



# Environmental paradigms, knowledge systems and policy. The case of Burkina Faso

Henrik Secher Marcussen

## Abstract

*The interface between environmental research, knowledge systems and policy is in this article explored by analysing how established «myths» or received wisdom affect problem identification and solutions to environmental change in various planning and policy frameworks.*

*It is the argument of the article that examples of received wisdom regarding environmental degradation and its causes are maintained and persist far beyond what research results might indicate, and that a certain coherence is built from policy, planning and to project intervention in which such environmental «myths» are gradually transformed into narratives of seemingly self-evident truths. The transformation of such myths into narratives again supports the forming of knowledge systems which not only tend to reinforce themselves but also assist in the creation of easily recognisable patterns of explanation accepted by most influential actors in the development game as both valid and scientifically well founded. In addition, such*

*knowledge systems tend to reinforce existing power relations by enabling the various actors to ensure a continued flow of external resources to their respective domains.*

## Keywords

*Environmental research, knowledge systems, policy, development discourse, environmental planning, Burkina Faso.*

*Henrik Secher Marcussen: Department of Geography, University of Bergen, Breiviken 40, 5045 Bergen, Norway.*

*Email: henrik.marcussen@nhh.no*

*Geografisk Tidsskrift, Danish Journal of Geography  
Special Issue, 2: 93-103, 1999*

That discrepancies exist between policy and research is not new. Not least seen in relation to changes in development paradigms have such discrepancies persisted over time (confirming Kuhn's model of scientific paradigms (Kuhn, 1970)), sometimes with research and research results ahead of policy decisions, which have lagged behind, but in more recent years with an increasing number of examples of decision makers picking the concepts to their likings in the development bread basket, advancing the one «buzz» word after another, without a convincing scientific backing of these concepts, approaches or explanations. What is new, however, is that particularly in the field of the environment there has been a substantial increase in the number of policy initiatives (Dickens, 1992; Warren, 1995; Hoben, 1995) which are uninformed by research findings or even run counter to such findings, instead falling within the domain of conventional wisdom or orthodoxies (Leach & Mearns, 1996; Fairhead & Leach, 1996; Bush, 1997).

In the following, the root causes of ecological degradation will be analysed as depicted in four different policy frameworks, taking Burkina Faso as an example: First, as a background, the official line of reasoning will be dealt with, as illustrated by how the government of Burkina Faso is approaching donors and presenting the reasons for external interventions. Secondly, the case of the National Environmental Action Plan (NEAP) will be analysed, the official planning and strategy instrument established for Burkina Faso in support of an improved environment. Thirdly, two Danida supported projects are briefly looked into with the aim of seeing how, in project documents, environmental degradation is diagnosed and attempted remedied before, finally, the role of the Burkinabè scientific research community in tackling the country's environmental degradation problems is discussed. The main argument is centred around the National Environmental Action Plan, while the Danida supported projects as well as the

response by the Burkinabè research community provide further illustrations of the limitations set for transcending prevailing paradigms.

In order to counter possible misunderstandings it should be stressed that the argument about the building of knowledge systems, which are often unguided, even misguided, by research and research results, does not mean that a country such as Burkina Faso does not suffer from problems of environmental degradation or severe poverty: Quite the contrary. The argument maintains, however, that the narratives built risk raising the wrong questions as well as addressing them in a way which ultimately may risk being counterproductive.

### **The desertification narrative: the background**

According to the official view<sup>1</sup>, Burkina Faso's environmental policy has three tenets: First, the fight against desertification; secondly, the fight against pollution in general; and, thirdly, the improvement of the conditions of life of the peasants. The means suggested for rectifying these problems include the creation of «green belts», the planting of trees or other measures to improve living conditions through the «greening» of the environment, as expressed by the slogan «8.000 villages, 8.000 forests».

