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Filling *the Gaps*

TIMO MAUKONEN says that increased knowledge and information on deserts and drylands is essential for both their development and conservation

Desertification, as a concept, dates back to West Africa in the colonial 1920s and 1930s, but was revived in the early 1970s in an attempt to understand a long series of drought years that brought environmental degradation, economic hardship and famine to the African Sahel. Grim pictures of the extent of human suffering there sparked intense humanitarian, political and scientific concern around the world.

The issue emerged as one of the first major environmental problems of global concern at the the 1977 UN Conference on Desertification, hosted by UNEP in Nairobi. The United Nations Convention to Combat Desertification (UNCCD) – which has poverty and the peoples of the drylands as central themes – was signed in 1994, and has now been ratified or accessed by 191 countries. The United Nations General Assembly declared 2006 the International Year of Deserts and Desertification (IYDD), and every June 17th from this year on has been designated World Day to Combat Desertification.

Land degradation

More than 1000 million people live in the rural areas of the world's drylands, which cover some 40 per cent of Earth's land surface. Economically dependent on agriculture, they are most at risk from land degradation. The vast majority – 94 per cent, by one estimate – of desert dwellers live in developing countries, where population growth rates are among the highest: since the beginning of the 20th century the number of people living in developing country deserts has multiplied eightfold. The recent Millennium Ecosystem

Assessment reports that half of the world's poor live in drylands adding: "Desertification is potentially the most threatening ecosystem change impacting livelihoods of the poor. Persistent reduction of ecosystem services, as a result of desertification, links land degradation to loss of human well-being."

Hydrological systems are fragile in drylands, arid, semi-arid and sub-humid areas. Rainfall is low and sometimes erratic and evaporation is high. This exposes people to many hazards – including droughts, ash foods and bush fires – which severely affect many communities, creating environmental refugees, and hampering sustainable development.

The causes of land degradation are both man-made and natural. Population pressure and bad land management originate it, but humanity exacerbates it by overcultivation, deforestation and other inappropriate uses. Drought, erosion by wind and water, and other natural factors also play a part.

Marginalized people

It is easier to prevent desertification than to reverse it. Better management of crops, more careful irrigation and providing jobs outside farming for dryland people can help to address the problem. There are success stories on sustainably managing and rehabilitating degraded lands. Progress is also being made through introducing such practices as conservation tillage, judicious soil fertility enhancement, better-adapted crops and crop varieties, and better water management. Yet overgrazing, mining of soil fertility and other unsustainable agricultural practices still remain. Attempts to implement technical solutions to land degradation are also strongly influenced by policy, and social and economic drivers such as migration, urbanization, gender bias, land tenure, stakeholder and natural resource conflicts, markets, effectiveness of public support, and international trade agreements. Desertification is a social issue of marginalized people, who are not necessarily the first priority either in developed or developing countries.

Although the drylands do not have much water, they do have other natural resources that can be exploited, including minerals, valuable genetic material from plants and animals, and great potential for generating solar energy for use elsewhere. Few places on earth contain a richer collection of natural adaptations to the environment, while their abundant sunshine is enormously underexploited. The scientific ►

knowledge and engineering skills to generate sustainable incomes from deserts already exist, but appropriate action needs to be determined, and the proceeds must be equitably shared.

Knowledge on desertification has increased during the last decades but there is still a lack of data on the magnitude of the problem, though the more synoptic view offered by satellite remote sensing in the 1990s gave rise to a perhaps less catastrophic picture. Systematic observation and data collection on natural resources and their uses is essential. These are needed for better understanding of land degradation and for assessing the processes and effects of drought and desertification. They are also necessary to provide early warnings to decision makers to help them value ecosystem services realistically for development and conservation policies, to facilitate increased investment in improved land management, and to justify investments in sustainable livelihood options. UNEP, in collaboration with partners, strives to improve the quality of existing knowledge and to

fill the data gaps through global and regional programmes, such as Land degradation Assessment in Drylands, the Global Land Cover Network and the Desert Margins Programme.

UNEP has also undertaken a global assessment of deserts as part of its global environmental assessment programme.

Global Deserts Outlook is the first thematic assessment report in UNEP's Global Environment Outlook (GEO) series and, in conjunction with the IYDD, aims to help raise global awareness of the state of world's deserts. The report presents a panorama of the environmental status of the world's deserts: their location and extent, uniqueness and vulnerability, biodiversity and natural resources. It provides a balanced picture of the world's deserts, as ecosystems which form a special part of the world's natural and cultural heritage, and not simply as land that is the end result of the process of desertification. The report also covers deserts' fragile ecologies and their unique biota by highlighting the importance of the desert environment and its products such as crops originating from drylands, oil and mineral deposits, tourism, and their cultural values. It also highlights the challenges that countries and people face when exploiting desert resources and puts forward an outlook for future desert development and the need for conservation. The knowledge and technology exist to manage these resources sustainably; the challenge lies with determining and implementing appropriate actions for desirable long-term outcomes ■

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