Desertification is greatest threat to planet, expert warns

Desertification on the outskirts of the town of Annakila, Mali. Photograph: Madeleine Bunting for the Guardian

Desertification and land degradation is "the greatest environmental challenge of our time" and "a threat to global wellbeing", according to the UN's top drylands official, Luc Gnacadja, who says people must be paid via global carbon markets for preserving the soil. The executive secretary of UN's Convention to Combat Desertification (UNCCD), will today launch the UN decade for the fight against desertification in London.

"The top 20cm of soil is all that stands between us and extinction," he told the Guardian. Conflicts and food price crises all stem from the degradation of land, he added.

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Land conflicts in Somalia, dust storms in Asia and the food price crises of recent years all stem from the degradation of land, he said, due to overuse by humans and the impacts of global warming. Since the early 1980s, a quarter of the planet's land has been despoiled and 1% a year continues to be lost.

The better known issues of climate change and loss of biodiversity are both rooted in the global loss of fertile soil, said Gnacadja, as the soil harbours a huge stock of carbon and the health of creatures living in the soil underpins global food production and forest growth. The reason desertification has not been a priority is because 90% of the 2.1 billion people who live in drylands live in developing countries, he said.

"Even in their own countries, they are the poorest among the poor and live in remote areas," said Gnacadja. "The world is driven by city dwellers: political leaders are setting agendas to satisfy people who live in the cities, we therefore tend to perceive soil as just dust, or mud, or a dumping place. But if we don't preserve that first 20cm of soil, where will we get our food and water from?" Half the world's livestock are raised on drylands and a third of crops, especially wheat.

The impacts of climate change – rising temperatures and more erratic rainfall – are here already from Latin America to the Sahel, said Gnacadja. Adding to the pressure on land is rising global population, which is expected to pass the 7 billion mark next year and reach 9 billion by 2050. As well as the consequences for food and water, violent conflicts and migration will also increase, he said, affecting those living outside drylands.

"Increased aridity is making the drylands the most conflict prone region of the world," he said. "If you really want to look at the root causes of the conflicts in Somalia and Darfur, and drylands of Asia, you will understand that people in their quest to have access to productive land and water for life, they end up in conflict." He also cited nothern Nigeria, where increased aridity means lack of fodder is driving herders south into the areas farmed for corn. "Conflict is almost inevitable."

Desertification and rising aridity were the ultimate cause of the food price crisis of 2007-8, Gnacadja said, as it began with a drought in Australia. This year's price spike started with a drought in Russia. Another example of desertification's impact was the loss of land bordering the Gobi desert leading to record dust storms that damage the health of people in Seoul in South Korea, thousands of kilometres away.

Gnacadja, a former environment minister in Benin, said combating desertification and soil degradation requires better land management, better equipment and new technology to manage water, drought resistant seeds and payment to communities for preserving the soil. He said he welcomed the new Green Climate Fund and the Redd deal to tackle deforestation agreed at the UN's climate change talks in Cancún last week.

But, he said, people must be able to earn carbon credits that can be sold on a global market for preserving soil, which contains 75% of all carbon on land. It was a "win-win-win", he said, as it not only reduced greenhouse gas emissions, but also helped food security and helped store and clean water.

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