

CHANCE, CHANGE AND CHOICE IN AFRICA'S DRYLANDS

A new perspective on policy priorities

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Introduction

The African drylands¹ are home to 268 million people, or 40% of the continent's population and, excluding deserts, they comprise 43% of the continent's surface area.² The drylands of Sub-Saharan Africa are spatially heterogeneous – overlain on the rainfall gradient are rivers and wetlands within the drylands, a wide variety of soil types, and differences in land use, infrastructure development and market accessibility³. Blueprint policies have not worked, primarily because they lack or constrain the flexibility that people need to survive and prosper in such regions. The often low and highly variable rainfall⁴ creates risky environments for households, but people have responded with resilience, adaptability and dynamism, taking advantage of transient opportunities, and developing and maintaining strong links between their dryland economies and more humid or urbanised regions. People's economic activities are characterised by innovation and experimentation, both in the use of natural

resources and in exploiting livelihood opportunities elsewhere. Their knowledge forms a valuable resource in managing risky environments, in contrast to the narrower understanding that often underpins introduced technologies, many of which have failed.

Past policies on drylands have failed in another respect: they focused primarily on the presumed

Key Action Points

- A *people-centred approach* to developing the drylands should be taken, rather than giving undue attention to environmental 'crises'. This should aim to increase choice and opportunity, and to reduce vulnerability. Rights-based approaches to development need greater attention, so as to complement the current needs-based approaches.
- To address the complexity, diversity, and variability in time of the drylands, policies and programmes need to be *adaptable* to specific circumstances and *flexible* in response to change.
- Policy needs to take a *long-term, holistic and strategic* view, including strengthening the linkages between dryland livelihoods and the wider economy, and in creating linkages among different initiatives and stakeholders.
- A range of *incentives* are needed locally and nationally that will further encourage local people to mobilise and employ their own assets in support of their livelihoods. Among such incentives, strengthening *resource rights* can play a major role.
- Policy should facilitate and strengthen linkages between agriculture and income *diversification*, which provides livelihood opportunities and pathways out of poverty, and between drylands and other regions.
- A prime objective of research and development is *empowerment*. We need to give a voice to local people – a voice that is heard and listened to.
- Policies that address the *HIV/AIDS epidemic* will benefit dryland communities that are threatened, like others, with unpredictable losses of labour, skills and financial capital.



Practitioners believe that many of principles and action steps that can guide investment have been identified.

limitations of the natural resource base rather than on the people, their knowledge, skills and capacity for innovation in overcoming or circumventing environmental constraints. Examples from other times and places illustrate the potential. African drylands supported several famous empires in the past (e.g. ancient Ghana, Mali and Songhay in West Africa; Darfur in north-east Africa; Great Zimbabwe in southern Africa). Today, productive and prosperous enterprises flourish where people in drylands have been able to secure the necessary investment, largely for water and infrastructure development (e.g. Spain, California, Israel). Returns to public investment in regions of India and China with 'fragile lands' (which include drylands) are higher than those in high-potential regions.⁵ In short, drylands, like other environments, should be seen as stage and scenery; the important features are the people and their ideas of what can be done with the resources at hand.⁶

The prevalence, importance of changes, and opportunities in drylands dictate that it is time to re-evaluate policy choices for drylands in Sub-Saharan Africa. Here we raise three questions:

- 1) Why invest in drylands?
- 2) What incentives are needed to secure dryland livelihoods?
- 3) What new approaches to policy can be pursued?

Why invest in drylands?

Investments by public sector agencies (governments, donors), the commercial private sector, and rural families themselves add to the value of natural, physical, social and human capital. Investments made by rural people include those created by labour (e.g.



Cotton waits to be hauled away - drylands make major contributions to national economies, even when infrastructure is far from ideal. (photo: H. T. Mudavanhu).

agricultural land developments, soil conservation works) and those made incrementally over several years (e.g. school fees).

The contribution of dryland people to local and national economies

Contrary to widely held perceptions, dryland people make a major contribution to both national and regional economies.

