

**Poverty and Environmental Degradation in the
Drylands**
An Overview of Problems and Processes

Synne Movik, Sileshi Dejene and Gry Synnevåg

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Noragric

Agricultural University of Norway

P.O. Box 5001

N-1432 Ås

Norway

Tel.: +47 64 94 99 50

Fax: +47 64 94 07 60

Internet: <http://www.nlh.no/noragric>

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FOREWORD

This Working Paper began as a request by the Norwegian Ministry of Foreign Affairs to explore the current problems of the drylands, and how the United Nations Convention to Combat Desertification tackled these dilemmas. What was initially meant to be a minor report, took on a life of its own as the authors delved into the abundant material available on drylands and the specific challenges that confront dryland regions. The concern over degradation has resulted in a barrage of research initiatives and papers on the situation in the drylands. However, old presumptions seem still to linger, which is why we in this paper look into how the ‘received wisdom’ of the causes of desertification first established itself and kept a grip on people’s minds for decades. Even though a shift in thinking is taking place, it is slow. This paper is an attempt to portray the complexity and the diversity of the drylands and its peoples, and to outline some of the possible approaches and implications for action. It is our belief that paying attention to the drylands, and recognising their potential for sustainable development will pay great dividends, most notably in the improved livelihoods of the people inhabiting the dry regions.

We would like to take this opportunity to thank Dr. Tor Arve Benjaminsen for valuable comments and corrections to the final draft, and also Gitte Simonsen, Solveig Grønsdal, and Grete Benjaminsen for their inputs to earlier drafts.

DEDICATION

This paper is dedicated to the memory of our colleague Sileshi Dejene, who died in April 2003, barely 30 years of age. A promising life and career was abruptly and cruelly nipped in the bud, and the presence of the warm, generous, intelligent, and sensitive personality that was Sileshi is missed by all his colleagues.

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Poverty and Environmental Degradation in the Drylands: An overview of the Problems and Processes

Synne Movik¹, Sileshi Dejene² and Gry Synnevåg³

Abstract

This paper seeks to analyse some of the problems persisting in the dryland regions with particular reference to Sub-Saharan Africa, and describe the processes that aim to tackle them. Contrary to popular belief, drylands are not parched wastelands, but contain a high degree of natural and social diversity. The dryland soils are believed to be degrading, and continuous exposures to frequent droughts coupled with political and economic marginalisation are putting poor people living in the drylands at risk. To be able to appreciate the complexities of the current problems, it is necessary to review the historical debates and discourses, surrounding the ideas of desertification and degradation. Furthermore, in order to enable critical appraisal of these narratives and the assumptions on which they rest, it is essential to have a sound understanding of key ecological concepts. More nuanced explanations are offered regarding the relationships between population, poverty, and environmental degradation. Different approaches towards tackling the problems in the drylands are discussed, with specific attention to the case of pastoralism. The paper then turns to describing and discussing the efforts of the Convention to Combat Desertification to implement policies and practices conducive to preventing degradation in the drylands. The authors emphasise that the focus should be shifted from an emphasis on the environment to an emphasis on the people living in that environment. The question of what Norway can contribute with in this regard is then raised, before drawing together the main points in conclusion.

1. INTRODUCTION

Degradation in dryland areas is believed to threaten the livelihoods of 1 billion people in some 110 countries according to the United Nations Convention to Combat Desertification (UNCCD). In Africa, roughly 66% of the continent is classified as desert or dryland, and 73% of the agricultural drylands are thought to have already been degraded (UNCED, 1992). The dry regions are home to almost half of Africa's population, most of whom are living in

¹ Project Coordinator-Distance Learning, Noragric, NLH.

² Programme Assistant, Noragric, NLH.

³ Director of Education, Noragric, NLH.

absolute poverty (Darkoh, 1998). The drylands therefore deserve attention due to the fact that they pose formidable challenges for sustainable development. However, despite the multifarious problems, there is a great potential to improve livelihoods in the drylands - much more than has originally been thought by most researchers, and the gains to be achieved in improved development, living standards, and better natural resource management by investing in the drylands are considerable. But how does one go about achieving this?

The purpose of this paper is to give an overview of what the drylands in Africa are, the discussions that have been going on for decades concerning the causes of the environmental degradation that is believed to be occurring, and what the practical implications of these debates have been and will be – first and foremost in the creation and implementation of the United Nations Convention to Combat Desertification. The paper further describes the Convention and its implementation process, and, drawing on relatively recent work of researchers and development practitioners working with dryland issues, provide some critique and additional suggestions as to actions that may be taken with a view to combating poverty and environmental degradation in the drylands. The paper draws conclusions regarding the need to increase the attention paid towards drylands and ensure that practical measures are implemented to mitigate the problems.

2. THE CONCEPT OF DRYLANDS

What are the drylands, where are they to be found, and what are their main characteristics?

The dryland ecosystems are characterised by aridity and a high variability of rainfall. Such arid ecosystems are found in most continents, including Europe, Asia and the Americas. However, we will concentrate on Africa, as it is the continent most beleaguered by dryland problems.

Drylands cover 36% to 46% of the African continent, depending on what definition is used. The two most widely employed definitions are provided by FAO and UNEP – FAO uses agroclimatic zoning to define what constitutes dryland areas (see map below), whereas UNEP defines drylands according to amount of rainfall received. According to the UNEP definition,

about 36 of Africa's 52 countries may be termed dryland areas, to a greater or lesser extent. In a recent review Dregne (2002) claims that the continent contains the world's largest expanse of drylands, covering roughly 2 billion hectares, or 65 per cent, of Africa's total land area.

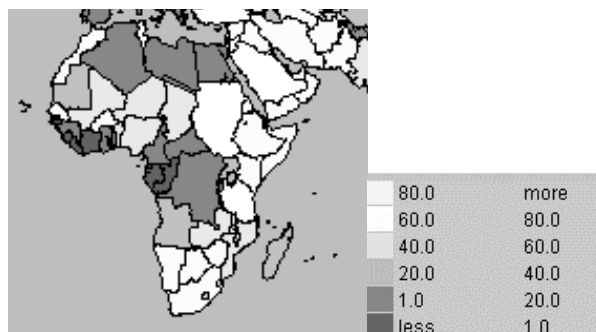


Fig. 1. Map of Africa, showing dryland as % of country area (Source: FAO)

Many people portray drylands as parched land devoid of diversity. Far from it - the African drylands comprise a wide range of natural and social variety. There are three tropical and three sub-tropical thermal regimes to be found, and rainfall regimes may be both unimodal (one rainfall 'event' per year) or bimodal (two events per year), with growing periods ranging from 75 to 120 days. This climatic diversity partially explains the natural diversity; the variety of soil types and vegetation composition that characterises the drylands.

Not only is the natural environment of drylands varied, so are the people living there - the cultural diversity comprises over 100 ethnic groups. Demographics contrast widely as well; the dryland regions have both some of the most sparsely, as well as some of the most densely populated areas of tropical Africa. These cultural and demographic variations result in an enormous degree of variability concerning how societies make use of and transform their environment. Systems differ in terms of social organisation, population mobility, conditions of land and other resource tenure, land use, technology, and economic specialisation - systems which may be roughly categorised as farmers, agro-pastoralists, and pastoralists (Mortimore, 1998; Raynaut, 2001). For instance, the groundnut-cultivating Mouridé of Senegal are quite different from the pastoral Turkana of Kenya or the Tuareg of Mali (Barrow, 1996).

All these factors combined imply that the drylands constitute a very heterogeneous concept, which does not lend itself readily to generalisations. The diverse characteristics ensure that dryland management poses a specific set of problems, which differ from those in other regions, both for the local communities, and for those who seek to intervene.

3. LIVING IN THE DRYLANDS: PERCEIVED PROBLEMS AND CAUSES

The main predicament that people living in the drylands have to contend with, is that of unpredictability and insecurity. As long-term planning is often impossible in an environment where conditions fluctuate, people who base their lives on dryland resources continuously face the challenge of eking out a living under capricious circumstances. In extremely arid areas, the focus is on risk minimisation, whereas in less extreme areas with more stable rainfall, people can afford to concentrate on maximising labour productivity (Benjaminsen, 1998). An important feature of the critical condition in the drylands is the general underdevelopment and poverty in these areas. Other characteristic features include fragile or nonexistent democracy, weakly developed market economy and lack of alternative employment for the rural majority (Steen, 1994).

The drylands are thought to be degrading⁴. One widely held view states that the degradation is a result of mismanagement of, and increased pressure on, natural resources, the latter an effect of population growth. This growth has allegedly resulted in overgrazing, overcultivation, overcutting of woodlands, and deforestation, which have consequently led to environmental degradation and desertification. The implication of this notion of the cause-effect relationship between growth and degradation has been that: i) Indigenous management practices have often been regarded as destructive, and ii) curbing population is considered as an essential component of interventions (Mortimore, 1998). However, this way of perceiving the problems often lead to misconceived efforts of alleviation.

⁴ Land degradation may be defined as ‘the result of irreversible changes and loss of ecosystem resilience’ (Cox and Dougill, 1995)

Recurrent droughts and desiccation are a permanent fact of life throughout the drylands of Africa. Aridity, a state of imbalance between limited water resources and excessive water expenditure, is a feature of world drylands where water deficit prevails throughout the year (extremely arid) or during most of the year (arid and semi-arid). Low rainfall is the most obvious climatic feature related to aridity (Kassas, 1999). A drought may range from mild via severe to extreme, it may be exceptional or seasonal, prolonged or short-lasting. Thus, the effects of droughts depends very much on its nature, and may vary from crops experiencing limited water stress for shorter periods, to major devastation of crops, livestock, and humans. Apart from the level of intensity of droughts, one may also distinguish between meteorological, hydrological, edaphic, and agricultural droughts (Maginuet & Da Silva, 1998). Severe droughts, although a natural climatic phenomenon, have affected agricultural production and caused deaths and acute malnutrition.

According to UNEP, some 36 countries in Africa are currently affected by drought and a certain degree of desertification (UNEP, 1994). The risk of drought is especially high in the Sudano-Sahelian belt and in southern Africa. During the 1970s, essentially because of UNEP efforts, middle-term climate changes and short-term droughts were considered as causes of desertification, and with each drought cycle desertification was thought to exacerbate.

