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Hundreds of Millions of Hectares, Nearly the Size of Brazil, Face Degradation Threat – UN Report Warns

But Close to Half of those May be Saved with Better Management

Implications on Food Security and Natural Systems

Davos / Switzerland, 24 January 2014 – Up to 849 million hectares of natural land – nearly the size of Brazil – may be degraded by 2050 should current trends of unsustainable land use continue, warns a report by the United Nations Environment Programme (UNEP).

The need to feed a growing number of people globally has led to more land being converted to cropland at the expense of the world's savannah, grassland and forests.

This has resulted in widespread environmental degradation and loss of biodiversity, affecting an estimated 23 per cent of global soil.

Agriculture currently consumes more than 30 per cent of the world's land area, and cropland covers around 10 per cent of global land.

Between 1961 and 2007, cropland expanded by 11 per cent, a trend that continues to grow.

The report, entitled *Assessing Global Land Use: Balancing Consumption with Sustainable Supply*, was produced by the International Resource Panel: a consortium of 27 internationally renowned resource scientists, 33 national governments and other groups, hosted by UNEP.

UNUnder-Secretary-General and UNEP Executive Director, Achim Steiner, said, "The findings of the International Resources Panel show that the world has witnessed an unprecedented sharp decline in terrestrial ecosystem services and

functions during the past decades. Forests and wetlands have been converted to agricultural land to feed growing populations but at a cost that is not sustainable".

"Recognizing that land is a finite resource, we need to become more efficient in the ways we produce, supply and consume our land-based products. We must be able to define and adhere to the boundaries within which the world can safely operate to save millions of hectares by 2050." he said.

"Recommendations from the report are meant to inform policy and contribute to on-going discussions on targets and indicators for sustainable resources management as the world charts a new course for sustainable development post-2015, " he added.

The report outlines the need and options to balance consumption with sustainable production.

It focuses on land-based products, such as food, fuels and fibre, and describes methods to enable countries to determine whether their consumption levels exceed sustainable supply capacities.

At the same time it distinguishes between gross and net expansion of cropland.

While net expansion is a result of rising demand for food and non-food biomass – which cannot be compensated by higher yields – gross expansion comprises the shift of cropland to other areas due to losses caused by severe degradation.

Under a business-as-usual scenario, the net expansion of cropland will range from 120 to 500 million hectares by 2050.

Shifts to more protein-rich diets in developing countries and a growing demand for biofuels and biomaterials, especially in developed countries, are increasing the demand for land.

A Safe Consumption Level

The report attempts to answer the question: how much more land can be used to serve the growing demand for food and non-food biomass while keeping the consequences of land use change (e.g. deforestation) at a tolerable level?

A combination of rising incomes and urbanization are changing diets and increasing the demand for land to the point that dietary change soon may override population growth as the major driver behind land requirements for food.

To manage these and other challenges the International Resource Panel uses the "safe operating space" (SOS) concept as a starting point to understand how much more land use can occur before the risk of irreversible damage – in

particular through biodiversity loss, release of carbon dioxide, disruption of water and nutrient cycles and loss of fertile soil – becomes unacceptable.

The report says that if the goal of halting global biodiversity loss by 2020 is to be reached then cropland expansion, a key driver of that loss, will need to be halted.

Using the SOS concept, it calculates that the global cropland area available for supplying demand could safely increase by up to 1,640 million hectares.

Under business-as-usual conditions, the report warns that expected global land demands by 2050 will overshoot this safe operating space.

As an interim target, the report proposes 0.20 hectares (1,970 square metres) of cropland per person by 2030.

Monitoring global land use of countries and regions for their domestic consumption gives an indication of whether they have exceeded or are within their safe operating space.

For the European Union, for instance, 0.31 hectares per person were required in 2007. This is one-fourth more than what is domestically available in the EU, is one-third more that the globally available per person cropland in 2007, and it well above the 0.20 per person SOS target for 2030.

The report says that the key causes of our global challenges are linked to unsustainable and disproportionate consumption levels, but in high-consuming countries only a few policy instruments address excessive consumption habits and the structures that encourage them.