- In many countries (e.g. Mauritania, Botswana), the whole population lives in dryland environments.
- In many others (e.g. Senegal, Tanzania), the national economy depends heavily on a dryland sector. Where drylands are a smaller proportion of the national territory (e.g. Nigeria), they are nevertheless integral to the national economy through the circulation of labour, skills, financial capital and food commodities. These exchanges extend to the regional level, bringing human resources to centres of economic development and returning capital investment to the drylands.
- Dryland people have mobilised natural and human resources on a large scale to produce agricultural, livestock, woodland, wildlife and other products.

The potentials of drylands and their people

Drylands and their people have still-unrealised potentials for development:

- Adaptive skills, including capacities for intensifying the use of natural resources, for developing diversified livelihoods, and for contributing knowledge and skills (e.g. in the extensive management of grazing resources in Namibia, Botswana and Tanzania).
- Drylands contain significant untapped resources that could aid in development. These resources include: solar radiation for crop production; solar and wind energy; and, in some areas, untapped surface water or groundwater (e.g. in southern Zimbabwe).
- There have been research-led technological improvements in rainfed cropping systems and in livestock production, with further improvements on the horizon.
- Many drylands have significant non-agricultural land use options (e.g. tourism; wildlife, non-timber forest products), and others allow for high-intensity agricultural production (e.g. high value crops for export

by air). In some cases such land-use options have proven to be important drivers in national economies.

There are a number of success stories where long-term improvements in natural resource management and average incomes have been achieved. Some examples follow:

- **Kenya: Machakos and Makueni Districts.** Between 1932 and 1987, the Akamba people increased the average value of production per hectare by a factor of >10, and its value per capita by >3, while their population grew six-fold. During the latter half of the period, they reversed a crisis in soil erosion, planted trees, extended the cultivated area, and created a landscape of meticulously terraced fields and private pastures. They diversified their livelihoods in the growing urban and commercial sector. These achievements were sustained during the 1990s, even in the dry areas of Makueni District, notwithstanding economic recession and increased uncertainty.⁷
- **Burkina Faso: Central Plateau and Eastern Region.** Between 1980 and 2000, the Mossi people living in this area increased their crop yields, the numbers of on-farm trees, the numbers of livestock (and amount of manure), and fodder production. Household food security improved and out-migration was partly reversed. Some water tables rose. They implemented soil and water conservation measures on a large scale. Yield improvements without soil degradation were achieved, over 40 years, during which time the population quadrupled.⁸
- **Namibia:** In the past decade, Namibia developed approaches for extending the economic benefits of ecotourism to rural households. The program moved NRM away from state ownership toward a system that supports local rights. A landmark policy on conservancies established a relatively straightforward, transparent process for local communities to: mobilize and register interested community members; adopt a constitution and by-laws; identify boundaries of management areas; commit to a plan for sustained yield management of their resources; organize resource monitoring and planned harvesting; and agree on a plan for distribution of benefits. In the past decade, overall impacts have been significant, with greatly increased wildlife populations, significant expansion of major wildlife-based tourism, and empowered communities through organization of conservancies.



Forest products support numerous livelihoods, with households constantly exploring new opportunities for generating cash income (photo: C. Cossalter).

A common thread amongst these success stories is that none can be attributed solely to external assistance. Local resources were unleashed through, e.g., infrastructure improvement within favourable macro-economic policy environments.

International obligations and human rights

- The Millennium Development Goals, and those agreed at the World Food Summit in 1996, made commitments to reduce poverty and food insecurity. The drylands contain many of Africa's poorest and most food-insecure people. In many countries in Africa the largest portion of poor people live in marginalized rural areas. Poverty cannot be alleviated without addressing rural issues.
- African countries with extensive drylands are co-signatories to the United Nations Convention to Combat Desertification, and with the assistance of the UNCCD's Global Mechanism, are preparing National Action Plans that will require investments in drylands.

These obligations, and others (e.g. the Convention on Biological Diversity), place responsibilities on governments, donors and other organizations to assist people living in drylands to secure livelihood opportunities, access and manage natural resources, and obtain development assistance appropriate to the challenging circumstances in which they live.