There has been a widespread lack of political will to deal with the problems that the drylands are facing. The recent hunger crisis in Southern and Eastern Africa is equally attributed to failing political attention and ability to cope with the crisis as to natural hazards, such as drought and degradation (see *The Economist*, June 2002). Political incompetence and bureaucratic inefficiency are a major cause of the devastating effects that droughts often have, due to the inability to develop and implement policies that take into account the unpredictability of the climatic conditions in agricultural production, and fail to provide necessary services such as storage capacity, infrastructure, early warning systems, etc. In the case of pastoralists, restricting their mobility as is happening in many countries in the Sahel has more to do with political pressures than technical or environmental concerns (Oba, 1992; Barrow, 1996). Free migration is hampered due to political enforcement of national boundaries, resulting in the disruption of pastoralist migratory routes, which negatively

affects their management systems and often results in negative environmental effects. We'll return to the issue of pastoralism and mobility in a later section.

According to Darkoh (1998) a significant drawback in combating desertification and drought is the failure of African governments to devolve power to the people who are affected, and to link environmental degradation to economic policy. Consequently, many programmes lack local support or are undermined by conflicting trade and agricultural policies pursued by governments. Increasingly, African political leaders are facing harsh critique for not caring about the plight of their people. Poor people are often marginalised, without rights, and thus with no voice in the national politics. They are easily excluded, as they wield little if any power. The marginalisation of poor people is one of the key problems in dryland areas, and should be a focal point when discussing potential solutions to dryland problems.

4. THE DESERTIFICATION DEBATES – AN HISTORICAL OVERVIEW

Debates over land degradation and desertification and their relative human and environmental dimensions are long-standing, controversial, and arguably too frequently of greater academic than practical relevance. Generalisations about the scale and the nature of causality in the relationship between humans and the environment have been common and frequently based on limited supportive evidence (Thomas & Sporton, 1997).

In order to be able to describe how the problems of drylands could possibly be addressed, it is necessary to provide an historical overview of the debates surrounding the perception of the problems themselves.

4.1 Global Desertification Discourses – Impending Doom or Inflated Hype?

Despite being widely perceived as an environmental issue of major importance, desertification has been subject to considerable confusion, misinterpretation, and lack of clarity regarding its characteristics and occurrence. The idea of the 'advancing desert' was conceived from the onset of colonial rule in West Africa, and it was believed that the

indigenous peoples were the perpetrators of environmental mismanagement (Adger *et al.*, 2001; Mortimore, 1998). While the belief of an encroaching desert was more or less constantly present, it received a major resurrection with the droughts in the 1970s and 1980s (Dregne, 2002; Benjaminsen and Berge, 2000).

The United Nations Environment Programme viewed the desertification issue as one of the main reasons for its creation. In 1978, the newly established UN body commissioned a series of studies to document the extent of desertification. At the Rio Earth Summit in 1992, desertification figured as one of the three main themes, along with biodiversity and climate change. The main document to spring from this conference, the 'Agenda 21', describes in its chapter 12 that $\frac{1}{4}$ of the Earth is affected by desertification – quite a substantial claim. Such statements are to a great extent reflections of the long-standing desertification discourses.

The most important single event that eventually led to the build-up of a 'global environmental crisis' and desertification being increasingly recognised as a major threat by the international community, was an observation done by Lamprey in 1975, following a bout of severe drought in the Sahel. Using a light aircraft, he flew over the Sahel, and compared his observations from this trip with a vegetational map of the same area dating from 1958, which was an unusually wet period. Based on these two observations alone, he claimed that the desert was advancing at a speed of 5-6 km a year, a claim that has since been cited and cited again, for instance in the Brundtland 1987 report 'Our Common Future', until it has become an uncontested fact featuring as an 'environmental truth' in textbooks and policy papers (Benjaminsen and Berge, 2000). One may balk at the short time horizon and methods used in such an unstable and variable environment, but the fallacy becomes even greater when reading Lamprey's offer of an explanation for this phenomenon. He unabashedly claims that

'the sand encroachment problem... is the result of several thousand years of abuse of the fragile ecosystems that formerly existed in the Sahel and Nubian areas'

- thus squarely placing the blame on the shoulders of people living in the area (Adger *et al.* 2001). He disregards a fundamental fact of ecology, namely that of *ecosystem fluctuation*, a concept to which we will return shortly.

The literature on drylands is not short of sweeping statements. Following is one of the more extreme, quoted from Stebbing (1935):

‘...and the desert is advancing, how far or how fast I am yet to learn. People are living on the edge...of a desert, whose power is incalculable and whose silent and almost inevitable approach must be difficult to estimate. But the end is obvious, total annihilation of vegetation, and the disappearance of man and beast’.

Although this appears overly pessimistic, and may be ascribed to a certain lack of temperance, disconcertingly much of the outlook expressed by this statement has lingered over the decades. If we turn to the current discourses⁵, there is much of the belief articulated above that remains at the root of the myths still clinging to the minds of many.

But aren't global discourses basically founded on facts, and not myths, one might question. According to Adger *et al.* (2001), global discourses are often based on shared myths and blueprints of the world. And because of this tendency, the ‘political prescriptions flowing from the discourses are often inappropriate for local realities’.

Two different discourses that attempt to explain the desertification process may be discerned. The *neo-Malthusian discourse* portrays overpopulation in the drylands as one of the main causes of desertification. Following is a short version of the standard narrative:

‘The (Sudano-Sahelian belt) features one of the most rapid annual population growth rates on the continent, despite the fact that in areas the mainly rural population ... is already beyond the carrying capacity at current technological levels. This growth has resulted in a downward spiral of extensive land degradation and fuelwood shortage’ (World Bank, 1996:24, as quoted in Adger *et al.* 2001).

The second, the *populist discourse*, on the other hand, explains degradation as a process of marginalisation of smallholders and pastoralists brought on by the colonising powers in the first half of the century, which continued through to neo-colonial times. This narrative does not question the concept of desertification, but takes a totally different track when looking for

⁵*Discourse*: ‘the formal and orderly and usually extended expression of thought on a subject’ (Source: Merriam-Webster collegiate dictionary)

explanatory causes than that of those professing the neo-Malthusian explanatory model. The populist view blames desertification on colonial political factors; stating among other things that colonial administrators imposed monoculture cultivation practices upon local peoples, which led directly to the exhaustion of soils. Moreover, the expansion of export crops implied that livestock were crowded into smaller and smaller areas, resulting in overgrazing (Maginuet & Da Silva, 1998).

The narratives constructed may be seen as the result of people's need to simplify; to find an appropriate model that approximates what they regard to be true. Reality tends to be rather more chaotic and complex than what our minds are able to grasp. However, even though simplification of cause-effect relationships is sometimes necessary, one should beware of over-simplifications as represented by the above narratives – especially when these concern the global arena. There is a strong need for more empirical research, and for a stronger awareness of the differences existing across space and time when implementing policies. A 'one-size-fits-all' assumption is highly inappropriate.

To counter-balance the discourses that have been presented hitherto regarding the nature of desertification itself, a critical assessment of these claims is called for.

To start with, it might be instructive to scrutinize the concepts and terms employed. The term 'desertification' has been interpreted in a variety of ways. Earlier, it was regarded as an expression of an ever-expanding desert but this view has since made way for a more balanced opinion; currently desertification is viewed more like a 'skin disease' where patches of degraded land link up to carry the process over extended areas. It is generally incorrect to envision the process as an advance of the desert frontier (Kassas, 1999). Yet several definitions exist, as researchers cannot agree on the exact wording of a phrase that adequately covers all aspects believed to be associated with the process of desertification. The lack of consensus on the exact meaning of the term during the Earth Summit (UNCED, 1992) did not solve the difficulty.

Let us then look at the assumptions underlying the concepts of drylands and degradation first, in order to increase our understanding of the complex processes at play before moving on to

the discussion of possible causes. The concepts of ecosystem stability and resilience, and land degradation will be emphasised.

5. KEY ECOLOGICAL CONCEPTS

As we explained at the outset, the drylands are a category of *ecosystems*. Much of the debate on desertification and land degradation in the drylands assumes that the dryland ecosystems are in some sort of equilibrium state. It is often taken for granted that an ecosystem exists in a permanent state, and that any perturbations that result in changes in this state are; i) invoked by humans, and ii) irreversible.

5.1 Ecosystem Stability and Resilience

Firstly, ecosystems vary in level of stability and resilience, and many ecosystems are prone to fluctuations. To illustrate this fact, let us take the example of rangelands. It was previously believed that rangelands existed in a steady state of equilibrium, and that overgrazing would result in irreversible decline in vegetation cover, damaging the resilience of this type of ecosystem.

However, during recent years a paradigm shift has occurred. Many researchers now recognise that it is unrealistic to operate with a concept of ‘stable equilibrium’ (a concept conceived by the ecologist Clements in 1916), and instead have advanced alternative models, such as e.g. the ‘state-and-transition’ model (for details, see Oba, 1992, and Oba *et. al.* 2000) in order to explain what is happening on rangelands. This change of thought is of utmost importance to policies affecting pastoralists, who are dependent on their livestock herds to make a living in the drylands. For example, it was long believed that reducing the density of livestock on rangelands would reduce degradation and increase productivity (more forage and space for each animal). Consequently pastoralists in many African countries found themselves in dire straits as a result of the government’s destocking policy in the 1970s (Bourn and Wint, 1994; *The Economist*, July 2002). However, it has been pointed out that even though the productivity could be increased for each individual animal, it was much reduced *per hectare*. Degradation and loss of biodiversity are often blamed on the pastoral livestock grazing, but empirical data have not been conclusive (Hiernaux, 1998). Ellis and Swift (1988) suggest that

periodic disturbances, caused by stochastic climatic variability, has more to do with range productivity than does the density of herbivores – i. e. temporary degradation is rather caused by climatic factors than by overgrazing (see e.g. Oba *et al.*, 2000).

5.2 Land Degradation/Soil Erosion and Productivity

In 2000, the Global Environmental Outlook Report stated that soil erosion, and consequently, land degradation, is a pervasive problem in Africa. To quote verbatim from the report:

‘In a country where too many people are already malnourished, crop yields could be cut by half within 40 years if the degradation of cultivated lands were to continue at present rates.’

