

# Only Connect

**SARA J SCHERR** and **CLAIRE RHODES**

say that the Millennium Development Goals can only be achieved in the drylands by approaches that simultaneously deliver food security, rural livelihoods and biodiversity conservation

**T**he challenges of the Millennium Development Goals (MDGs) – an unprecedented drive by the international community to address the deeply interlinked challenges of eradicating poverty, enhancing food security and ensuring environmental sustainability – are especially pertinent in the drylands. Representing approximately 41 per cent of the Earth’s terrestrial surface, they are home to approximately two billion people, contain one third of the world’s agricultural land use, sustain diverse areas of endemic biodiversity, and face increasingly severe risks of desertification and degradation.

Reducing poverty and hunger in the drylands will depend on sustaining their natural resources base, while improving crop, livestock, forest, and fishery production. Yet, widespread land degradation affects production in at least 70 per cent of dryland agricultural and rangeland systems, threatening both livelihoods and biodiversity.

Drylands house about 22 per cent of the world’s protected areas, but these are proving insufficient to protect its rich, endemic and highly adapted flora and fauna. Agricultural expansion and intensification, and other land use changes, drive biodiversity loss and ecosystem degradation. Action to sustain livelihoods and biodiversity is particularly critical where people depend on crops and livestock in and around Protected Areas; in landscapes essential for biodiversity and watershed services under agriculture production; and in highly degraded areas where improved agriculture, livelihoods and biodiversity all depend on ecosystem restoration.

## Community approaches

There must be urgent investment in approaches that jointly deliver food security, rural livelihoods and biodiversity conservation. Placing community-led approaches at the centre of national development strategies offers opportunities for this. While the international community struggles to reconcile targets on environment and poverty, many local communities around the world innovatively employ integrated ecosystem approaches – putting food security at the heart of conservation, and conservation at the heart of food security. Croplands and pastures must be managed in ways that enhance habitats and the delivery of ecosystem services. And wildlife habitat needs to be managed in ways that benefit local farmers, pastoralists and other local people.

These are some examples for such ‘ecoagriculture’ strategies:

- Community Water Harvesting, Rajasthan, India:



Drought and environmental degradation threatened livelihoods in Rajasthan’s Arvari Basin. Crop failure, soil erosion and watershed degradation were widespread and communities faced continual challenges to meet their water needs. Over the last twenty years a community-led watershed restoration programme has centred on re-instating johads – an indigenous technology that collects water from uphill tributaries: more than 5,000 of them now serve around 1,050 villages. Water supplies for irrigation, wildlife, livestock and domestic use have increased, and groundwater re-charge is encouraged to improve hillside forest productivity. Village councils coordinate community leadership. The social, economic, and biophysical landscape has been transformed. Restoring river flow has increased the availability of water, improved the sustainability of agriculture and the security of livelihoods, and strengthened the emphasis on community-led natural resources management.

- Integrated Pastoral Management, Kenya:

The Pastoralist Integrated Support Programme in Kenya’s remote and arid Marsabit region works with over 11,000 pastoral people to protect dryland biodiversity from over-grazing through managing herd movements strategically around vulnerable water points. Restoring highly flexible, traditional water management systems has significantly reduced the vulnerability of nomadic communities.

- Farming to Mimic Natural Ecosystems, Spain:

‘Dehesas’ have evolved to sustain livestock and grain production in areas of limited rainfall over nearly 3.5 million hectares of southern Spain and Portugal. These are human-engineered ecosystems, designed and managed over centuries to mimic natural savanna, and support high levels of biodiversity. Scattered trees, shrubbery, and diverse cultivation and livestock systems increase the heterogeneity of the habitat. Pastures and grainfields benefit from improved soil structure and rainfall absorption, and from reduced evaporation underneath the trees. ▶



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These case studies are just snap-shots of the diverse array of innovative strategies that have evolved in drylands to coordinate managing wildlife habitat and watersheds management with conserving the genetic diversity of crops and livestock in ecologically-compatible production systems. Building on existing 'place-based knowledge' and landscape management expertise is essential. Investments should be increasingly targeted to directly support such community-driven ecoagriculture approaches, including traditional and indigenous practices. Community-based leaders have often proved to be highly effective 'extension agents', yet rarely play a central role in designing and implementing such initiatives or support services.

### Local enterprise

Further incentives are needed to foster collective action between the diverse stakeholders responsible for managing dryland landscapes – including farmers, pastoralists, community-based organizations, NGOs involved in conservation, agriculture and rural development, research institutions, the food industry, and policymakers. Institutions and processes are required to strengthen collaboration and integrated thinking amongst them.

Such processes have demonstrated opportunities to facilitate broader participation in decision making and in negotiating management agreements that reconcile ecosystems, livelihoods and productivity goals. Their effectiveness could be enhanced by further investment in developing cross-sectoral institutions that support stakeholders in managing landscapes – for instance by providing integrated support services for agricultural production, conservation, local enterprise development, and landscape planning. There are, for example, almost no institutions equipped to support and enable the management of transboundary Protected

Areas, watersheds and other shared landscapes and ecosystems.

Where these lessons are applied, there is great scope for achieving significant gains for both rural livelihoods and biodiversity conservation. Unfortunately opportunities for drawing on the depth and diversity of 'place-based' local knowledge to support integrated landscape management approaches, are lost within national and international development strategies. Agriculture and biodiversity typically remain sectorally based, with no coordination between institutions responsible for different elements of the same landscape. Environment ministries tend to remain distinct from agriculture, water, fisheries, and forestry ones. Agricultural systems are rarely the focus of conservation research, or vice versa. Market mechanisms rarely recognise the role of farmers and pastoralists as stewards for conservation.

### Enhanced coordination

Narrow sectoral strategies have failed in the drylands. Synergies can be delivered by enhancing coordination and complementarity between existing conservation and production strategies. Diverse stakeholders need to be collectively engaged in designing and delivering strategies that simultaneously address the challenges of meeting goals for rural livelihoods, food security and environmental sustainability. An increasing number of international dryland initiatives are being established to do this, including greater investment in integrated research on drought, poverty and agriculture; in dryland biodiversity conservation and ecosystem management; and in enhancing the understanding of the role of traditional indigenous knowledge.

Nonetheless, the scale and extent of this integration is not enough to achieve the MDGs. The key challenge is to catalyse the processes, investment and incentives necessary to mobilise existing knowledge and strengthen coordination.

Thus, in this International Year of Deserts and Desertification, the international community should pursue three priority investments to promote integrated strategies for meeting the MDGs in rural drylands:

- Coordinating the agendas of the Convention on Biological Diversity and the Convention to Combat Desertification energetically to pursue landscape-scale strategies in drylands that achieve ambitious objectives both for enhancing sustainable agricultural production and for conserving biodiversity and ecosystems, through multi-stakeholder planning and action.
- Supporting this strategy of integrated landscape management with a focused programme of research, knowledge exchange and capacity-building across communities and sectors, building upon the existing expertise and knowledge of community-based practitioners
- Empowering dryland resource managers – farmers, pastoralists and others – to play a central role designing investment and conservation programmes, and to participate as key actors in national and international policy processes ■

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