Costs of not investing in drylands

Dryland people invest when incentives are right. Neglecting to create this environment has cost implications for the future.

- Lack of investment will erode the productive capacity of dryland households thereby reducing both market and subsistence production, and increasing the dependence of farmers on off-farm incomes. Subsistence production is vital for food security, as insurance against risk, and as a safety net for the very poor. Weak or failing production systems, and household impoverishment, reduce the capacity to invest in new options for future livelihood and environmental benefits.
- An under-investment in creating or sustaining livelihood options will increase vulnerability to drought, climate change, HIV/AIDS, and economic or political instability. Insecurity currently threatens investment in some drylands, and conflict can spill over into other regions. It is likely that under-investment contributes to social frustration in areas of actual or potential conflict.
- Land degradation, resulting from lack of investment, has both on-site costs, and off-site costs (e.g. downstream effects of catchment deforestation), which may impact on the economy.⁹
- Unemployment, ill health and malnutrition carry costs for the whole community, either in terms of welfare programmes, lost production or a reduced quality of life.

What incentives are needed to secure dryland livelihoods?

The challenge of dryland development is to create an enabling environment in which local people are able to improve their livelihoods by using their resources more productively.¹⁰ It is

apparent that we need to move away from a dependency view of African dryland people. Research has shown that even the poorest can be regarded as autonomous, responsible, experimental, and, though risk-averse, also opportunistic and innovative. Constraints, not ignorance, deter poor households. It follows from such an optimistic interpretation that they don't need to be lectured, cajoled, pressured or motivated but offered choices of, and access to, appropriate technologies, practices, information and experience within a rewarding economic and institutional environment. Given such an autonomous rather than a dependent profile of small-scale resource managers, the objective of policy should be empowerment, allowing people the opportunity to explore technological and economic options for themselves.

Enabling environments may be created in many ways.¹¹ Some incentives may work best by changing the conditions for economic activity. For example, the removal of barriers to trade, achieved through international agreements, or the implementation of economic reforms aimed at improving terms of trade, could substantially improve market conditions for dryland producers. Other incentives may work through public investments in infrastructure (e.g. hospitals, clinics and schools; communications, improving market access; water supply and sanitation) and services (e.g. health and education; market information; access to soft loans and credit). In the discussion below, we highlight three key areas where such policy tools could be used:

- 1) Developing capacity, confidence and competence of service providers;
- 2) Diversifying incomes and securing linkages;
- 3) Unleashing individual and organizational capacity.



People have proved exceptionally resourceful in drylands (photo: B. Campbell).

1) Developing capacity, confidence and competence of service providers

Service providers (government extension and research agencies, NGOs) and local authorities are often poorly equipped for addressing the problems of drylands. They are currently not responding to the expressed needs of farmers and other small-scale producers. All too often, extension services push farmers towards technologies that will not work under dryland conditions. The service providers frequently lack incentives and have insufficient resources to meet local needs. Institutional arrangements for interacting with local people and their organizations are often inadequate. These problems may be exacerbated by decentralisation, in which local authorities have to implement new functions, unless provision is made for support by central government.

More weight should be attached to the knowledge and experience of resource users. The complexity of dryland environments, and the need by households to be flexible and adaptable, must be more fully appreciated. The content of training courses should be re-orientated away from simple technical packages to providing information on a wide diversity of activities, including gardening, livestock rearing, field crops, small-scale industries and forestry activities. Being able to listen and facilitate should be as important as technical know-how. Ongoing in-service training rather than one-off training courses are needed to build these essential abilities.

2) Diversifying incomes and securing linkages

Dryland people are exceptionally resourceful in responding to the opportunities created by dryland conditions and by links to more humid or urbanised regions.¹² Thus a key strategy employed by many dryland people is diversification, whereby households spread their livelihood base amongst a number of activities, so as to avoid having "all of their eggs in one basket" and to seize passing opportunities that offer a better return to their labour and skills.

Promoting income diversification strategies in households

In order to harness the full potential of drylands, policy should ensure that future development options are not foreclosed, by being proactive in enabling people to respond to changing natural and economic circumstances. For example, targeted infrastructure could be

provided to help develop potentially lucrative market niches. Drylands should not be treated as mere welfare sinks or 'problem areas'.