However, this perilous prediction is based solely on unpublished research conducted in South Africa in 1989 (Lomborg, 2001), and contrasts sharply with the predictions made by FAO and IFPRI, who expect an annual increase in yield at about 1.7% in the next 20-25 years (IFPRI, 2001). There is no doubt that we have lost more topsoil than has been created, and that soil erosion is a significant feature of agricultural production. Even writers of the classical era worried about the phenomenon. However, contrary to popular belief regarding the effect of erosion on agricultural productivity, it turns out that there is no clear correlation between erosion and yield. FAO states that ‘the impact of erosion on crop production has not been well established in physical terms though there have been many attempts to do so’. The relationship between erosion and productivity loss is more complex than previously thought (FAO report cited in Lomborg 2001; Blaikie, 1985). Much of the eroded soil is simply deposited in another area, and thus the decline in yield in one location may in many cases be compensated by the increase in yield in another. Another uncertainty relating to soil erosion is to what degree humans affect it – Blaikie, in his seminal work on the political economy of soil erosion in developing countries, states that it is ‘often difficult to single out the effect of humans on soil erosion’. More importantly, he also states that the actual nature and importance of soil erosion and land degradation very much depends upon ‘the eyes that see’, i. e. that the problem is defined differently by different actors, and is linked up with politico-economic factors, not just biophysical indicators (Blaikie, 1985). Thus, the term ‘degradation’ may mean different things to different people, and as such it is difficult to arrive at any conclusive evidence on the extent and impact of degradation.

A note on the contrasting productivity of Africa and Asia is due here: In the 1950s, most of the countries in Sub-Saharan Africa were at the same level of productivity as Asia. But whereas Asian countries have surged forward with impressive productivity increases, Sub-Saharan Africa has been marking time. An explanatory factor lies in the use of fertilisers and irrigation; whereas Asian countries on average use 129 kgs. of fertilisers per hectare, the number for Sub-Saharan Africa is a mere 11 kgs (Lomborg, 2001). Regarding irrigation, 37% of Asia's farmland is watered regularly through irrigation, with the comparable figure for Africa stalling at only 5%. Hence, by increasing its use of fertiliser and irrigation Sub-Saharan Africa has a quite large potential to increase agricultural productivity, also in the drylands. Why has this productivity increase not happened, then? In a frank statement, the UN surmises that 'it is not the resources or economic solutions that are lacking – it is the political momentum to tackle poverty'.

In conclusion, the two most pervasive discourses that attempt to explain the process of desertification and degradation in the drylands, depend on certain assumptions being made about ecosystem behaviour and degradation. The explanatory models represented by these discourses, like any other models, depend on the accuracy of its data base and the soundness of its premises which are less than satisfactory, and both models have been revealed to be seriously flawed when comparing the theoretical assumptions with what is actually found in real life 'on the ground' (Adger *et al.* 2001; Mortimore, 1998; Queiroz, 1993). A self-reinforcing repetition of claims (such as that occurring after Lamprey's publication), backed up by governments and international institutions, easily obscures the issues at hand and hampers critical debate (Lomborg, 2001).

Acknowledging complexity is the key to understanding the fact that there are no simplistic relationships between population growth and the environment, as technology and social organisation always mediate between them (Ness, 1994). Complexity, therefore, undermines the simplistic assumptions made in the neo-Malthusian and populist discourses alike, and reopens the theoretical debate on the nature of the linkages.

6. LEAVING SIMPLISTIC NARRATIVES BEHIND

We now turn to some counterbalancing views to the discourses/narratives presented overleaf, offering some more nuanced views and approaches towards dryland problems, before moving on to look at what practical implications these debates on desertification have for poor people living in the drylands.

6.1 The Scope of Degradation

The UNCCD states that seventy percent of the world's drylands (excluding hyper-arid deserts), or some 3,600 million hectares, are degraded; and avers that desertification is a serious global threat (cf. UNCCD website, www.unccd.int). Others (e.g. Swift, 1996) allege that the increased attention to the situation in the drylands has arisen due to the vested interests of researchers – by claiming that an environmental disaster is imminent, the likelihood of getting hold of valuable research funds increases. The same logic, argues Swift, goes for aid agencies.

In a recent assessment of land degradation in the drylands Dregne (2002) argues that much of the evidence for degradation in the drylands is not derived as much from research data as from what can be seen - such as gullies, mobile sand dunes, and undocumented anecdotes of ancient and modern travellers. Given the uncertainties surrounding the trustworthiness and applicability of anecdotal evidence, it is no wonder that there are radically different beliefs of the severity and the damage cost of land degradation in the drylands.

The main point, then, is that the scale and scope of environmental degradation is debatable since there is hardly any single estimate standing out as the best or most accurate, as data on the extent of dryland degradation is not adequately documented and is subject to a considerable level of ambiguity (Dregne, 2002; Blaikie, 1995). There is therefore a pressing need for more reliable data that will help determine the priority the problem should have in national and international planning, as well as an increased awareness of the socio-economic factors impacting on degradation issues. We believe that - even though gathering accurate environmental information in itself is an important activity - the priority, in the context of

finding solutions to dryland problems, should first and foremost be with the people living in dryland areas, and the political and socio-economic conditions under which they live.

6.2 Population Growth and Degradation

Like much conventional environmental wisdom, the problems of African drylands are attributed to the linkage between population growth and environmental degradation – this view, as we saw earlier, is encompassed in the neo-Malthusian narrative offering population growth as the main cause for degradation. There are, however, good reasons for questioning whether this assumption is appropriate for understanding the drylands. Several authors (Leach & Mearns, 1996; Lindblade *et al*, 1998) argue that this conventional wisdom, or narrative, presupposes the existence of primeval African landscapes, untouched by humans, which have declined in integrity and quality in recent decades due to human activities. Studies from many parts of Africa indicate that this pervasive belief may not accurately describe the environmental history of an area; but may serve to mask the complex associations between the various factors that affect the natural environment. Ultimately, such perceptions lead to an incorrect determination of the causes of environmental degradation.

Dasgupta (1995) attempts to explain the continuous high fertility rates in SSA by referring to the widespread tradition of communal rearing of children, where the parents' share of the benefits from having children tends to exceed their share of the costs. From the point of view of the parents, taken as a collective, too many children would be produced in these circumstances. Factors such as patrilineality, weak conjugal bonds (social anthropologists have identified a mother and her children as the primary social unit of many rural African societies, rather than the parents and their children), communal land tenure, and an associated strong communal, kinship-based support system of children combine to provide a powerful stimulus for fertility. A negative spiral may ensue, whereby low costs and high benefits of procreation in SSA induces the production of too many children. Theoretical considerations suggest that, under certain circumstances, a disastrous process can be set in motion. As the community's natural resources are depleted, more hands are needed to carry water and fuel. More children are produced, further damaging the resource base, and further providing the household with an incentive to enlarge in order to earn a greater share of the commons. In the

situations where this happens, poverty, degradation, and population reinforces one another (Dasgupta, 1995; Schreiber and Cleaver, 1994).

However, several researchers have argued that population growth may in fact have beneficial consequences. The 'Boserupians', in accordance with the ideas of Esther Boserup, argue that population growth may in fact be a positive stimulus to innovation and problem solving. At their strongest, this group argues that 'the more people, the better' (Lockwood, 1995). There is plenty of evidence from empirical research (Mortimore, 1998; Tiffen *et al.*, 1994) demonstrating that high population densities do not necessarily lead to degradation, but rather has created the momentum needed to implement new technologies. Peter Hazell of the International Food Policy Research Institute (Hazell and Haddad, 2001) makes a similar point when stating that 'because many areas in the drylands are not densely populated, they are not attractive to invest in either' - the main point being; the fewer people, the less resources to improve things.

In conclusion, it may be said that population growth inevitably has a distinctive impact on the environment (Nielsen & Zobisch, 2001; Steen, 1994; Serra, 1996), but not necessarily negative. It is clear that many environmental problems have less to do with population growth than with technological, economic, and institutional elements governing human societies (Swanson & Cervigni, 1996).

Therefore, the narrative that claims environmental degradation as being caused by population growth is too simplistic – reality is much more nuanced than what this narrative portrays it to be, as population growth may both have negative and positive impacts (Dasgupta, 1995).

6.3 Poverty and Degradation

The linkages between degradation and poverty have been variously interpreted in the literature. Over the last decade the poverty-environment hypothesis has become a major concern of the international development agencies and policy makers (Angelsen, 1998). The 'poverty trap' thesis specifies a circular or spiral relationship between poverty and environmental degradation, that is, environmental degradation and poverty reinforce each

other: the poor are both agents and victims of environmental destruction (Prakash, 1997; Angelsen, 1998).

The poverty trap thesis similarly implies that poverty also means people have no surplus resources and this implies that any 'shock' may result in the mining of the environment. Moreover, poverty acts as a disabling factor leading to poor health, poor education, illiteracy, and lack of legal rights; which may all act to reduce the ability and incentive to prevent degradation (Rogers, 1996).

