

# Dryland Degradation and Development

This key sheet is part of a series of awareness raising tools developed by Irish Aid to accompany its Environment Policy for Sustainable Development.



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# 1. Introduction

This key sheet is part of a series of awareness raising tools developed by Irish Aid to accompany its Environment Policy for Sustainable Development. Key strategies for implementing the policy are:

- i) mainstreaming, where the environment is recognised as a critical part of sustainable development and is taken into account in all policies, programmes, activities and funding decisions; and
- ii) partnership, where Irish Aid works with national governments, multilateral organisations, international agencies and civil society organisations to contribute to sustainable development.

The first step in environment mainstreaming is to understand how the environment is linked to the development challenge or sector YOU are responsible for. In this key sheet, we describe why land degradation, particularly in dry areas, is a barrier to poverty reduction, and suggest sources of additional information. We will produce more detailed guidelines on mainstreaming environment and development at a later date.

## **Dryland degradation matters to development because:**

- > Of the 2.3 billion people who live in dryland areas, about one billion live below the poverty line – accounting for almost half of the world's poor. Many are vulnerable to droughts and other recurrent shocks.
- > Most dryland people depend on natural resources such as land, water, pasture and forests for their livelihoods. Degradation of this resource base is a key factor contributing to food insecurity, and adds to the vulnerability of the poor.
- > Action to secure local resource rights, to support resilient livelihood systems, to improve water management and land use systems, to restore and rehabilitate degraded land, and to strengthen civil society in dryland areas would help to address environmental degradation and promote local development.



A woman and a boy herd their livestock through the dust in the desert back to their village. The region has suffered overgrazing and the soil has become unstable. Somali region, Ogaden, Gode, Ethiopia.



## 2. What is dryland degradation?

The UN Convention to Combat Desertification (UNCCD) defines land degradation as “reduction or loss [...] of the biological or economic productivity and complexity of rainfed cropland, irrigated cropland, or range, pasture, forest and woodlands”. Land degradation is particularly problematic for both environmental sustainability and poverty reduction in dryland areas. These are regions where rainfall is very scarce, as in much of the Sahel and many parts of East Africa and the Horn.

The UNCCD and others use “desertification” to describe dryland degradation but this term is controversial because of its long association with the now largely discredited idea of advancing deserts. Dryland degradation is now known to be the context-specific outcome of climatic factors and human activities rather than being part of a process of desert expansion. While there is much disagreement about the relative contributions of climatic and anthropogenic factors to dryland degradation, the UNCCD adopts a neutral position, indicating that both play a role.

International efforts to tackle dryland degradation are centred on the UNCCD. It requires affected countries to develop ‘action programmes’ identifying priority measures to tackle dryland degradation and calls on donor countries to provide financial and other assistance. Other relevant multilateral environmental agreements include the Convention on Biological Diversity (due to the loss of biodiversity associated with dryland degradation) and the UN Framework Convention on Climate Change (on the links between dryland degradation and climate change, see below). The linkages between these agreements and the extent to which their environmental goals are integrated into poverty reduction strategies are problematic.

## 3. Why environment and development go hand in hand in drylands

Tackling dryland degradation and promoting sustainable resource use are key challenges for both environment and development goals because:

- > Some of the world’s poorest and most vulnerable people live in drylands;
- > In many drylands, environmental resources such as land, water and forests are being degraded or are under pressure;
- > Many poor people are critically dependent on such resources for their livelihoods.

Over 2.3 billion people live in drylands. According to the Millennium Ecosystem Assessment<sup>1</sup> (MA), about one billion of these people live below the poverty line, accounting for almost half of the world’s poor. Any shortfall in production therefore places a heavy burden on already low levels of food and welfare.

Yet many dryland areas are characterised by low and erratic rainfall and by recurrent external shocks such as droughts and locust invasions. These cause unpredictable fluctuations in production levels, and food crises. In north-west Kenya recently, for instance, several years of low rainfall have resulted in the death of vast numbers of livestock, and a major food crisis among the Turkana pastoralists.

In rural areas, most dryland people depend on natural resources such as land, water, pasture and forests for their livelihoods. Degradation of this resource base increases the vulnerability of the poor and is a key contributor to food insecurity. Scientific evidence of the extent of resource degradation in drylands is mixed. The MA reported that as much as 10–20% of dryland areas are degraded, amounting to 6–12 million km<sup>2</sup>.

At the same time, drylands offer significant potential for socio-economic development. Over time, dryland people have developed resilient and adaptive livelihood systems, including pastoralism and farming techniques that enable their survival in difficult terrains. Supporting these efforts and promoting sustainable resource use are therefore key to reducing poverty and to achieving the Millennium Development Goals.

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<sup>1</sup> The Millennium Ecosystem Assessment is a worldwide assessment of ecosystem change and of its consequences for human well-being, which was undertaken in 2002-2005 under the auspices of the United Nations.

## 4. Securing local resource rights

Secure rights over natural resources are necessary to create incentives for sustainable resource use and agricultural investment in drylands. But in many parts of the world, resource rights are weak or unclear, and are undermined by overlapping land claims and intense competition.