Promoting urban-rural linkages

People employed in towns and cities frequently remit part of their income to relatives living in rural areas. This often allows the purchase of agricultural and other production inputs. Large agricultural markets are located, and linked to consumers, in towns and cities. Links also provide information about income opportunities and prices.

Public investments in building and maintaining roads help people to access larger and better organized markets. Enlarging communications networks, particularly those based on integrated communications technology, increase the potential for accessing more accurate and timely information about markets and technologies. They may also make it easier for information about dryland areas - people's needs, their activities, and the opportunities for investment - to reach the outside world. Expanding the postal service in remote areas would not only provide an added conduit for the flow of information but would, through the provision of post office saving facilities, encourage savings.

Provision must also be made for people to seek opportunities beyond the natural resource sector and outside drylands. Incentives are needed that create the right environment for such developments and which induce people to mobilise and employ their own assets in this regard.¹³ Such incentives need to be developed as much through external organizations and the State as within dryland communities.

Encouraging private sector investment

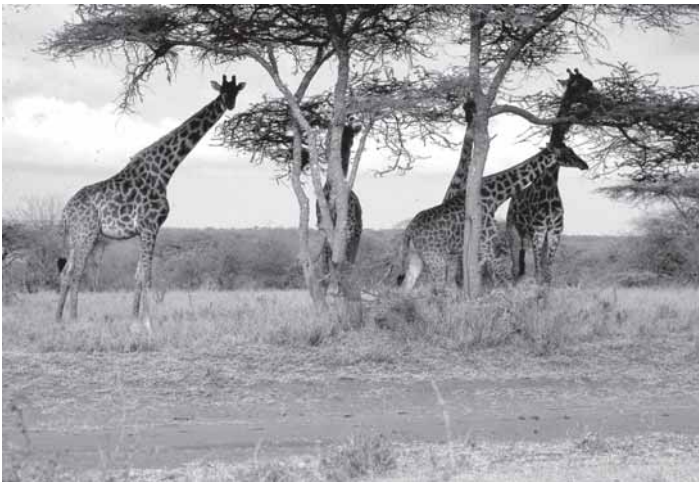
Currently, the level of private sector investment, outside mining and ecotourism, is low in drylands. To attract more requires governments to create an enabling environment, not only in providing basic infrastructure and services, but also in considering options for underwriting investments, tax incentives, or credit at preferential rates. Governments may be able to stimulate investment by promoting integrated development nodes, such as growth points or spatial development initiatives, to link areas with complementary attributes. Strengthening internal linkages will help small producers whose marketing costs are high.

Recognising global linkages

Dryland communities are not isolated from global change. Climate change may have an impact on dryland regions. For example, changes in the

frequency of extreme climatic events such as droughts and floods may affect food security and livelihood vulnerability in drylands. Drylands are affected by WTO negotiations. Potentially improved access to global commodity and labour markets are offset by competition from subsidised producers elsewhere in the world, by sanitary and phytosanitary controls, and by restrictions on migration. Large-scale private-sector investments in dryland areas, particularly where people have insecure or unclear land tenure, may create pressures within the drylands.

Global concerns about desertification, under the aegis of environmental agreements such as the UN Convention to Combat Desertification, could open up new opportunities if they help mobilize funds for development. Conversely, inappropriate policies may be introduced in response to international commitments. A key problem in this regard are the differing scales of problem and response. Dryland problems are often local in nature, with specific histories and conditions, but many efforts to address these problems propose broad-scale solutions that are blind to the subtleties of site, time and circumstance.



Niche markets, such as ecotourism, have proved to be major contributors to poverty alleviation in some areas (photo: C. Cossalter).