Is poverty a cause of degradation? It is certainly believed that poverty in certain circumstances contributes to degradation, but so does the consumption of the rich (Duraiappah, 1998). For instance, the growing export markets for fish, shrimp, and paper and many other products mean depleted stocks, less biodiversity, and fewer forests. Most of the costs are borne by the poor, though it is the world's rich who benefit most (UNDP, 1999; Wilson & Bryant, 1997). Duraiappah (1998) has developed a framework for analysing linkages between poverty and degradation categorising them as follows: i) exogenous poverty causes degradation, ii) the wealth, power, and greed of the elite causes degradation, iii) institutional and market failures cause degradation, and iv) endogenous poverty causes degradation – endogenous poverty in this respect is taken to imply poverty caused by environmental degradation itself (the last link is thus a feedback loop), whereas exogenous poverty is poverty caused by other factors than environmental degradation. Duraiappah notes that it is very important to analyse what types of linkages and feedbacks are at work in any given situation, as the policy prescriptions will vary greatly depending on the causal relationships identified. In the case of land degradation, a review of the literature indicated that the major cause of environmental degradation lay not in the presence of poverty itself, but in the *lack of secure tenure arrangements*. Hence, institutional failure – the absence of a functioning property rights system – acted as the primary incentive to adopt unsustainable land use practices, which in turn caused environmental degradation (Duraiappah, 1998; Mortimore, 1998; Tiffen, 1994). Another example related to the fact that the fuelwood shortage caused in some dryland areas by commercial forest exploitation led many farmers to switch to manure, which in turn implied less manure for soil nutrient replenishment (Duraiappah, 1998). This demonstrates how complex interactions may become when

activities in one sector influences activities in another. The study highlighted how greedy and powerful elites contribute to environmental degradation, but just as important were the institutional and market failures causing environmental degradation - which in turn led to the creation of endogenous poverty and further degrading. It is this last link that has been focussed upon by most researchers and practitioners. Hence, even though marginalised groups may adopt unsustainable practices, there are factors that have brought them there in the first instance, most notably power abuse and institutional failures. Therefore, focussing on policies that aim to 'repair' the environment in order to curb poverty, will not succeed unless institutions and markets are also taken into account. Duraiappah claims that his analysis provides enough evidence to refute the hypothesis that poverty is the *primary* cause of degradation, as the poor seldom initially or intentionally degrade the environment. The policy implications of these findings are to concentrate on correcting institutional and market failures - unsustainable practices must be stopped by a combination of taxes, rewards, compensation, and not least information provision. Duraiappah's point is essentially one about *scale*, a point that is reinforced in the following observation by Ellis (2002):

'The issue is one of scope: by focusing attention at the micro-level on the behaviour of the rural poor in pursuit of their livelihoods, the interpretations fails to catch the large-scale disturbances that set off changes of behaviour at local levels. Making the poor the scapegoat for environmental deterioration merely lets off the hook the commercial and state behaviour as responsible for the really big changes that result in switches in the dynamics of people in local environments.'

In summary, one can state that poverty has been described as both the cause and effect of environmental degradation. Several authors have stressed the vicious cycle of poverty leading to degradation and worsening poverty - poor people are often seen as compelled to exploit their surroundings for short-term survival, and are assumed to be the ones most exposed to natural resource degradation. But careful attention needs to be paid to the primary causes of poverty that in many cases often is brought about by institutional and market failures and power abuse. The debate on the characteristics of poverty-environment interaction has been likened to a puzzle, where we possess several pieces, have identified some crucial links and features, but still lack the entire picture (Ekbohm & Böjo, 1999).

7. APPROACHES TO SOLVING DRYLAND PROBLEMS

The causes of environmental degradation are much more diverse than what the narratives we have described make them out to be, and one should always keep in mind that poverty is a context-specific phenomenon. Hence, it makes sense to shift the focus from environmental degradation and desertification to the people themselves, in order to improve their well-being. What are the primary causes of poverty, and how can the livelihoods of people living in the drylands be improved; what effective means and actions can be employed to better people's livelihoods? Below, an outline of two different approaches is provided that aim to tackle these issues.

7.1 The Ecosystems Approach

An emerging approach to drylands management, dubbed the Ecosystem Approach, attempts to integrate the biophysical and socio-economic factors when tackling dryland problems (White *et. al.*, 2001). The ecosystem approach views management as successful only if it 'preserves or enhances the capacity of a given ecosystem to produce a diverse array of goods and services.'

An ecosystem approach would, theoretically, provide stakeholders with integrated environmental and socio-economic indicators to address choices of investment and development in dryland areas. In essence, an ecosystem approach involves the evaluation of human impact upon ecosystems. It considers the entire range of goods produced by a system, and attempts to optimise benefits and make tradeoffs efficient. It takes into consideration future generations, not only the present, and recognises that an ecosystem cannot be managed by a 'piecemeal' approach, and hence should not respect jurisdictional boundaries, as these seldom coincide with ecosystem boundaries. Within an ecosystems approach, human needs are explicitly linked with the biological capacity of an ecosystem to fulfil those needs. It furthermore takes the view that poverty is inextricably linked with issues of environmental degradation. Rural development and community-based natural resource management are regarded as potentially effective means of reducing poverty and improving living conditions in drylands (White *et. al.*, 2001).

In short, the concept of an ecosystem is meant to provide a framework for analysing and acting on the linkages between people and their environment. It has been adopted by the Convention for Biological Diversity, and forms an integral part of the Millennium Ecosystems Assessment, or MA (see box 1 below). Essentially, the Ecosystems Approach is termed as a ‘strategy for the integrated management of land, water, and living resources that promotes conservation and sustainable use in an equitable way’.

The Millennium Ecosystem Assessment

The Millennium Ecosystems Assessment was established with the involvement of governments, the private sector, nongovernmental organizations, and scientists to provide an integrated assessment of the consequences of ecosystem change for human well-being and to analyze options available to enhance the conservation of ecosystems and their contributions to meeting human needs. The Convention on Biological Diversity, the Convention to Combat Desertification, and the Ramsar Convention on Wetlands plan to use the findings of the MA, which will also help meet the needs of others in government, the private sector, and civil society. The MA should help to achieve the United Nations Millennium Development Goals and to carry out the Plan of Implementation of the 2002 World Summit on Sustainable Development. It will mobilize hundreds of scientists from countries around the world to provide information and clarify science concerning issues of greatest relevance to decision-makers. The MA will identify areas of broad scientific agreement and also point to areas of continuing scientific debate. The assessment framework developed for the MA offers decision-makers a mechanism to:

- ◇ Identify options that can better achieve core human development and sustainability goals.
- ◇ Better understand the trade-offs involved—across sectors and stakeholders—in decisions concerning the environment.
- ◇ Align response options with the level of governance where they can be most effective.

(Source: ‘Ecosystems and Human Well-being: A framework for assessment’ A Report of the Conceptual Framework Working Group of the Millennium Ecosystem Assessment)

Box 1. The Millennium Ecosystems Approach – a description

The Ecosystems Approach should be commended in that it seeks to bridge the divide between natural and socio-economic components. However, there are many stumbling blocks to the implementation of such an approach, as well as general objections against the idea as such.

The main objections concern its impracticability and vagueness, and the lack of attention paid to how political and institutional factors affect people living in drylands – without a sound understanding of these aspects, it would be fruitless to try to establish cause-effect

relationships between humans and ecosystems. In the context of drylands, the focus should be on the livelihoods of people, rather than ecosystems, although gaining knowledge of ecosystem functions is in itself a worthy effort, as long as it does not dominate policy-making with regard to dryland areas.

Another problematic issue with the ecosystems approach regards the level of uncertainty. Concerning environmental data, it is difficult to obtain accurate and long-term data that may be used to deduce long-term trends. It is even more difficult to isolate the effects of humans on their environment. Moreover, there is a wide variety of ways in which environmental indicators may be viewed and used, depending on individuals' opinion of what constitutes deterioration (Blaikie, 1995). This level of uncertainty is exacerbated by the statement that the Ecosystems Approach should disregard jurisdictional boundaries – how is this to be carried out in the real world? Firstly, it would fast become a bone of contention how the boundaries of an ecosystem should be defined, and secondly, it would prove impossible to propose and implement strategies unless there be some kind of institutional set-up in accordance with existing jurisdictional borders.

Relating to advocating rural development and community-based natural resource management policies, these are fine policy issues, but it needs to be reiterated that the causes of poverty itself may often lie elsewhere, e.g. in institutional and market failures, as pointed out by Duraiappah (1998). Therefore, it is of singular importance to explore the primary causes of poverty in a region prior to designing and implementing policies to alleviate. Wrong-held assumptions about poverty causes will result in policies geared towards the wrong goals.

7.2 The Sustainable Livelihoods Approach

The Sustainable Livelihoods approach sets out a policy framework that can be used for thinking through diversified rural livelihoods. The term 'livelihoods' covers the wide and diverse range of things people do to make their living, and the Sustainable Livelihoods approach is a way of understanding how poor people live, and how they cope with their situation. By only concentrating on the causes of poverty and needs, one risks missing the actual livelihood systems of the poor and the adaptive strategies they employ to maintain

these livelihoods in the face of severe environmental, economic, and political pressures (Ellis, 2000; DFID, 1999).

A	B	C	D	E	F
Livelihood platform	Access modified by	In context of	Resulting in	Composed of	With effects on
<i>Assets</i> natural capital physical capital human capital financial capital social capital	<i>Social relations</i> gender class ethnicity <i>Institutions</i> rules and customs land tenure markets in practice <i>Organisations</i> associations NGOs local admin state agencies	<i>Trends</i> population migration tech change relative prices macro policy national econ trends world econ trends <i>Shocks</i> droughts floods pests diseases civil war	livelihood strategies	<i>NR-based activities</i> collection cultivation (food) cultivation (non-food) livestock non-farm nr <i>Non-NR-based</i> rural trade other services rural manufacture remittance other transfers	<i>Livelihood security</i> income level income stability seasonality degrees of risk <i>Environmental sustainability</i> soils and land quality water rangelands forests biodiversity

Fig. 2. A framework for Sustainable Livelihoods

(Source: Ellis, (2000); adapted from Scoones (1998:4) and Carney (1998:5))

The Sustainable Livelihoods approach is concerned first and foremost with *people*. The framework takes as its point of departure the assets of households in order to understand people's strengths and how they endeavour to convert these into positive livelihood outcomes. It is believed that no single category of assets on its own is sufficient to yield all the many and varied livelihood outcomes that people seek. This is particularly true for poor people, whose access to any given category of assets tends to be very limited, forcing them to combine what assets they do have in innovative ways. People's access to assets is modified, or mediated, by social relations, institutions and organisations, in a context of trends and shocks. This 'context of vulnerability' is what lies furthest away from the influence of people themselves, and is particularly relevant within dryland regions, as shocks - such as droughts - tend to be the norm, creating a high degree of vulnerability (Ellis, 2000; DFID, 1999).

The Sustainable Livelihood approach aims to help people decrease their vulnerability and strengthen resilience against shocks, which can be achieved through supporting poor people to build up their assets. For example, increasing people's access to appropriate financial services – including insurance – is one way of reducing vulnerability. Another approach is to help ensure that critical institutions and organisations are responsive to the needs of the poor. Relating the sustainable livelihoods analysis to environmental degradation, the critical factor is to provide the poor with alternative sources of livelihood income that reduce their dependence on gathering resources in their local environment, and diminish their incentives to initiate intensive cultivation in marginal areas. *Livelihood diversification* thus emerges as a potential solution to the poverty-environment trap, accompanied by the securing of tenure regimes and enabling appropriate market conditions.

