

# Combating desertification – the big challenge for the 21st Century

*Hardest hit by desertification is Sub-Saharan Africa, where poverty is more widespread, preparedness for catastrophe is lower, and means for adequately coping with the phenomenon are very weak; two thirds of the arable land will be lost by 2025. The subcontinent needs improved integrated initiatives on local, national und multinational level for a sustainable natural resources management. Environmental Information systems can increase awareness and throw light on decision making processes on the complexity of desertification badly needed by most African countries.*

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Combating desertification, in Africa in particular, remains one of the most important and enduring challenges of the 21st century. Desertification or land degradation in drylands is a very complex issue, as it is a multidimensional phenomenon that is not easy to cope with in the context of global poverty. This is further illustrated by the extent of controversy among scientists, policy makers, land managers and development practitioners, thus bringing to bear the global nature of desertification. The vagueness of the alleged causes together with the interrelationships and implications of desertification, land degradation and drought in drylands has sustained these controversies. In any case, it is well known that desertification is a problem that affects many regions of the planet.

## Desertification affects economy and environment

According to article 1(a) of the United Nations Convention to Combat Desertification (UNCCD), «desertification means land degradation in arid, semi-arid and dry sub-humid areas resulting from various factors, including climatic variations and human activities». Article 1(c) defines drought as «the naturally occurring phenomenon that exists when precipitation has been significantly below normal recorded levels, causing serious hydrological imbalances that adversely affect land resource production systems», and article 1(f)

states that «land degradation means reduction or loss, in arid, semi-arid and dry sub-humid areas of biological or economic productivity and complexity of rainfed cropland, irrigated cropland, or range pasture, forest and woodlands resulting from land uses or from a process or combination of processes, including human activities and habitation patterns». Putting aside the scientific validity of these definitions, they present desertification as a global problem that can affect all continents. However, coping adequately with desertification depends largely on local conditions, since besides its physical consequences on ecosystems, there is a wide range of socio-economic threats including poverty, food insecurity, water shortage, health problems and conflicts that can be associated with the phenomenon.

Although all continents have areas where desertification is occurring, the effects depend on the specific natural, socio-economic and political features of the area, country, sub-region or region concerned. The hardest hit is Sub-Saharan Africa, where poverty is more widespread, preparedness for catastrophe is lower, and means for adapting to the phenomenon are very weak. According to expert estimates, Sub-Saharan Africa will lose two-

Large areas of South Africa are drylands and seriously threatened by degradation and desertification.



Photo: Wilcke

thirds of its arable lands by the year 2025. Land degradation is already costing an average 3 percent of annual agricultural GDP. The poorest people, in other words, the most vulnerable population groups are the main victims of this phenomenon which attacks both the economy and the environment. The consequences turn into causes of degradation evidenced especially by erosion, barren lands, degenerated woodland, overgrazing, sand invasion, and population migrations that compromise development efforts. The effects of poverty and desertification impact together and are mutually reinforcing.

### Interactions between desertification – migration – water stress

Indeed, periodic droughts combined with land degradation and poverty in Sub-Saharan Africa since the 1970s have played a continuous role in the region's migratory patterns. Sometimes, migration increases pressure on the scarce productive lands of host communities, thereby intensifying competition for arable soils and water resources, especially between farmers and herders. The increasing scarcity of these resources has led to violent conflicts in some countries. In Ethiopia, for example, the resettlement policies drawn up in response to severe desertification and drought in the early 1980s, actually worsened land degradation, migration and social conflict in the areas of resettlement.

The development agenda for Sub-Saharan Africa must include desertification control and natural resource management, without leading to overexploitation of such resources, which would compromise the option of scaling up good practices recorded here and there through more or less interlinked actions. From this perspective, there is also a need to revisit development paradigms, making sustainability a central notion, and establishing mechanisms that support this new demand with political determination and a sound framework for action.