3) Unleashing individual and organizational capacity

Distributing authority and functions to institutions best positioned to exercise them

Recently, there have been calls to reallocate power among different levels in the political-administrative hierarchies of government, and between the public and private sector.¹⁴ Decisions that can be made by citizens without regulation should be established within the domain of citizen rights. Decisions that are best

made by representative local government or local non-state actors without jeopardizing social and ecological well-being should be retained at that level. Greater commitment by governments to decentralizing responsibility for decisions on natural resource management to local administrations, coupled with more secure rights for local people to benefit materially and in other ways from the products of that management, could create incentives for more appropriate and sustained use of natural resources. Increasing local people's rights over land, or their access to and use of the resources on communal land, is also crucial.

There is much talk of decentralization but the mechanisms for doing this successfully in poor, remote communities are not well developed. Decentralizing and delegating responsibilities without providing the necessary resources often leads to increased costs to citizens. Projects from different sources, donors or sectors often leave local people and their organizations running from one activity to another, increasing transactions costs even further. In some cases, the supported activities may promote contradictory outcomes. Capacity is diluted and focus and funding are dispersed. Resource mobilization should be linked with the delegation of responsibility, and capacity built into local structures to use the devolved rights and responsibilities more effectively.

Invest in rural organizations as the building blocks of development

Well-managed and locally controlled rural organizations create economies of scale and contribute to higher economic returns for the rural poor. Models of development built on local credit and local savings are more cost-effective and replicable than those relying on external financing. Policies to promote self-reliance should build a development framework that recognizes, values, and builds on rural smallholders' existing capacity to mobilize their own savings and resources. Another key to development is the nurturing of markets so that they penetrate economically remote areas, a feature of drylands. Support through market information and the development of marketing organizations will enable households to respond positively to markets, and thus allow them to drive development themselves.

Promoting the development of business-based, well-governed rural groups and their confederation will go a long way towards stimulating private investment. More needs to be done to encourage the establishment of producers' associations (e.g. with guidelines for key personnel), helping them to access markets

and maintain the volume, quality and continuity of supply, an important consideration in drylands where productivity is often low and variable. By themselves, rural groups have limited influence on policies and markets; confederations, however, produce economies of scale, critical mass, and effective advocacy (e.g. the Botswana Community-Based Organizations Network).

Develop effective local voice - moving from subject to citizen

A new vision sees local people as citizens, not subjects. This vision can be promoted by taking a rights-based approach, rather than one based only on needs. The challenge is to incorporate existing power structures - traditional, administrative and party political - into the vision. Effective local voices can be built in a four-step process:

- Creating an inclusive voice of individuals and the community at a local level, through capacity-building approaches and participatory dialogue, using local languages.
- Aggregating this voice to achieve greater influence, by strengthening organizations and improving interaction with higher levels.
- Building the accountability of service providers. The ability to listen to and respond to voice requires very different ways of working and thinking by service providers and local authorities. Their downward accountability is critical, though they still need to be effective in their links to higher levels of governance.
- Developing mediation and facilitation skills and processes to ensure linkage between local voices on the one hand and service providers and local authorities on the other.

What new approaches to policy can be pursued?

Despite the unique features of drylands and the challenges that ongoing changes present in these environments, in many countries there are few policies that specifically target the drylands. In many jurisdictions, uniform national policies on rural development often lack the flexibility needed to help people in particular places and times to consolidate or expand their assets and opportunities. At a national level, there are seldom adequate organizational structures or institutional arrangements designed specifically to assist dryland communities, other than in the context of disaster management and the provision of famine relief.

We advocate a shift away from a policy view of the drylands as unproductive or low potential wastelands, towards taking up the challenge that they present, recognizing their current contribution and supporting opportunities for sustaining present and future livelihoods. Unintended bias can result from implementing macro-economic policies that fail to take into account the special challenges and opportunities of drylands. For example, formulating Poverty Reduction Strategies or other national-level macro-economic policy instruments that fail to address these challenges, could inadvertently produce inequity in the distribution of benefits.

Dryland producers, living in highly variable environments, are constrained by the risk of production failures and loss of assets. Under conditions of poverty or inefficient markets, irregular droughts and variable production lead to food insecurity. Persistent food shortages, compounded by political insecurity, threaten to institutionalise famine relief in some areas. More attention should be paid to reinforcing and expanding local safety nets, and developing the capacity and incentives for the public sector to respond more rapidly, and earlier, to developing food deficits. This will counter the periodic loss of assets that inhibits private investment in recovery from famine.