Across African drylands, for instance, land legislation is based on legal concepts of European origin, but is scarcely applied in rural areas. Here, local ('customary' but continuously reinvented) land tenure systems are often applied even where they are inconsistent with legislation, because they tend to be more accessible to rural people.

As a result, several tenure systems — statutory, customary and combinations of both — may coexist over the same territory, resulting in overlapping rights, contradictory rules and competing authorities. This creates confusion and fosters tenure insecurity (see Box 1), undermines incentives for sustainable land management, discourages agricultural investment and enables elites to grab common lands (Toulmin and Quan, 2000; Cotula et al, 2006).

To secure local land rights, policies and laws must build on local concepts and practice, rather than importing one-size-fits-all solutions. This entails, among other things, giving greater legal protection to the entitlements through which most people gain access to rural land. A wealth of experience on how to do this is being developed around the world. For instance:

- > In the Ethiopian state of Tigray, the lowest level of local government handles land records in a way that is accessible to most land users, costs tend to be very low and most land users can understand the language used. However, the simple technology used does not enable documentation of the size, location and boundaries of plots, which limits the system's usefulness in solving boundary disputes.
- > Registering collective land rights can also be a cost-effective way to provide adequate tenure security, provided that group members enjoy clear rights over their plots. In Mozambique, for instance, while all land belongs to the state, communities can register a collective, long-term interest and manage land rights according to customary or other local practices (Kanji et al. 2005).

### Box 1 Land tenure security

Land tenure security implies that a landholder has a reasonable degree of confidence that land rights or the economic benefits they bring will not be arbitrarily lost. It includes both objective elements (clarity, content, duration and enforceability of the rights) and subjective elements (landholders' perception of the security of their rights).

Tenure security must be distinguished from the ability to exclude others, which is strongest in the case of individual private property: clear, strong and enforceable collective land rights can also be very secure. As land tenure relates to the rights, institutions and processes for gaining access to a valuable resource, it is a key governance issue (see Key sheet on environment and governance).

## 5. Supporting resilient and locally appropriate livelihood systems

Pastoralism and farming are among the livelihood options that development assistance can support to promote sustainable resource use and poverty reduction in drylands.

### 5.1 Pastoralism

Pastoralism often enables the productive use of areas of drylands that are unsuitable for farming. Yet, for a long time, a poor understanding of herding systems resulted in inappropriate policies that undermined pastoral development — such as by constraining herd mobility, leading pastoralists to become sedentary (see Box 2).

Sustainable rangeland management in drylands requires specific arrangements that secure pastoralists' access to water and grazing while enabling herd mobility. This allows herders to respond rapidly to changing grazing conditions and fodder availability produced by erratic rainfalls.

Various forms of 'pastoral' legislation recently adopted by several Sahelian countries provide insights into how to achieve this. Such legislation recognises the importance of herd mobility and protects grazing lands and 'cattle corridors' from agricultural encroachment (e.g. Mali's Pastoral Charter; Hesse and Thébaud, 2006).

#### ↳ Box 2 Supporting pastoral civil society in East Africa

The regional programme *Reinforcement of Pastoral Civil Society in East Africa*, jointly implemented by IIED and RECONCILE, has designed a set of practical tools to build the capacity of pastoral civil society leaders to argue for the inclusion of pastoralism in the design and implementation of policy. Through training and action-research, pastoral groups gain a better understanding of the dynamics of their own livelihood system in relation to the broader policy environment, identify their own solutions to current problems, and are able to challenge outsiders' perceptions of pastoralism. This programme is supported by Irish Aid.

### 5.2 Farming

Dryland farmers have developed knowledge and innovations that enable sustainable farming in very difficult environments. However, in many areas farming is under pressure as a result of insecure land rights, conflict with other resource uses (particularly pastoralism), and unfair agricultural subsidies in the North (for instance in relation to cotton farming, which is important to countries such as Chad, Mali and Mozambique). Supporting farming adapted to drylands requires, among other things:

- > Supporting farmers' innovation;
- > Promoting sound combinations of local knowledge and appropriate technologies;
- > Securing land rights; and
- > Regulating relations between competing resource users.

The experience with 'local conventions' developed in West Africa provides insights into ways of regulating farmer-herder relations. These are community-based agreements on the management of shared natural resources that are negotiated by all interested natural resource users, usually with support from development projects. In Niger's Takiéta forest, for instance, local users with support from an NGO established rules and institutions that enable sustainable resource use on the one hand, and peaceful coexistence of competing resource users on the other (Vogt and Vogt, 2000).

## 6. Tackling water issues

The sustainable and equitable management of scarce water resources for domestic and agricultural use is key to both poverty reduction and ecosystem protection in drylands. Again, environment and development goals are closely linked. Improving access to water is crucial but doing so without a proper understanding of local contexts may have negative social and environmental effects (Cotula, 2006). Development programmes that build water infrastructure inappropriately could result in resource degradation.

