Strategies for the sustainable development of the drylands

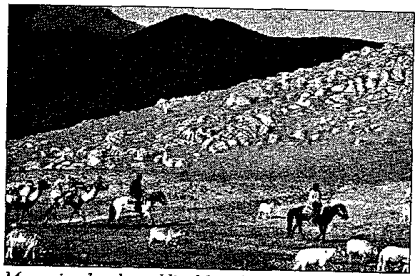
Much effort is currently invested in the development of strategies for poverty reduction, sustainable development, conservation of biodiversity and adaptation to climate change. Where do drylands issues lie in these emerging themes? A consortium of organisations dedicated to drylands development – the Global Drylands Partnership[1] – has recently produced a series of papers to look at these four major questions in relation to the drylands.

The purpose of these papers is to challenge existing myths and current presumptions of dryland areas, thereby changing the conventional perceptions of the drylands and providing decision-makers with a reliable source of information. Most of the discourse on drylands development is pessimistic, yet there is overwhelming evidence that drylands can be productive and are great sources of biodiversity. The United Nations Convention to Combat Desertification and Drought (CCD) was formulated to increase attention and support to the drylands of the world. Unfortunately, since its adoption, its implementation has been generally poor. These Challenge Papers are intended to cast new light on how we view and work in the drylands. They are meant to question many of the underlying assumptions that frequently inform programme designs and interventions in the drylands. By highlighting these critical challenges, the Global Drylands Partnership hopes to encourage a revival of national efforts in addressing drylands development while building on the synergies between the major global conventions.

1 This partnership includes: The Canadian International Development Agency, The United Nations Development Programme's Office to Combat Desertification and Drought (UNSO), UNDP/Global Environmental Facility, the International Institute for Environment and Development, the World Wildlife Fund, The World Conservation Union and the Near East Foundation.

In this article, Haramata *presents a summary of one of the four Challenge Papers looking at which strategies would be best suited for the sustainable development of the drylands.*

One of the ironies of the stock market is that the best returns often come from the most neglected stocks. Shares in out-of-favour companies can move dramatically on good news. A similar argument can be made for the relative merits of development assistance in the drylands. It may well be that in the coming decades, the best return for development dollars will come from regions that policy makers have previously shunned.



Daniel Miller

Managing herds and livelihoods in Mongolia

For decades, drylands have been the neglected stepchild of development because of the harsh, but compelling logic that investments in wetter agricultural areas with richer soils would yield greater returns. By this reasoning, dryland residents could still benefit from trickle-down effects of investment elsewhere in the form of cheaper food, larger markets and opportunities to migrate to better jobs elsewhere. The result is that many high potential areas, particularly in India and China, have already benefited from green revolution technology and other investments, but now face diminishing returns. The logic for investing in high potential areas is far less compelling today than it was in 1960.

By contrast, research in India and China has demonstrated that investments in drylands can produce high returns, even if yields will

never rival those of wetter regions with richer soils. Apart from direct improvements to rural incomes, such investments yield a host of social and environmental returns that are more difficult to quantify, but nonetheless real.

Investment choices in drylands need to take account of diversity and risk. While a farmer in the Punjab might enjoy a comfortable return on investment growing high yield wheat, the dryland farmer who invests in fertilizer stands a good chance of losing everything through drought, market uncertainties, or the high costs of transport. Dryland regions would benefit from crop research in areas such as drought tolerance, pest resistance, and the ability to improve yields in the face of scarce nutrients, but the place to begin improvements lies with basic factors such as soil and water. Natural resource management techniques to improve soil depth, organic matter, fertility and moisture content, are a necessary first step to set the stage for appropriate use of fertilizers and new varieties.

Instead of the high input approach favoured for rich lands, a more appropriate perspective for drylands would be to search for technologies and adaptations that require low external inputs. This involves some delicate trade-offs since low input technologies (e.g. building vegetative barriers to contain soil erosion and harvest water) tend to be more labour intensive. Similarly, if the use of green manure is going to be encouraged, the pressure to find alternative energy sources can put added pressure on shrubs and trees. Trade-offs also apply to the search for higher yielding varieties of crops, since farmers (and nature) favour robustness over yield in harsh and risky growing conditions.

Where appropriate, a shift to higher value agricultural products and non-farm activities can significantly boost incomes. Livestock, agroforestry and even horticulture can often prosper in areas with dry climatic conditions. Depending on the circumstances, conversion to non-farm activities such as agroprocessing or eco-tourism might hold potential (although this path carries with it the dangers of disruption and inequities in the distribution of new wealth).

Jim Sattie

The terracing of the Loess plateau, China, turned dusty land into maize fields

Camilla Toulmin

Growing tobacco in a well manured garden, Mali

As with any initiative, new ideas should be weighed against their potential to disrupt traditional ways of managing risks and coping with regular droughts. One common strategy in many dryland communities is establishing a portfolio of incomes and assets by which means to hedge exposure to drought, such as by planting a diverse range of crops, keeping different types of animal, and seeking out new opportunities. Another de facto hedging strategy involves building strong social networks and kinship links that provide a safety net in bad times. Pursuit of individual entrepreneurship may risk disrupting these ties, exacerbating suffering during drought.

There may be common elements to dryland problems and risk management strategies, but policy makers must resist the temptation to assume that one set of development tools can be applied across the

Ced Hesse

Milk sales booming in Djenne, Mali!

board. Though united by water stress, drylands are remarkably diverse, and each dryland household has its own risk/reward calculation when it comes to investing labour and choosing crops. Vegetative barriers, which find ready acceptance as a means of saving water and soil in the Machakos region of Kenya, were rejected in parts of Burkina Faso in favour of stone bunds because these required a one-time investment of off-season labour.

Given these trade-offs, sensitivities and constraints, how best might governments and donors invest in drylands? Governments should be judicious in the way in which they introduce market reforms. Unless accompanied by public investment in infrastructure, market reforms could destroy rather than encourage developments in drylands. In poorer regions of Africa, for example, market reforms have often raised the price of fertilizer and reduced its availability.

Strengthening public institutions is important, including research and extension. Governments need to recognise the rights and responsibilities of local people to manage their land by giving official recognition to the tenure arrangements drawn up between different user groups.

Perhaps the best way to encourage sustainable farming and investment in the future is to assure farmers of long-term access to the land. Indigenous tenure systems often provide this. As population pressures and commercialisation encourage a shift towards individualisation of plots, governments can facilitate such adaptation. This is beginning to occur in certain parts of West Africa. NGO's can help too, by providing expertise to local communities, in collective management of resources, and provision of technical support.

With these adjustments and investments, dryland regions could face a better future. Recent research in rural areas of India and China show that some public investments in dryland areas have brought greater returns at the margin than comparable investments in irrigated areas, and the impact on poverty alleviation has been far more significant.

Without question, investment in the drylands poses more challenges than investment in high potential areas. Population densities are low, but the people themselves are a major resource, both in terms of motivation and their skills. If, as in the world of business, investors bet on people and their resourcefulness, then the drylands are a good wager.

Based on the summary article by UNSO of the Challenge Paper "Strategies for the Sustainable Development of Drylands Areas" by Peter Hazell (IFPRI). For more information on the Global Drylands Partnership, go to http://www.undp.org/seed/unso/gdp/intro.html. The complete version of the four Challenge Papers are downloadable from this site.