A long-term perspective is therefore essential in planning incentive-based interventions. Identifying and managing risk are important, both to protect investments and to enable dryland producers to anticipate and thereby avoid or minimise the impacts of drought and other sporadic shocks. This is often compounded by relatively inflexible budgeting processes that make no provision for intermittent assistance over the longer term. Innovative ways of "smoothing out the bumps" through insurance, savings, storage and other measures are needed. Even where there are apparent policy provisions in this regard, they may be vague, or seldom applied. The frequent disconnection between policy and practice is an issue that needs urgent attention.

A people-centred approach to developing the drylands should aim to increase choice and opportunity, and to reduce vulnerability. Chance as well as change characterises dryland environments and are a critical concern for policy. However creating choices for rural people – both in the sense of options and decision-making ability – are key to unleashing dryland potential. Traditionally the entry point for public investments was addressing needs or solving environmental crises. Increasingly it is

evident that a needs and a rights-based approach should play complementary roles. The approach should support and enhance adaptive capabilities that have developed in response to risk and vulnerability. There is a need for empowerment, effective local voice, and participation in policy processes. With these elements in place, many environmental challenges will likely to be solved.

Endnotes

- 1 Drylands in this context are those areas receiving about 100-1000 mm rainfall annually but on a highly seasonal basis so that there is a prolonged (>5 month) dry season (or two shorter dry seasons near the equator) during which plant production is severely curtailed. The ratio of rainfall to potential evaporation in such areas is generally less than 0.5.
- 2 Middleton, N. and Thomas, D. (1994) World Atlas of Desertification, Second Edition. London: Arnold for the United Nations Environment Programme.
- 3 Pastoralism predominates below about 400 mm mean annual rainfall, with mixed farming (cropping plus livestock production) prevailing in the higher rainfall zones.
- 4 Coefficients of variation of annual rainfall range from 25-45%.
- 5 Hazell, P. (2002) Investing in poor people in poor lands. Washington, D.C: International Food Policy Research Institute, for the International Fund for Agricultural Development.
- 6 Raup, H.M.. (1966) The view from John Sanderson's farm. A perspective for the use of the land. *Forest History* 10 (1): 1-11.
- 7 Tiffen, M., Mortimore, M. and Gichuki, F. (1994) More people, less erosion. Environmental recovery in Kenya. Chichester: John Wiley; Gichuki, F., Mbogoh, S., Tiffen, M., and Mortimore, M. (2000) 'Makueni District Profile: Synthesis'. Drylands Research Working Paper 11, <www.drylandsresearch.org.uk>
- 8 Reij, C. and Steeds, D. (2003) Success stories in Africa's drylands: supporting advocates and answering skeptics. Paper commissioned by the Global Mechanism of the Convention to Combat Desertification. Amsterdam: Centre for International Cooperation, Vrije Universiteit Amsterdam.
- 9 Berry, L., Olson, D., Campbell, D., Santibanez, F. (2003) Case studies: impact and costs of land degradation. Paper commissioned by the Global Mechanism of the Convention to Combat Desertification.
- 10 Campbell, B.M., Jeffrey, S., Kozanayi, W., Luckert, M., Mutamba, M., Zindi, C. (2002) Household livelihoods in semi-arid regions. Options and constraints. Bogor, Indonesia: Center for International Forestry Research.
- 11 For a thorough discussion of best practices for revitalizing Africa's rural areas see: USAID, 2002. Nature, wealth and power. Washington: USAID.
- 12 Campbell, B.M., *et al. ibid.*
- 13 Knowler, D. *et al.* (1998) Incentives systems for natural resources management: the role of indirect incentives. Rome: FAO Investment Centre.
- 14 USAID, 2002. Nature, wealth and power. Washington: USAID.



Mr Yacouba Sawadogo explains to scientists how he has worked the hard lateritic surfaces (right) to create bushland (left). The reasons for the success of the zai technique need to be understood in order to replicate such work over entire landscapes

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