Water and desertification in Sub-Saharan Africa are intertwined in many ways. The high variability of rainfall and river flow in Sub-Saharan Africa increases the vulnerability of the landscape to erosion and desertification. Although numerous initiatives have been taken to improve water access and resource utilization, forecasts for 2025 are bleak and many countries in Sub-Saharan Africa will be water stressed. Water utilization is not the same from one country to another or from one sub-region to another. Looking elsewhere, a person uses an average 330 litres of water per day in Canada, about 150 in France, and a mere 10 to 20 litres in Sub-Saharan Africa. Unfortunately, policies, strategies and actions are generally directed rather towards crisis management and consequences (reactive) than towards crisis prevention and warnings (proactive), and natural phenomena turn into natural catastrophes. The time has come for tangible actions designed to restore, rehabilitate, protect and rationally manage natural

resources as part of the fight against desertification.

### Providing for information on natural resources

The role of environmental information is decisive in implementing these actions. Making this information available, sharing it and keeping it up to date are all vital to integrated, concerted resource management. One of the missions of the Sahara and Sahel Observatory (OSS) is to help its member states and organizations master environmental information. The concepts that OSS is developing are based on natural resource management through a better understanding of the resources themselves, as well as resource utilization and evolution.

Yet, it is clear that African countries in general, and especially those of Sub-Saharan Africa have very little command of the data on their own natural resources. Environmental data is often collected, analysed and processed through projects that are limited in time and space. There are very few African countries that have genuine national programmes for monitoring resources and the degradation phenomena that affect them to such an extent that their land planning and development choices are seriously restricted. Without accurate data and relevant information, it is impossible to predict, adjust or strengthen actions to curtail land degradation and face the challenge of food security through sustainable agriculture and efficient water management.

### Soil and water conservation in Illela District, Niger

This initiative succeeded to promote simple water harvesting techniques in a dry area with annual rainfall of about 400 mm/year. The project sought to promote simple works – contour stone bunds and half moons – without systematic food-for-work, in an area that had seen earlier projects with heavy machinery and continued recourse to food-for-work. After an initial reaction from the villagers of disbelief and even hostility, and a slow start, the project took off. An important turning point was a study tour in 1989 by farmers to the Yatenga region in the Central Plateau of Burkina Faso, where stone bunding and improved traditional planting pits (zai) were used to rehabilitate barren, crusted land. Upon return, the farmers started trying these improved pits on some barren land and the results were dramatic. In 1990, a drought year, the pitted fields were the only fields which produced a harvest, and from then on farmers began to adopt the improved pitting system. These wider and deeper pits amount to a significant shift from a simple planting technique to a water harvesting and soil fertility management technique. This shift entails an initial investment of 40-60 days/ha, and entails high recurrent costs in terms of labour requirements for maintenance, but also production and transport of manure or compost. This initiative is a fine example of a small operation that succeeded in promoting technical change. It demonstrated perseverance, in abandoning systematic food-for-work, and flexibility, by adding improved planting pits to its menu once interest had been aroused.

Source: *Success Stories in Africa Drylands: Supporting Advocates and Answering Sceptics*, 2003; C. Reij and D. Steeds.

Photo: Willeke



### What can conventions and initiatives achieve?

Accommodating land degradation and water resource management in development actions can only be successful

## The Integrated Rural Development Project in the Keita Valley in Niger

Keita District in Niger in the period 1970-1983, was considered to be a region with grave problems of land degradation. The integrated rural development approach with a major concentrated effort to uplift the entire district and a wide range of activities was initiated to reverse degradation and improve the local economy. With an enduring effort (15 years) and heavy investment (63 to 75 million US-dollars) the productive capacity was restored on 20,000 hectares of strongly degraded land, of which 9,300 hectares for cropping and the rest for sylvo-pastoral use; 17 million trees were planted; about 1,300 hectares of sand dunes were fixed, about 1,400 km of streambanks were stabilized, 40 small dams were built as well as two major dams and hundreds of small, low dams, and more than 300 km of rural roads were constructed. In addition, a massive construction of wells, schools and health clinics (the summary report indicates almost 1,000 wells and buildings) has been realized and more than 100,000 people were trained in soil and water conservation techniques and other activities.