At the same time, with an expanding global population and a worldwide trend towards urbanization, up to 5 per cent of the global land (around 15 billion hectares) is expected to be covered by built-up areas by 2050.

In many cases, built up areas expand at the expense of agricultural land, and agricultural land expands at the expense of forests, particularly in tropical regions.

In addition, in the past five decades, deforestation has occurred at an average rate of about 13 million hectares per year.

Reducing Land Demand

While the world’s average agricultural yield growth is slowing, the opportunity to increase productivity in regions with lagging yields, like sub-Saharan Africa, seems promising.

Capacity building on best management practices, integrating scientific and local know-how and investing in the remediation of degraded soils offer strong potential for maximizing yield.

In high-consumption regions, more efficient and equitable use of land-based products is required.

Up to 319 million hectares of land can be saved by 2050, if the world follows a combination of measures designed to keep cropland expansion within the 'safe operating space'.

These measures include:

- Improve land management and land use planning in order to minimize the expansion of build-up land on fertile soils;
- Invest in the restoration of degraded land;
- Improve agricultural production practices to increase intensification in an ecologically and socially acceptable way;
- Monitor global land use requirements of countries for the total consumption of agricultural goods in order to allow comparisons with the global average and sustainable supply and implications on sectoral policies;
- Reduce food waste and shift towards more vegetable diets;
- Reduce the subsidization of fuel crops – including the reduction and phase out of biofuel quotas in consuming countries.

More Findings from the Report

- More than half of the synthetic nitrogen fertilizer ever produced has been used up in the past 25 years.

- By 2005, the 10 largest seed corporations controlled half of all commercial seed sales; the top 5 grain trading companies controlled 75 per cent of the market, and the 10 largest pesticide manufacturers supplied 84 per cent of pesticides.

- International agricultural trade has increased tenfold since the 1960s.

- A global agricultural trade has emerged, characterized by high levels of agribusiness concentration, a rapid increase in the share of retail food sales by supermarket chains, and growth in the trade of foodstuffs, fertilizers and pesticides.

- Food prices remain below their peak in 2008, but are higher than pre-crisis levels in many developing countries.

Towards More Sustainable Land-use

The report makes a number of cross-cutting recommendations, which taken together could help limit cropland expansion to an additional 8-37 per cent by 2050, allowing the world to stay within its safe operating space.

These include:

- Improving information systems, especially to monitor domestic land use, and foreign land use for domestic production and consumption;

- Land use planning to prevent the loss of high-value natural areas to the encroachment of cropland and to avoid the spread of built-up areas onto fertile soil;

- Harmonizing food security, energy, rural development and industrial policies through economy-wide programmes for sustainable resource management;

- Economic instruments to trigger sustainable supply and demand; for example, a “subsidy to sustainability” approach to foster long-term soil productivity;

- Targeting public investment to focus on the needs of smallholders to enhance food security and living conditions in rural areas.

For more information, please contact:

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Notes to Editors

- To download a copy of the report, please visit: www.unep.org/resourcepanel (from 24 January)

- UNEP’s 2012 Foresight report ranked the issue of global food safety and security among the top three global challenges. The integration of the

biodiversity theme into environmental and economic agendas and the new rush for land were within the top twelve.

About the International Resource Panel

The International Resource Panel was established in 2007 to provide independent, coherent and authoritative scientific assessment on the sustainable use of natural resources and the environmental impacts of resource use over the full life cycle. By providing up-to-date information and best science available, the International Resource Panel contributes to a better understanding of how to decouple human development and economic growth from environmental degradation. The information contained in the International Resource Panel's reports is intended to be policy relevant and support policy framing, policy and programme planning, and enable evaluation and monitoring of policy effectiveness.

About UNEP

Created in 1972, UNEP represents the United Nations' environmental conscience. Based in Nairobi, Kenya, its mission is to provide leadership and encourage partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations. UNEP's Division of Technology, Industry and Economics – based in Paris – helps governments, local authorities and decision-makers in business and industry to develop and implement policies and practices focusing on sustainable development. The Division leads UNEP's work in the areas of climate change, resource efficiency, harmful substances and hazardous waste.

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