However, even though livelihood diversification is promoted by many authors and development practitioners as a risk-minimising strategy, there is evidence available that disagrees with this contention. A study on nutritional status among children of Malian nomads, for instance, proved that the children of specialised nomads – i. e. those that did not diversify their income – had a better nutritional status than non-specialised nomads (Hatløy, 1999). Households may not have enough available resources to diversify – there are many examples of this in the Sahel, where those who do best are specialised pastoralists or nomads (T. Benjaminsen, personal communication). This is because the logistical and organisational costs of combining different modes of livelihood are large and easily becomes insurmountable for a single household. More sustainable adaptations may be achieved with specialisation of production units, and engaging in trade. It may be useful to diversify production, but only if it is possible within limits of available labour resources (Pedersen, unpublished paper).

The range of analytical tools that comprise a livelihoods analysis can ensure that country-level development strategies are founded on an understanding of the livelihoods of poor people. The conceptual framework that captures the Sustainable Livelihoods approach can help bring to light the particular policies and institutions that shape those livelihoods. Such an approach offers a way of addressing the whole range of policy issues relevant to the poor, such as access to finance, markets, and personal security as well as to health and education (DFID, 1999).

7.3 The Case of Pastoralism

When discussing environment and poverty in dryland areas, it is natural to bring attention to the case of pastoralists, who comprise a major group subsisting in arid and semi-arid areas. The term ‘pastoralists’ refers to people who base their livelihoods primarily on the raising of livestock. The climatic conditions of aridity and rainfall variability, coupled with a weak socio-economic and political environment, make interventions in pastoralism more difficult than interventions in agricultural practices. Often, pastoralists live in isolated environments with little or no access to infrastructure, with little or no income alternatives apart from livestock, which makes them vulnerable to poverty. However, this is by no means true of all pastoralists.

Pastoralists in arid and semi-arid environments are dependent on guaranteed access to resources, especially key resources in the dry season, to ensure that their herds survive. But for the herds to survive, they must also have a reasonable amount of spatial mobility, so that they are able to pursue the optimal utilisation of resources depending on seasonal variability. Hence, mobility and access to the dry season pastures are crucial to livestock management (Niamir-Fuller, 1999).

Not unusually, several tenure systems co-exist, e.g. customary/tribal tenure, individual/private ownership, and state ownership, which allows for both agricultural production and livestock mobility. The overall issue relates to tenure – confusion regarding tenure arrangements tends to be the main constraint for rangeland management. Hence, appropriate reforms of land tenure arrangement are needed in dryland areas, particularly in Sub-Saharan Africa.

Often, communal management of pastoral lands is maintained in order to secure herd mobility, as mobility is one of the most important risk mitigation strategies. But the kind of tenure systems adopted depends on a variety of factors. For instance, in the case of communal management of pastures, or customary management (which often amounts to the same thing), group composition, the size of the group and the value of the resource play an important role. Heterogeneity presents challenges, it is far more difficult to get a heterogeneous group to co-operate, and the larger the group, the more difficult the co-operation. Also the value of the

resource in question is significant; the more valuable livestock products, the easier it is to facilitate co-operation. These observations are perfectly in line with what has been found in game theory (Baland and Platteau, 1996). Common property, or customary tenure, is widely perceived to be the most egalitarian of the various tenure arrangements. However, equality of access does not ensure equality of use, as more wealthy and powerful herders will oust the weaker ones – then again, this depends on the heterogeneity and level of stratification of the group that governs in common.

Even though equity may be better served under common property systems, they do have a problem with efficiency, as common property systems are not very conducive to fostering investment. Communal tenure systems (non-exclusive systems) are most appropriate in ‘non-equilibrium’ ecosystems (Cousins, 1996).

However, in general the terminology employed within the field of common property resources may not be adequate to describe the situation in the context of pastoralism and nomadism. Berge, in her article on Tuareg notions of space and place in Northern Mali, makes a point of this when she states that ‘the way in which Tuareg living moulds the surroundings leaves few material traces, and thus their ‘place’ needs to be constantly made and remade, created and negotiated’ (Berge, 2001). This in contrast to the much more marked physical presence of agriculturalists, with their fields and fences, granaries and roads. Tuaregs, argues Berge, may be strongly attached to particular places on which their subsistence depends, but without having developed concepts of ownership or rights of exclusivity to prevent others from exploiting the same places – there tends to be a lack of spatial, and even social, boundary control among Tuaregs in general. Western perceptions of property and ownership, then, often tend to inform, or obscure, existing concepts and relationships (Berge, 2001).

When levels of co-operation are low, more land is brought under private control.

Privatisation may result in the fragmentation of land, and grazing land thus becoming less available, but it also may have positive impacts, such as an increase in productivity.

Privatising works best in instances where land quality is high, e.g. in irrigated areas, and where there is good access to markets and infrastructure.

Regarding the third main tenure system, state ownership, a key issue is the capacity of the state to implement, monitor and enforce tenure arrangements. The state's direct involvement in rangeland resource management is best reserved for enforcing temporary use; undertaking large and risky investments; protecting and rehabilitating heavily degraded and/or fragile ecosystems, and managing situations of heavy conflict (Ngaido, 2002).

Scoones (1999) notes that ecological dynamics, and in particular heterogeneity in grazing resources, interact with tenure regimes in complex ways. In debates about resource tenure, the heterogeneity of landscapes is often forgotten, with simplistic categorisations of tenure arrangements being used to describe situations over wide areas. Spatial patterning and temporal shifts in the relative value of different landscape components are critical in structuring the likely nature of a tenure regime. The general trend tends to be that the more stable and valuable the grazing resource, the more formal property arrangements are in place.

Low-value areas, on the other hand, tend to have loose common-property regimes, tending towards open access. However, governments and development practitioners like to impose well-ordered structures, and find the often overlapping and dynamic institutional arrangements – or lack thereof – frustrating and confusing. Hence, interventions have also tended towards failure (e. g. the destocking policies referred to earlier on) opportunistic patterns of livestock management are often a prerequisite to cope with a variable and risky environment, but are often not accounted for, nor understood in government intervention strategies. There is a need to disaggregate the view of community, environment and institutions in order to design effective intervention strategies and policies. Other suggested implications for policy-makers is that more emphasis be placed on description of resource types within the grazing landscape – paying special attention to those patches of critical importance for livestock at different time of year. Another activity includes mobility mapping, and adopting a longer-term horizon and a wider geographical scale for resource use. A parallel exercise would be the exploration of existing institutions governing the various resource components. Such analysis of institutional form could be a co-learning process, involving the farmers, pastoralists, researchers and parties affected. With limited resources for

external intervention, emphasis should be placed on the key resources, rather than trying to intervene everywhere all the time.

Pastoralists – the case of Uganda

In Uganda, policies after independence have failed to regard pastoralism as an economic activity. To a great extent, policies have been geared towards sedentarisation of pastoralists. There has been a strong bias towards crop production, with the consequence of policies emerging that favoured agriculture over pastoralism (Ngaido et al, 2002). This will continue, unless a value is put on conservation (Fernández-Giménez, 2002).

However, environmentalist pressure groups in Uganda have lobbied to keep pastoralists out of protected areas. Moreover, tourism has led to an increase in the proportion of land that has been turned into conservation areas and wildlife sanctuaries. These are goods in themselves, but by barring pastoralists, they represent a problem. This could be solved by the government granting a lease to pastoralists to use such areas as 'fall-back' resources in times of crises, provided their use does not reduce conservation efforts. It should be possible to permit a limited use of such designated areas, without such use representing a threat to conservation efforts.

Box 2. The case of pastoralists in Uganda

In general, there is evidence that the presence of projects and education possibilities have a significantly positive effect on pastoralists, whereas heterogeneity and large population numbers had a negative impact on institutions. Another general observation relates to the fact that projects and NGOs often create new structures of their own in order to meet their development goals, rather than building upon already existing institutions, which in many cases create confusion (Ngaido *et. al.*, 2002). Recommendations include:

- ◇ Governments should be more proactive towards securing pastoral land rights.
- ◇ Pastoralist institutions should be strengthened, and pastoralists need to be involved in development projects.
- ◇ Indigenous environmental knowledge should be integrated in ecological research
- ◇ Investments should be made in infrastructure and employment alternatives.
- ◇ Management should be decentralised (the principle of subsidiarity)

Devolution of management must take into account the capacity of local institutions to collaborate. This ability can be judged by looking at factors such as heterogeneity, population numbers, value of the resource, etc. In general, pastoralist systems should be supported in

semi-arid and arid areas, as this way of living is adapted to the characteristics of the environment, and because alternative means of production in these areas are rarely available. However, that said, there are also possibilities in creating areas where privatisation and settlement would make sense.

8. IMPLICATIONS FOR ACTION

8.1 International Processes: The United Nations Convention to Combat Desertification

Hopefully, the discussion on the various explanatory models and factors that are believed to cause desertification and degradation will have contributed to the understanding and appreciation of the complexity of the issue at hand. But what are the implications for action? In this section, we describe the Convention to Combat Desertification and its implementation process, as it represents one means of action.

The Convention to Combat Desertification was created as a result of increased recognition of the problems plaguing the dryland areas. It came into force in December 1996, and stated at the outset that ‘1 billion people – one-sixth of humanity - were at risk from desertification, and that 250 million were directly affected.’ The spirit of the document is close to the Neo-Malthusian view of desertification, as described earlier.

The objective of the CCD is stipulated as follows:

‘combat desertification and mitigate the effects of drought in countries experiencing serious drought and/or desertification, particularly in Africa, through effective action at all levels, supported by international cooperation and partnership arrangements, in the framework of an integrated approach which is consistent with Agenda 21, with a view to contributing to the achievement of sustainable development in affected areas’

The CCD is different from previous attempts to address the desertification process, since it is legally binding – countries that accede to it are obliged to implement it. Unlike some other environmental treaties, it includes concrete national commitments for practical action, particularly at the local level. It claims to take an innovative approach, breaking new ground

in environmental law in the way that it is tackling desertification. It is designed to forge a new deal between governments, the international community, development practitioners, and local people.