Source: *Success Stories in Africa Drylands: Supporting Advocates and Answering Sceptics*, 2003; C. Reij and D. Steeds.

through long-term consensus with inputs from all stakeholders, including policy makers, local populations, development cooperation partners, and research institutions. This must be done using a process that is based on a comprehensive analysis of the situation, a well adapted action plan, and the political will to recognize the actions needed as priorities. Various development partners have carried out a more or less coordinated range of initiatives with this in mind. These initiatives consider good governance as a prerequisite and focus especially on debt alleviation, the creation of an enabling politico-economic environment for investments, and the formulation and implementation of poverty reduction strategies.

Besides these initiatives and their implementation instruments, there are the Millennium Declaration (2000), the Millennium Development Goals (MDG) and the New Partnership for Africa's Development (NEPAD) which offer new, innovative structures to take on problems related to desertification in Africa more efficiently. Similarly, in the implementation of the

Convention to Combat Desertification, the Convention on Biological Diversity and the Convention on Climate Change, better coordination is essential if the impacts of desertification in Africa are to be arrested and/or eliminated.

At the regional level, Sub-Regional Action Plans for Combating Desertification were drawn up as frameworks for action and tools for the harmonization of various intervention methods, strategies and policies. At the national level, National Action Plans for Combating Desertification (NAP/CCD) were drawn up with National Coordinating Bodies (NCB) for implementing them. One of the advantages of these important instruments is that they strive for an increase in knowledge on desertification and poverty, as phenomena (causes, evolutionary processes, impacts) as well as the interactions between them. National actors, often with input from civil society, characterized and analyzed these phenomena.

### Fighting desertification needs a comprehensive approach

Yet, despite these important initiatives, both poverty and desertification are constantly gaining ground in Africa and thwarting the few economic gains that some countries on the continent have managed to achieve. Furthermore, the realization of environmental and sustainable development initiatives and strategies has been held back by the lack of inter-institutional consultations on the one hand and synergy between the main instruments and actors on the other. Too little is done to incorporate environmental problems in development and poverty reduction strategies. African countries' precariousness and heavy financial dependence on development cooperation partners are still the main obstacles to the implementation of sustainable development strategies and initiatives including combating desertification.

To face all the challenges and overcome the constraints to the effective and efficient implementation of existing instruments will require encouragement for North-South and South-South cooperation, especially within Africa for the later, strategic partnerships in order to boost the exchange of expertise and experience and to allow for better synergy between the Rio process, environmental conventions, and for their inclusion in development and poverty reduction strategies. Partnerships of this kind would facilitate the retention of resources, and their use for poverty reduction actions, including desertification control and environmental protection in general. They require consid-

erable involvement and contribution from all sides, including the multilateral donors whose support for integrated development projects and programmes in Africa should be increased and reconsidered.

Poverty eradication in Africa, thus, could open the way for the onset of true sustainable development. This means that major financial and political support should be demanded for environmental preservation in general and, more specifically, in the fight against desertification, both of which should stand out as basic vectors of poverty reduction in Africa. Lastly, and to promote an integrated development approach, it is imperative to establish mechanisms that provide for the adoption of this approach during the design and implementation phases of development strategies, policies, programmes and projects. This could be supported by the adoption of eligibility criteria for funding development actions, at various levels.

Heightened awareness and understanding of environmental issues over the last thirty years have significantly influenced development efforts in Sub-Saharan Africa. In particular, the long and severe series of droughts at the end of the 1960s and early 1970s were important in raising awareness concerning desertification in Sahelian countries. In addition, during the last decade, many in the region have begun to recognize that improving quality of life will require both «natural capital» as well as «financial capital». This recognition has helped Sahelian countries to minimize potential conflicts between development and environmental goals.

Furthermore, changes in national environmental policies have gradually shifted national strategies from a focus on large-capital intensive, single-sector projects towards a new emphasis on bottom-up, participatory and multisectoral approaches. Indeed, since the end of the 1980s, most of the development policies and strategies in Sahelian countries were essentially focused on sectoral policies (agriculture, energy, water, forestry, etc.). Policies concerning the fight against desertification were developed more as emergency measures in order to reduce the impacts of drought and related issues. Gradually, due to the persistence and intensity of drought, governments have given greater priority to the management of the environment and natural resources, integrating it into their policies for social and economic development. In addition, a wide spectrum of stakeholders has been associated with the various steps in this process. This new approach is a good fit for the recently increased emphasis in the region on the fight against desertification.