Of these measures, the fight against «desertification» seems the most important and the most encompassing, following as it does in the vein of the International Convention to Combat Desertification (UN, 1994). The concept of desertification is here seen as a process, which has almost exclusively been caused by man overutilising the natural resource base, thereby disrupting the «equilibrium between man and nature» – which a necessary strategy against desertification will have to re-establish.

The overall importance ascribed to the fight against «desertification» is confirmed in the government's presentation to donors of its need for continued external assistance, seen generally in the light of the country's ecological problems and specifically in relation to the follow-up to the signing in 1994 of the Convention of Desertification (Burkina Faso, 1997a; 1997b).

Common to these documents outlining the government's position is an understanding of the concept of desertification as one which stresses the immanent, serious problems arising out of a process which is never specified nor defined, but which is expected generally understood and

accepted by the reader. Although the understanding (in line with the phrasing of the convention itself) has come some way from earlier ones which tended to see desertification as closely associated with advancing dunes and the spread of the Saharan desert, the creation of «desert-like» conditions as a result of «land degradation» (the new understanding of desertification in the convention itself) is still very much with us. And, basically, the presentation is still very much characterised by alarmist and highly appealing notions of irreversible ecological decline, leaving behind barren, infertile soil which more or less automatically will lead to widespread social misery.

Typical for much of this documentation material, whether as presented by Sahelian governments or by donors in justifying their projects, is a depiction of a situation and a process, which in simplistic terms present complex problems in phrases which are broadly appealing and which, apparently, do not need further definition nor clarification. The concept and process of desertification is here seen as self-evident, expected to be understood and accepted by everyone, as part of the aid jargon's established and unchallenged truth.

The inevitability and irreversibility of the desertification process, however, has long been questioned by research results. Such research has primarily shown how fragile and unsubstantiated earlier research was which tended to indicate the southward movement of the Saharan desert in kilometres per year (for example research and estimations by Stebbing, Lamprey or Ibrahim, quoted in Swift (1996)), fostered by population growth, overgrazing, uncontrolled cuttings in the vegetation, bush fires, etc. - in short, man's overutilisation of the natural resource base, surpassing traditional equilibria situations, such as a believed «carrying capacity».

As now documented in a number of cases (Warren & Agnew, 1988; Hellden, 1991; Olsson, 1993; Swift, 1996; Thomas, 1997; Rasmussen, 1998) using various techniques in combination, including aerial photos, satellite remote sensing and ground truth observation, it has generally not been possible to confirm the picture of the advancing desert or the transformation of great parts of land through degradation into «desert-like» conditions. On the contrary, the margins of the desert seem to fluctuate according to rainfall patterns, and the earlier guesstimates of the advancement of dunes have proven to be not only guesstimates, but often inaccurate such guesstimates. A case in point is the way in which UNEP used a questionnaire sur-

vey of how «experts» assessed the degree of «desertification» worldwide, which led to the publication of the «Desertification Atlas». This still functions as an objective referral for many Sahelian governments when talking about the degradation process in their country, but what it really is is subjective evidence as presented by government officials, planners - and scientists.

In other words, the broadly appealing notions of the sand dunes encroaching upon farm land and houses, or the fertile fields transformed into scarred and barren landscapes, are notions which oversimplify matters and which have little in common with the results of current research. Yet, these and similar notions are repeatedly portrayed and confirmed in official documents presented to donors or to the public in general - where they are most often uncritically consumed.

### **The National Environmental Action Plan (NEAP)**

Support for environmental planning has long been considered one of the most important ways of addressing problems of ecological degradation, deforestation and soil and water erosion. Planning for the environment is considered an essentially positive thing, a «plus» concept, one which is difficult to object to. For who can deny that we may be in dire need of an action plan to direct our efforts in an optimal way?

However, in practice there are excellent reasons for calling into question the whole planning philosophy, mentality and exercise. When examining the history of development planning in Africa, it is clear to observers that, despite the rhetoric, development planning involves little learning experience. Indeed, as shown by Mintzberg (1994), the experience from planning in western as well as non-western societies is bleak, as plans reflect rational thinking and «modernist» conceptions of control and prediction, which are basically impossible, leaving impact of planning mostly to the effects of these in being merely «symbolic constructs».