The Convention contains 40 articles and four regional annexes (dealing with the implementation of the convention in four different geographical regions).

A couple of key articles are reproduced below:

Article 1: 'Ensure that decisions on the design and implementation of programmes...are taken with the participation of populations and local communities and that an enabling environment is created at higher levels to facilitate action at national and local levels'

The Convention thus recognises that poor people living in the drylands often have no alternative than to overexploit their environment in order to survive, and that they have little say in their fate – poor people are often marginalised in their own countries. They are vulnerable both to the vagaries of the weather, the political situation, and the national and global economies. This vulnerability to the political and economic situation is epitomised in the following statement: '...drought can push them into disaster, but so can good rains which sometimes produces surpluses of food and drive down prices' (CCD, 199x).

The Convention emphasises the role of participation of poor people in the planning and implementation of the Convention, as it is appreciated that the poor know more than anyone else about the fragile ecosystems from which they have derived a living for so long. The fact that they could viably operate in extremely harsh conditions, with few resources, and their skills of survival makes the poor of the drylands potentially the world's greatest asset in combating desertification. Yet in the past they have been ignored, and even blamed as the agents for desertification. Special efforts are needed to ensure the participation of women, as, even within their own societies, they are the most affected by desertification and yet have the least power to do anything about it. The way the Convention breaks new ground, then, is by enshrining local people's participation in international law, with particular emphasis on women.

The Convention is probably the first legally binding instrument to stress partnership rather than aid, and also stresses the need for international cooperation and partnership, which is borne out in the second article:

Article 2: Parties should develop, in a spirit of partnership, cooperation among all levels of government, communities, non-governmental organisations and landholders to establish a better understanding of the nature and value of land and scarce water resources in affected areas and to work towards their sustainable use.'

Apart from local participation and international cooperation, the Convention also stresses the need to take into account the international and national economic environment. Parties are obliged to give 'due attention' to issues concerning trade, markets and debt situations – with a 'view to establish an enabling international economic environment conducive to the promotion of sustainable development' – this statement, however, is vague in the extreme. What is meant by 'enabling international economic environment'? And, as always, the term 'sustainable development' leaves much to be desired in terms of specificity.

Moreover, an integrated approach is emphasised – meaning that physical, biological, and socio-economic aspects of desertification should be addressed, and also that the anti-desertification efforts should be integrated with other national strategies to promote development and eradicate poverty.

The National Action Programmes

The National Action Programmes (NAPs), as described in the CCD, represent the central implementing framework for efforts to combat desertification and alleviate effects of drought at the local and national levels. They are one of the key instruments in the implementation of the Convention and are strengthened by Action Programmes on Sub-regional (SRAP) and Regional (RAP) level.

Establishing and implementing National Action Programmes involves identifying key actors or initiators, and allocating resources – financial and human – to support the process and initiate key activities, such as awareness raising. The NAP process is a dynamic framework

for an ongoing set of actions to combat desertification, including periodic reviews of achievements and priorities, readjustment of goals, means and resources, as well as strengthening institutional arrangements, planning, and policy making necessary for combating desertification. Countries are obliged to have National Action Programmes that identify the underlying causes of desertification within the context of that particular country.

The NAP methodology (developed by the UNSO) divides the process into three phases:

Phase 1: Launching of the NAP process;

Phase 2: Implementation of agreements from the first NAP forum,

Phase 3: Full implementation and monitoring of the NAP implementation process.

8.2 National Action Programmes (NAPs): Features and Challenges

Although the realities in affected countries are different not only between regions but also within the regions, making it impossible to give an account of all the on-going NAP processes, there are features and elements that are important for every NAP process that need to be taken into account during formulation. The examples below provide highlights of the various dimensions and approaches: good preparations through effective participation; demand for decentralization, participation of civil society, clear responsibilities, quick action, building on existing frameworks, role of the private sector, integration with national policies, and harnessing local experience (UNDP, 1995).

Experiences so far demonstrate common difficulties in moving the NAP processes forward. They relate to institutional, conceptual, financial and coordination issues, and some key challenges can be identified:

- (a) Current and future efforts need to emphasize the NAP process as a flexible and dynamic planning process and not simply as the production of a document.
- (b) Attention needs to be paid to facilitating genuine involvement of civil society, including women, in the planning and implementation process. This requires creating an adequate enabling environment and empowerment.
- (c) The NAP needs to be developed as a vehicle to address socio-economic and development issues, which in many cases are the root causes of desertification. It thus

needs to be integrated with other environmental and socio-economic policy frameworks.

(d) It is crucial to bring the action to the people, which require speeding up the processes as well as engaging as early as possible in concrete action.

(e) The NAP process needs to be institutionalised and effectively linked to the national development and budget planning process, and domestic resources must be allocated for it.

(f) Viable partnerships need to be forged with internal and external partners willing to enter into an ongoing commitment for joint action to combat desertification.

The UN Office to Combat Desertification and Drought (UNSO) prepared an overview of the process four years after the implementation of the Convention began. The overview was meant to give an impression of the experiences and assess progress. It looked at the status of the NAP implementation process, as well as the approaches, structure, and contents of the Action Plans.

The following 10 parameters were employed in order to determine the status:

- ◇ institutional arrangements for coordination and implementation
- ◇ awareness and sensitisation
- ◇ enabling environment (policy and legal frameworks)
- ◇ integration of NAP processes with existing national development frameworks
- ◇ action programme areas and projects
- ◇ building partnerships
- ◇ external support
- ◇ national stakeholder participation
- ◇ funding sources and mechanisms
- ◇ assessment, monitoring and reporting

Overall, UNSO found most countries to be interested and committed to the goals stated in the Convention and that most had initiated measures and activities to combat desertification. However, some challenges and bottlenecks remained.

8.3 NAPs in Africa

There are substantial differences in the degree of progress made in African countries. Some countries, like e.g. Botswana, Burkina Faso, Ethiopia, Mali, Niger, Sudan, and Swaziland have already held their first National Forum, i. e. a platform for talks among stakeholders.

Several regional and sub regional activities have also taken place on the African continent, basically concerning training, information exchange, and creating awareness about the implementation process of the Convention and the contents of the Convention itself.

Relating to the ten parameters described above, the following observations were made:

All countries have identified a National Coordinating Body (usually a ministry), and some countries have also put in place multi-sectoral committees or task forces to oversee the implementation of the NAP. In general, representatives of the National Coordinating Bodies span a broad range of people: including NGOS, CBOs, government units, research and academic institutions, as well as private sector organisations. For the most part, according to the report, these arrangements seem to be working satisfactorily, although there are some that suffer weaknesses for a variety of reasons, e.g. lack of institutional strength, lack of empowerment, or exclusion of the civil society.

Regarding awareness raising, it is very difficult to assess the impact of the various projects that have been implemented, for obvious reasons. But discussions with several communities revealed that many did have a certain knowledge of the CCD. An important observation that emerged, was the need to implement immediate follow-up activities in the wake of awareness raising, so as to keep up momentum and the level of interest among people at the local level. Another flaw of the awareness raising programmes have been that they focus too much on the CCD itself, rather than how communities can actively contribute to the NAP.

Concerning the enabling environment, it implies strengthening institutions and promoting policies that can facilitate partnership between donor community, governments and community groups – as well as facilitating access by local populations to appropriate

information and technology. Most countries operate within the existing legal and policy frameworks, although there are a few who have established new frameworks in direct response to the CCD.

When it comes to the integration of NAP with existing frameworks, most have opted to do this – but there are, in many cases, no clear evidence that the NAP processes are being incorporated or developed in accordance with already established development planning frameworks. While the responsibility of integrating the NAPs rest with the countries themselves, it would undoubtedly be a great advantage if external funding agencies revised their reporting requirements and procedures. Integration and flexibility are important – the level of success of the NAPs rests mainly on the degree of institutionalisation achieved.

Many countries have started the development of programmes and projects created within the CCD framework, but few have actually begun implementing them. It is clear that the development of methodological approaches has not been paid sufficient attention – this relates especially to the development of evaluation mechanisms: in order to monitor and evaluate progress, there needs to be put in place a system of benchmarks against which it is possible to judge progress. Such a system should be standardised across regions, in order to be able to compare and contrast different policy options.

The few countries that have identified NAP programme areas have yet to establish viable partnership arrangements to support implementation.

Concerning the creation of partnerships, stakeholders may be roughly categorised in the three following groups - i) government agencies, ii) non-government organisations and civil society in general, iii) external donors and international organisations of various forms. There is an apparent need to institutionalise partnerships, especially with external agents. NGOs based within a specific country often work to involve rural communities living in the drylands in the NAP process. However, many stakeholder groups experience that it is not easy to be heard – if the role of the various partners are clearly stated, this might ease the process of information exchange and interaction.

The issue of coordination and harmonisation of external inputs remain a major point in most countries – including bilateral and UN-system multilateral organisations. The UNDAF – the United Nations Development Assistance Framework, offers an opportunity for harmonisation for the multilaterals. Concerning the bilateral donors, the best thing would be for the affected country to choose a ‘lead donor’, which will then have the responsibility of synchronising external input into that country.

Stakeholders – even though most countries claim that their NCBs, National Coordination Bodies, are truly representative, this is a claim open to discussion. Representation often hinges on the capacity and strength of the civil society. It is very important that all stakeholders are organised to ensure their representation. Women deserve special attention, on the grounds of their traditional knowledge, their skills and responsibilities, coupled with the tendency to suppress or ignore their voices. Another complaint is that communities sometimes feel overloaded with the demands from outsiders – it is therefore necessary to harmonise efforts.

The funding for most NAP processes has been external, but some affected countries have made allocations within their national budgets for NAP activities – several state that this is extremely difficult, in view of the heavy debt burden shouldered by numerous affected countries. Hence, most countries will continue to seek external support.

Ideally, funding for NAPs should stem from the pooling of national and international sources. Some countries are establishing National Desertification Funds in order to ensure that the country itself contributes with financial resources, so as not to become too dependent on outside assistance.