In many pastoral systems, for instance, control over water sources needed by livestock enables regulation of access to surrounding grazing lands. Traditionally, resource management systems were centred on this close relationship between land and water rights: those digging wells enjoyed priority use rights over them, and could regulate access to them by outsiders. In so doing, livestock numbers on a given rangeland could be controlled. In the past, however, the creation of public water points has attracted increasing numbers of herders, and undermined the priority land and water use rights that local groups enjoyed under 'customary' resource management systems. This has fostered resource conflict and degradation (e.g. in Niger, see Thébaud, 2002).

### 6.1 Taking climate change seriously

Climate change is affecting dryland areas and livelihoods. Although long-term predictions are difficult, most climate change models suggest that many drylands will become warmer and drier. As a result, existing water shortages will worsen and droughts are likely to become longer and more frequent.

If rainfall becomes even more erratic, resources such as pastures will become scarcer, more scattered and harder to predict. This, coupled with population growth, would promote greater competition between resource users — possibly resulting in social conflict and even violence.

This demands action both to mitigate climate change and to support adaptation strategies in dryland countries. The latter entails helping people respond to change — by, for instance, enabling herd mobility while securing pastoralists' rights to natural resources, supporting pastoral livelihoods and their diversification, and researching drought resistant crops.

Better coordination is needed between UNCCD 'action programmes' and efforts to support adaptation under the UN Framework Convention on Climate Change, and between national and international institutions implementing and overseeing this work..

## 7. Priority actions to tackle dryland degradation

Tackling these issues requires working with governments and civil society to develop and implement policies and programmes that:

- > secure local resource rights, promote peaceful coexistence between competing resource uses (e.g. herding and farming) and enable pastoral mobility, both through support to design and implementation of appropriate national legislation and through support to local-level arrangements such as "local conventions" or other multi-stakeholder agreements (see above);
- > support dryland livelihoods, including through better water management and supply and through off-farm diversification (particularly where this is the only viable option for the landless poor);
- > promote improvements in farming techniques and land use systems, through support to and valorisation of local knowledge and innovation, and through appropriate combinations of local knowledge and locally appropriate technological innovations;
- > promote restoration and rehabilitation of degraded drylands, through soil and water conservation measures that are tailored to local contexts (from terracing to nutrient replenishment; MA, 2005) and that are designed and implemented with the participation of local resource users;
- > strengthen the capacity of civil society in dryland areas to engage more effectively with policy debates on dryland development, including through training and exchange of experiences.

# References

Cotula, L. (ed), 2006, *Land and Water Rights in the Sahel - Tenure Challenges of Improving Access to Water for Agriculture*, London, IIED, Issue Paper 139, <http://www.iied.org/pubs/pdf/full/12526IIED.pdf>.

Cotula, L., Toulmin, C., and Quan, J., 2006, *Better access to land for the rural poor – Lessons from experience and challenges ahead*, London, IIED, <http://www.iied.org/pubs/pdf/full/12518IIED.pdf>.

Hesse, C., and Thébaud, B., 2006, "Will Pastoral Legislation Disempower Pastoralists in the Sahel?", *Indigenous Affairs*, 1/06, pp. 14-23.

Kanji, N., Cotula, L., Hilhorst, T., Toulmin C., and Witten, W. 2005, *Can Land Registration Serve Poor and Marginalised Groups?*, London, IIED, <http://www.iied.org/pubs/pdf/full/12518IIED.pdf>.

Marcussen, H., Nygaard, I. and Reenberg, A. (eds), 2002, *Implementing the United Nations Convention to Combat Desertification (CCD): Past Experience and Future Challenges*, Copenhagen, SEREIN.

MA (Millennium Ecosystem Assessment), 2005, *Ecosystems and Human Well-being: Desertification Synthesis*, World Resources Institute, Washington, DC.

Thébaud, B., 2002, *Foncier Pastoral et Gestion de l'Espace au Sahel. Peuls du Niger Oriental et du Yagha Burkinabé*, Paris, Karthala.

Toulmin, C., 2002, Drylands development: Choosing the options, in Marcussen, H., Nygaard, I. and Reenberg, A., *Implementing the United Nations Convention to Combat Desertification (CCD): Past Experience and Future Challenges*, Copenhagen, SEREIN.

Toulmin, C., and Quan, J. (eds), 2000, *Evolving Land Rights, Tenure and Policy in Sub-Saharan Africa*, London, DFID/IIED/NRI.

Vogt, G., and Vogt, K., 2000, *Strength in Unity – Shared Management of Common Property Resources: A Case Study from Takieta, Niger*, London, IIED, <http://www.iied.org/pubs/pdf/full/X174IIED.pdf>.

# Useful websites

- FAO [www.fao.org](http://www.fao.org)
- IIED/Drylands Programme [www.iied.org/NR/drylands/](http://www.iied.org/NR/drylands/)
- United Nations Convention to Combat Desertification (UNCCD) [www.unccd.int](http://www.unccd.int)
- UNDP/Drylands Development Center [www.undp.org/drylands/](http://www.undp.org/drylands/)

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