World loses trillions of dollars worth of nature's benefits each year due to land degradation

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Addressing land degradation and its causes represents a double-sided way to reduce greenhouse gas emissions, says a new report. Credit: GIZ

To better inform the tradeoffs involved in land use choices around the world, experts have assessed the value of ecosystem services provided by land resources such as food, poverty reduction, clean water, climate and disease regulation and nutrients cycling.

Their report today estimates the value of ecosystem services worldwide forfeited due to land degradation at a staggering US $6.3 trillion to $10.6 trillion annually, or the equivalent of 10-17% of global GDP.

Furthermore, the problem threatens to force the migration of millions of people from affected areas. An estimated 50 million people may be forced to seek new homes and livelihoods within 10 years. That many migrants assembled would constitute the world's 28th largest country by population.

Effectively addressing land degradation could help avert that humanitarian crisis and add US $75.6 trillion to annual world income, according to the report, "The Value of Land", produced by The Economics of Land Degradation Initiative.

With guidance by United Nations University's Canadian-based Institute for Water, Environment and Health and the CGIAR's Research Programme on Drylands Systems, the report culminates a four-year collaboration involving 30 renowned international research and policy institutes. The Initiative is funded by the German Federal Ministry for Economic Cooperation and Development, the European Commission and the Korean Forest Service.

Some 52% of world agricultural land is moderately or severely degraded, the report says.

Soil is second only to oceans as the planet's largest carbon sink, while agriculture and land use changes represent the second largest source of greenhouse gas emissions. Credit: GIZ

However, "the economics of land degradation is about a lot more than agriculture."

For example, soil is second only to oceans as the planet's largest carbon sink, while agriculture and land use changes represent the second largest source of greenhouse gas emissions. Addressing land degradation and its causes, therefore, represents a double-sided way to reduce greenhouse gas emissions, the report says.

"Adequate management of agricultural and forestry land uses are

amongst the lowest-cost actions that can reduce global warming, and most actions are either neutral cost or of positive net profit to society, requiring no substantial capital investment," the report says.

National studies verify that the value of ecosystem services and benefits far outweigh the cost of preventing land degradation or the cost of remediation in most situations.

The report calls on countries to recognize the huge value of improved land management and to enhance institutional capacity and knowledge in the area, together with national policy, economic, legislative and regulatory frameworks.

The authors note that cost-benefit analyses of sustainable land management scenarios "can be done even with limited data availability,"and underscore that, despite an inevitable degree of uncertainty, "it is imperative to take action now, as every day sees the loss of more productive land that will have to be gained back."

Quick facts from the report:

- Land cover changes since year 2000 are responsible for half to 75% of the lost ecosystem services value
- The value of lost ecosystem services due to land degradation averages US $43,400 to $72,000 per square km, some US $870 to $1,450 per person, globally each year
- Agricultural investments of US $30 billion per year are needed to feed the world's growing population
- The percentage of Earth's land stricken by serious drought doubled from the 1970s to the early 2000s
- One third of the world is vulnerable to land degradation; one third of Africa is threatened by desertification
- A future focused on a shift to sustainability will see the greatest

increase in ecosystem service values and GDP.

Monique Barbut, Executive Secretary, UN Convention to Combat Desertification:"As Oscar Wilde put is once 'people know the price of everything and the value of nothing.' This is certainly true when we look at our land resources - we do not value them. The ELD Initiative proves it should be a no-brainer. Land degradation eats away at our fertile land. That is our common resource base. It is time to efficiently and cost-effectively harness the land and land-based ecosystems to provide for our needs and secure our livelihoods."

Karmenu Vella, European Commissioner for Environment, Fisheries and Maritime Affairs:"This study by ELD shows the immediate and global impact of land degradation and highlights that actions to tackle it pay off. Increased land degradation is also one of the factors that can lead to migration and it is being exacerbated by climate change. On our planet, the area affected by drought has doubled in 40 years. One third of Africa is threatened by desertification. As President Juncker said in his State of the Union speech last week, climate refugees will become a new challenge - if we do not act swiftly. We need to be as ambitious as possible in the negotiations for COP 21 in Paris"

Provided by United Nations University

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