Lastly, concerning the assessment, monitoring, and reporting mechanism:

‘To date, there are no clear evaluation or assessment mechanisms in place addressing specifically where desertification occurs, and who is most affected by his phenomenon’ (UNSO, 1998). Until such mechanisms are established, much will rest on random observations, speculations and hearsay. Therefore, this is one of the most pressing issues facing the whole implementation process. It is necessary to develop benchmark and indicators

at the global level in order to facilitate comparisons and evaluate progress – however, this is no mean task.

The UNSO report concludes on an optimistic note, stating that significant progress has been made in view of the relatively short time span since the implementation process started. One of the major shortcomings has been the failure to adequately involve the civil society in many countries (Mossige and Berkele, 2001), and there have also been difficulties with integrating programmes. However, it is an ongoing learning process, and the aim is to streamline and refine the plans in future, to facilitate better progress (UNSO, 1998).

9. INTERNATIONAL PROCESSES AND THE UNCCD: A CRITIQUE

The international community has for the most part not been proactive to the establishment of financial mechanisms for the UNCCD. Although there exists a Global Mechanism to help mobilise resources for implementation of the National Action Programmes (NAPs) to combat desertification, it has taken a long time to establish a special CCD fund, unlike the climate change and biodiversity conventions, which can tap into the Global Environmental Facility - GEF (Toulmin, 2001). However, from October 2002 funds were made available from the GEF, and some GEF-funded dryland projects have been approved, whereas others are in the process of being approved. An interesting project is the LADA – Land Degradation Assessment in the Drylands - project, which aims to:

‘develop and implement strategies, tools and methods to assess and quantify the nature, extent and severity of land degradation and the overall ecosystem resilience of dryland ecosystems at a range of spatial and temporal scales. The assessment will integrate biophysical factors and socio-economic driving forces. Second, the project will build national, regional and global assessment capacities to enable the design and planning of interventions to mitigate land degradation and establish sustainable land use and management practices. These objectives are expected to overcome current policy and institutional barriers to sustainable land use in dryland zones and establish incentives to promote the accrual of global biodiversity benefits at national and local levels’ (Source: <http://www.unep.org/gef/resources/resources.htm>)

The belatedness in making funding available has partly been influenced by the controversies regarding the extent and consequences of desertification, and lack of enthusiasm from

dominant international financial institutions. For instance, despite a few appearances and words of goodwill, the World Bank has been unwilling to engage with CCD, whilst at the same time setting up rival performances such as the Poverty Reduction Strategy Papers process. This process has commanded a much more attentive audience, since the Bank holds the purse-strings. The lack of funding specifically linked to the convention has also led to its limited attractions for all audiences. An initiative without cash is doomed to play to an empty house (Toulmin, 2001). However, this seems to be changing now.

There are some international initiatives like the new UNDP Drylands Development Centre that claims to bring the problems faced by millions of people living in arid areas into the heart of national poverty reduction strategies in countries worldwide. However, the huge gap with regard to political and financial commitments of the international community to effectively implement the CCD is still remaining to be filled. The hope that the Johannesburg World Summit on Sustainable Development would set the agenda in favour of CCD's cause did not materialise, as CCD was not typically one of the dominant themes in the Summit's sets of Action Agenda.

One of the many problems in combating desertification is the fact that land degradation is caused by so many factors that it is impossible to legislate on it. There is a need for a multisectoral approach, and it requires cooperation, not legal rules according to Peter Branner, a former director of the UN Sahelian Office (UNSO) (CARE Conference, 2001).

Still, the CCD has a potential, but mostly in the way of focussing on key areas, and drawing the attention of the international community towards the development potential of these regions. Drylands should be paid more attention because of the low level of priority and inputs that these areas generally receive in relation to their size, population, and need.

9.1 People as the Starting Point

What is problematic with the CCD is that, even though it contains a number of genuine strategies on how to improve the situation in the drylands, it basically puts the 'cart in front of the horse' by viewing the drylands primarily as an environmental problem rather than a

development problem. Such a notion has predominantly been influenced by the belief that people in the drylands are destroying their natural resources by inappropriate land use practices. We argue that by putting people first, there will be beneficial consequences for the environment as well.

First, there is a need to ‘anchor’ global discourses in the realities of dryland households’ objectives since (except in a few cases) everyday decisions about the management of natural resources are made by them. While their decisions can be influenced by policies, they cannot be dictated - especially not under conditions of diminishing economic and technical capacities of most governments. If recommendations for change are to be practical and adopted by African smallholders, their perspectives (livelihood security, grassroots autonomy, diverse and adaptive programmes, indigenous knowledge etc) must be understood (Mortimore, 1998; Richards, 1993). These perspectives and the consequent strategic decisions determine both the environmental and economic sustainability of the system.

In the final analysis the burden of environmental and food security and resource management have to be tackled by the people. But for this to happen, it goes without saying that outside support is mandatory, since livelihoods of people in the drylands is dominated by risk and uncertainty (Scoones et al, 1996; Hjort af Ornas & Salih, 1991). The challenge would therefore be to recognise the diversity and resilience of drylands, the need for flexibility in coping with a highly unstable environment, and to find the balance, if any, between environmental and human management dimensions (Behnke and Scoones, 1993; Hellden, 1991; Mortimore, 1998; Oba *et al.* 2000).

Two key concepts need to be stressed in the endeavour to help the poor in their struggle to ward off poverty and cope with degradation:

1. Development in drylands cannot simply copy development in other ecosystems - a fact unfortunately overlooked by many development agencies.
2. Livelihoods - the concept of sustainable livelihoods from a rural perspective - should guide planned interventions. Those seeking to intervene to support dryland livelihoods

need to understand the wide range of strategies currently being pursued and how they best might be further supported.

The perception of drylands as a wilderness turning sterile under the influence of man should be scrapped. Instead, it is essential to realise that dryland landscapes are under continual transformation, even at very low population densities. It is therefore necessary to look at the drylands through the eyes of the smallholders depending on the fluctuating environment. This is not to adopt a romantic stance that the ‘indigenous peoples live in utter harmony with Nature’, but rather to let the people experiencing the problems also define the agenda.

A shift from focusing on ecological degradation to how to use or replace the available structures and what socio-political, behavioural and attitude changes are needed to ensure such changes is crucial. The CCD still tends to embrace the simplistic narratives presented in the beginning as the causes of desertification, emphasising that population, poverty, and mismanagement of natural resources is causing degradation, and aiming to introduce ‘good management practices’ in an attempt to rectify this situation. However, as has been iterated many times, correcting the symptoms (environmental degradation) without correcting what caused the symptoms in the first instance (e.g. institutional failures, insecure tenure, power abuse by political elites causing marginalisation of poor people) will not offer promising results. Hence, the need to switch from an environment-centred approach to a people-centred one, as people form an integral part of the environment. The central question remains one of priority - is the main priority to improve the environment, or to improve the living standards of the poor? Moreover, given the uncertainty and confusion surrounding the processes of desertification and the inability to arrive at a consensus for assessment indicators, there is clearly a need for more research efforts to explore desertification, degradation and drought, not only focussing on the biophysical aspects, but integrating socio-economic and political factors as well. A challenge in this regard is information sharing and dissemination; as research results will be of no use unless communicated and understood by others.

Generally, resource management action plans embrace four elements: *preventive measures* to ensure sustainable use of natural resources; *corrective measures* that redress partly damaged land systems and restore their productivity; *rehabilitation measures* that aim at reclaiming lost

(severely damaged) land; and *development of natural resources* (including natural deserts) through agricultural and non-agricultural land uses (Kassas, 1999).

The problems of the drylands, however, encompass more than problems of natural resource management. The list of concerted efforts at different levels to address the problems of drylands is inexhaustible, but some remain central, and are provided below.

9.2 Actions at the International, National and Local Levels

International level

Development of drylands needs high investment over long periods of time and is often a financial risk that could not possibly be met by local resources. The reorientation of aid to allow greater flexibility and long-term commitments is as crucial as reforming international and industrial country policies to address the poverty and environment concerns of developing countries and the poor. It is essential to improve international and industrial country trade policies, by reforming trade barriers to give developing countries equitable access to international markets and to encourage environment-friendly products and practices (AEO, 2003).⁶

Efforts need to be revitalised in order to meet the CCD obligations, and the financial mechanism for implementing the CCD should be strengthened, especially focussing on the scope for more collaboration on a broader framework encompassing, *inter alia*, desertification and land management, biological diversity, climate change, and socio-economic development - which so far have been addressed by the three Rio conventions separately - in order to avoid unnecessary duplication of efforts or the waste of resources at the international level.

The importance of research cannot be underestimated. Environmental policies need to be based on sound science and technology, integrating existing indigenous knowledge. A wealth of knowledge is available, but many gaps remain either because of actual shortages of

⁶ In this respect, the recent mild reform of the European Common Agricultural Policy (the CAP), and the continued abundance of subsidies being showered on US farmers are not conducive for developing countries' terms of trade, and will present challenges for the ongoing WTO negotiations, which have been promoted as 'particularly geared towards the needs of developing countries'.

knowledge or lack of indigenous mechanisms for transferring available knowledge to local implementation. There is a need for a worldwide system of benchmarks and a set of agreed-upon indicators to be monitored. The Millennium Ecosystem Assessment might go some way to providing this, as will the LADA project mentioned earlier – however, before a comprehensive system of benchmarking and evaluation procedures is in place, it will be difficult to judge the success or failure of actions taken at the various levels. A key point in this regard is the importance of integrating socio-economic factors into the benchmarking system. At the moment, such a system is not within immediate reach, as there is no consensus on concepts and terminology, and because knowledge about the processes of desertification is fragmented and unsuitable for comparison. This again underscores the need for more research to fill the gaps in knowledge. A coordinated international facility to provide early warning of droughts and climate anomalies needs to be established on an international basis. At the moment, no operational early warning systems exist, but there is general agreement that establishing such a system would be beneficial. However, the creation of such a system will hinge on the successful establishment of assessment methods for desertification, as early warning systems involve the long-term prediction and evaluation of desertification. Stakeholders and end-users should be actively involved in the design and implementation of early warning systems.