In the case of the Third World, the various plans often succeed each other with only a few years interval, without much internal reference or building upon the experience of the past: a tabula rasa situation, so very often seen in the world of aid, where the entrance on the scene of any new donor results in everything starting all over again (Marcussen & Speirs, 1998).

The latest in this series of environmental planning are the National Environmental Action Plans (NEAPs), which close to 40 African countries, including Burkina Faso, have now formulated. In initiating the NEAP planning process, the World Bank made a major effort to seek to learn from past experience. This is at least the impression left by a number of World Bank supported publications (Falloux et al., 1991; Falloux & Talbot, 1993; Greve et al., 1995), which again and again stress that the NEAP would actively address issues of shortcomings in previous planning efforts in trying to avoid the pitfalls and failures of past plans. The NEAP would, in this ideal perception of the Bank, avoid duplication of efforts and ensure cost effectiveness. A number of recent studies have, however, contradicted this ideal perception of the Bank (World Bank, 1996; Wade, 1997; Marcussen & Speirs, 1998).

What is of particular interest in the present context, however, is how the root causes of ecological degradation are portrayed in the plans, the argument of this article being that these causes are very much part and parcel of the myths and narratives surrounding the environmental development discourse.

As stressed by Hoben (1998:123), «to the extent that a particular development narrative, with its associated assumptions, becomes influential in donor community development discourse, it becomes actualized in specific development programs, projects, packages and methodologies of data collection and analysis». In this way, a particular development discourse «becomes not merely a set of beliefs or a theory, but a blueprint for action». And Hoben continues: «Because they (the development narratives) are institutionally and culturally situated or embedded, those cultural paradigms that are central to the interests and activities of their adherents are not easily challenged, discarded or replaced».

In other words, the development discourse develops a logic of its own, in which established truths are constantly repeated and where the mutual confirmation of beliefs as to what causes ecological degradation is repeated by the various actors, be they representatives of the aid community, government officials or even researchers. These constant repetitions and confirmations establish thereby a meta-language of development and a knowledge system which form the basis for these conventional wisdoms to become part of the aid jargon; wisdoms that are so difficult to change. The more people repeat the same keywords and the same perceptions as to root causes of ecological de-

gradation - irrespective of what research results or actual experience may have shown - the more cemented and irrevocable the narratives become.

Now, what kind of development narrative is reflected in the NEAP for Burkina Faso? The first observation is what could be referred to as the «Paradise Lost» narrative. According to this, the environmental narrative tells us, again in Hoben's phraseology, «how things were in an earlier time when people lived in harmony with nature, how human agency has altered that harmony, and what the calamities are that will plague people and nature if dramatic action is not taken soon».

#### *The equilibrium notion*

In the case of the NEAP, the equilibrium notion is explicitly mentioned as the basic objective of the plan, namely to reestablish the equilibrium between man and nature which is believed to have existed in the past. It is formulated in the NEAP as follows (my translation):

«...the ultimate objective of an improved management of the environment is a search for a socio-ecological equilibrium and, finally, for the equilibrium between man and nature» (p. 5 and 61).

In other words, it is assumed that an environmental equilibrium may have existed in the past, where man and nature, pastoralists and farmers, lived in harmony, without conflicts or competition between them. Everyone lived happily together in harmony and balance without threatening any «carrying capacity», or any other concept associated with ideas of equilibrium. In this sense, the equilibrium notion very much reflects the «Paradise Lost» observation referred to by Hoben above.

What this narrative obviously neglects is what has been amply demonstrated in current and past research: That an equilibrium has probably never existed. On the contrary, the representatives of the various production systems, but in particular pastoralists, have continuously adapted their herding practices to situations of constant change and disequilibrium. The transhumance grazing patterns, the constant adaptations in migration patterns to the availability of water and grazing have created a very flexible and adaptable production system, which has established at its very basis a notion of disequilibrium as the normal condition of survival and existence. The same probably goes for other forms of livelihood in the Sahel.

