematic assessment report on land degradation and restoration of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, IPBES 2018.  
Download document in pdf format here: xxxx.

Earlier articles on [hungerexplained.org](http://hungerexplained.org) related to the topic:

- [Policies for a transition towards more sustainable and climate friendly food systems](#), 2018
- [What are the challenges to be met in order to secure a sustainable future for our food system?](#), 2017
- [A solution to combat climate change: an agriculture that stores carbon in the soil](#), 2015
- [For a more sustainable agriculture : three myths to debunk](#), 2015

- [2015 will be the International Year of Soils](#), 2015
- Forests: rural communities caught between markets and the objective of conserving the planet, 2013
- [Land: an unequally distributed, threatened but essential resource](#), 2013