International programme for water technologies: A recent assessment of water resources for the 21st century shows that freshwater available to countries in the arid regions of the world ranges from very low to catastrophically low. This situation is believed to deteriorate further and by 2025 most of the Earth's population will be living under conditions of low or catastrophically low water supply according to Shiklomanov (1998). An international effort must be waged to increase the share of water available to the world's life-support systems. For this to happen technological breakthroughs are required, including non-conventional sources of energy. Technologies such as drip irrigation systems and rainwater harvesting offer particular hope. (For more information on rainwater harvesting initiatives, see e.g. www.rainwaterharvesting.org).

National level

For sustainable development strategies to work, policies should put the welfare of the people in the drylands at the centre of the development agenda and give them the rights and the power to determine their future (Darkoh, 1998). A move away from abstract development thinking to involving individuals in the determination of their own future is the key for household-based development (Hjort af Ornäs and Salih, 1991). The promotion of voluntary and responsible popular participation can be guided by: *legislation* concerning rights and duties linked to the use of natural resources, access to property and usufruct rights, associational and organisational rights; *economic policies* concerning markets, prices, access to credit and the means of production, transport and storage infrastructure; *social programmes* providing access to education and training, improved public health, support for rural organisations sensitising the population to their roles; and *institutional arrangements* favouring decentralisation, national and local mechanisms for rural development.

National decisions should link societal needs and the requirements for proper environmental management deserves greater policy and planning priority (Hjort af Ornäs and Salih, 1991). Furthermore, more national-level research is needed on assessment and monitoring of degradation; soil quality and a better understanding of the challenges ahead; indigenous and applicable modern technology transfer; livelihood strategies and adaptations of people; as well as institutional and resource tenure issues.

A fundamental issue to address in all perspectives is food security, and whether better natural-resource management at the local level can improve this. Environmentally-balanced development can occur only if food production levels are such that people are secure.

Institutional frameworks should be established that permit and account for resolution of conflicts between people of different economic orientations, for instance livestock-keepers (or pastoralists) and sedentary farmers; and that recognise the role of local customary laws are required (Braukamper, 2000; Oba 2001).

Another necessity is the development of early warning systems and incorporations of indigenous early warning indicators at the community level along with strengthening food

security networks at the household level will give authorities, donors and local community a chance to respond to impending droughts and help people to save assets and mitigate the effects of drought (Oba, 2001; Rahmato, 1991.)

Overall, national commitments to the implementation of the CCD should be renewed; whilst strengthening civil society and their role in the implementation of the NAPs and promoting partnership among stakeholders.

Local level

A sustained harmony should be created between conservation and intensification. This could be achieved through social and institutional reforms such as enabling local leadership, educational and skill training, indigenous management of technical change, and establishing secure rights to the benefits of improvement of dryland resources. Moreover, facilitating access to markets and investing in improving land productivity in conjunction with mobilising indigenous capital resources should be promoted.

Regarding technology and technical change, physical conditions should be diagnosed based on local knowledge and experience, and technologies developed that can augment traditional practices - such technologies include a range of water-harvesting techniques and water control measures. In general, small-scale technological options have often proved more appropriate and beneficial than large scale options (Scoones, 1991; Mainguet and Da Silva, 1998).

Other interventions could be within animal husbandry and rangeland management; harmonising pastoral migration and supplementary fodder production, and creating innovative and sustainable microsystems for different ecological zones with emphasis on livestock in arid ecosystem (SAREC, 1993).

Moreover, viable conservation practices should reinforced; cheap and cost effective soil and water conservation structures that could not just increase agricultural production but also prevent land degradation and generate employment (Sivanappan, 1993).

10. WHAT CAN NORWAY DO?

Norway has not given a very high priority to the CCD Convention, where participation is normally expected to occur at the ministerial level. There seems to have been a political misunderstanding that the CCD competes with the other major environmental conventions, those of climate and biodiversity. However, in Africa, the CCD is taken far more seriously, and generally more people with clout at the political level participate in the convention's annual conferences, as CCD is a priority on the African agenda.

The Dryland Co-ordination group is a forum for co-operation that promotes quality assurance of development projects on food security and natural resource management projects in the drylands of Africa. The DCG also focuses on capacity building through the exchange of practical experiences and appropriate knowledge. In Norway, the Dryland Co-ordination Group (consisting of 5 Norwegian NGOs) all implement development projects in the drylands of Africa with the aim of improving food security. National Dryland Co-ordination Groups exist in Norway, Mali, Ethiopia, Sudan and Eritrea.

In Norway, and in Africa, the DCG works in collaboration with the governments and research institutions in undertaking CCD-related training, seminars, as well as policy and advocacy work nationally and internationally. One of the main areas of the DCGs work is contributing to the follow-up of national obligations related to the CCD, both in Norway and in the affected countries, in particular Sudan, Ethiopia, Mali, and Eritrea. The main interest is to enhance civil society participation in the CCD process. DCG supports activities such as studies, workshops, and capacity building activities. Examples of such activities are the DCG supported Training of Trainers in the Implementation of the National Action Programmes for the CCD in Ethiopia, and workshop on raising Awareness among Policy Makers of the National Action Programmes for the CCD in Ethiopia.

Research related to drylands does exist in Norway, and is mostly carried out by the Agricultural University of Norway in collaboration with other universities, and the Drylands Co-ordination Group (applied research). The problems that beset drylands tend to fall in different categories; such as environment, agriculture, and rural development, which makes it difficult to quantify how much of the research activities is geared towards dryland problems.

In general, research into the dryland areas has been under-funded for decades, with the result that there are vast gaps in knowledge, not only on the interplay of human activities and dryland ecologies, but also concerning species distribution and ecosystem dynamics.

The Committee for Science and Technology (CST) for the UNCCD has established a working group, whose aim is to review and prioritise current research, identify new research needs, identify sponsors for international and regional programmes, and to provide a comprehensive report on the status of drylands research by 2006. As part of its work, the CST has submitted a questionnaire to member countries of the CCD in order to chart current research activities. A total of 50 research projects have been identified in Africa, Asia, and Europe – however, none of these projects have been submitted by Norway. This in spite of the fact that there is a considerable level of research activity within the fields of ecology, technology and management, economy, and social science aspects related to dryland contexts. Hence, there needs to be a stronger effort towards integrating Norwegian research activities so that they could contribute towards the effort of the CCD, by creating joint research activities in the field of drylands and degradation. Moreover, the Norwegian government could play a more proactive role with respect to funding such research activities.

Norwegian assistance should be continued and increased, both to focus on research activities and NGOs that assist in the implementation of the Convention. There has traditionally been little competence in Norwegian donor milieus about agriculture in general and dryland problems in particular, most of the competence sits with researchers at the Universities and development practitioners in the NGOs that are familiar with the areas. Hence, development projects in the drylands have hitherto run the risk of what Barrow (1996) terms ‘doing more harm than good’.

How can we improve? We could focus more on water management, which is an area where we do have significant expertise. We could seek to strengthen the knowledge and capacities of donor institutions about dryland problems. We could expand training opportunities for both development practitioners at home and abroad, as well as focus more on following up students that go home to their respective countries. Education is a key area – lack of management skills is one of the major obstacles hindering African development potential, according to a survey conducted by the Institute of Development Studies in 2000. Specific

management skills are required in dryland areas, which, as has been stated before, can be characterised by diversity and risk. However, the key point to remember is the building up of local capacity and competence in the drylands, so that people are able to manage their own problems. Attention should be paid to people's priorities, rather than 'desertification'. Hiring consultants at random who intervene in short periods, and then hop along to the next project, will not do any good in the long term.

Regarding funding, Norway should continue to support the Norwegian Trust Fund for desertification, and to the GEF - the Global Environmental Facility. Recently the GEF, as of October 2002, included drylands and land degradation as one of their focal areas, and have set aside a considerable amount of money towards projects involving the rehabilitation of degraded lands. Although this is a significant improvement, there still tends to be too much focus on the pure biophysical processes, rather than on dryland peoples' own priorities, which might include better schools, clinics, and infrastructure, for instance.

11. CONCLUSION

Land degradation in the drylands is an environmental as well as socio-economic problem, which is hard to define and quantify, as the term 'degradation' is imbued with many meanings. The uncertainty that surrounds the magnitude of the threat makes management and decision-making difficult. In the earlier phase of negotiations, there was hope that the UNCCD would result in high priority being assigned to assessing and monitoring desertification - that hope, however, has not been realised (Dregne, 2002). Toulmin (2001) argues that the CCD approach has not served its audiences well, but spent too long wrangling over procedural debates and institutional processes. If the curtain falls on the CCD, dryland nations must find a new means of getting their voices heard in ongoing global debates, and in more imaginative ways.

The CCD may have certain shortcomings, relating primarily to the beliefs upon which it was founded. The drylands, however, should remain a focal point. Not out of 'generosity', but rather because it is in the interest of the world as cumulative global concerns are not geographically contained. Hence, the question becomes: how may the Convention be attuned

so as to best meet the needs of the people who are sustained by dryland environments, rather than upholding the argument of ‘combating desertification’? The latter concept hides a great deal of controversy, and the convention would thus benefit from a review of some of its primary aims. Is it an environmental convention, or is it a convention aimed at developing the drylands? If the former is the case, then its stance needs serious scrutiny, as little empirical research to date provides any irrefutable evidence of its main point; namely that there is widespread degradation in the drylands, and that this degradation is mainly induced by increasing numbers of humans. If the latter is what the convention would aim to be - a view that is endorsed by more and more people - then this need to be formulated much more clearly than is the case today.

Another point is that lack of international financial support hampers progress, even though the GEF now is providing some support. The current global directions may be exemplified by the following quote by the President of The World Bank Group, James D. Wolfensohn: ‘the Comprehensive Development Framework - and the PRSP - are the way forward to enhance country ownership and the achievement of international development goals. We intend to continue to direct the energy of our institutions to make this a reality.’ The CCD is only one of 13 sub-topics covered under poverty reduction in the plan of implementation that was crafted at World Summit on Sustainable Development in 2002. Simply put, the implementation of the CCD will be a difficult task unless the goals of development and poverty reduction in the drylands are endorsed as the cornerstones of the convention.

In light of the current international trends and debate, we recommend that the focus of the Convention should be reoriented from ‘how to combat environmental problems in dry areas’ to ‘how to improve people’s livelihoods in dry areas’.

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