#### *The crisis narrative*

Closely following from the above is the narrative which tries to depict a situation of severe crisis, which can only be remedied if one or other current proposal - be it a NEAP or a development project - is realised. Unless the NEAP is supported heavily by the donor community, the environmental crisis, in the form of land degradation or even «desertification», may take on a form which will prove irreparable or irreversible.

In a number of project documents this often takes the form of a postulate that, due to the processes of ecological degradation, the number of hectares (most often in the thousands) which have been lost, either due to overgrazing, extending the cultivated area, cutting in the vegetation for fuelwood needs, bush fires, etc., are so drastically high that all vegetation or farm land will be lost to degradation processes or the advancing dunes before the turn of the century. These calamities are often offered as established truths, and the thousands of hectares postulated lost over the past few decades are alleged to be the result of scientific and valid monitoring and data collection processes, which they are not. They are often wishful thinking or, at best, guesstimates. But they are neither reliable nor valid.

An example of such guesstimates in the NEAP is the following (my translation):

«...it seems likely that the costs of degrading the renewable natural resources in the case of Burkina Faso are situated between 20 and 25% of GNP» (p. 53).

Yes, who knows? But better present the situation in a light as alarming as possible, as this could facilitate donor funding, given the catastrophic crisis scenario outlined.

In the case of the NEAP for Burkina Faso, the crisis narrative is further illustrated, for example, by numerous accounts related to water availability, indicating increasing shortages («the total level of surface water available is far behind actual demand»), the frequent mentioning of «the accelerated degradation of the environment», or grossly summarised deficit situations with regard not only to water but also woody vegetation, grazing areas, etc. («Since 1980, the exploitation of forestry resources has led to a considerable reduction in vegetation cover»).

As an antinote to these crises narratives outlined, some wishful and clearly overoptimistic thinking is also represented, when the impact of utilising available (modern and western based) technology packages is suggested:

«At the level of individual production, the benefits derived could well be particularly elevated, provided that the technologies are available and appropriate as well as adopted by the peasants. Such technologies could provide increases in production ranging from 30 to 130% and could provide return on investments in the order of 100%...» (p. 53; my translation).

#### *The population - environment nexus*

Behind these crises situations lie a number of factors, but in particular population increase and demographic pressure. These are reflected throughout the plan as indicated, for example, by the following (my translation):

«The demographic growth and the very high level of pressure on land, particularly in certain regions, are among the most important factors...» (p. 33), and «The strong demographic pressure is beyond doubt the most important factor when it comes to overexploiting the national resource base, particularly the non-renewable resources...»(...)«A prime consequence of the rapid population increase is an abandonment of traditional cultivation practices with considerable potential for the environment (long fallows, perennial cultivation, pastoralism)» (p. 52).

Population pressure is, of course, a problem and does have some bearing on degradation processes. The problem is that this factor is regarded as the most important one in causing degradation. The problematic part is that the links between population and the environment are taken for granted, and that in the NEAP there can be no doubt that restrictive measures vis-à-vis the population growth rate or «the demographic pressure» will be beneficial to the environment. This line of reasoning follows World Bank analyses made and population policies advocated in other parts of Africa, which Williams (1995) has termed scientifically unfounded.

In addition, studies from Kenya, Ethiopia and Nigeria indicate that this is a simplified version and one (see, for example, Tiffen et al., 1994; Mortimore, 1995; Hoben, 1995; Mortimore, 1998), which may direct attention and remedial action in the wrong directions. The simple population pressure logic may in a number of cases in Burkina Faso be an oversimplified version, as shortage of labour often can be seen as a major constraint. Instead, interest should, perhaps, be directed at the composition of house-

holds in villages and the labour availability there for coping with livelihood situations and survival strategies. That population pressure more or less automatically leads to the extension of land under cultivation and also to a reduction in fallow (periods), is another unsubstantiated argument.

#### *Overgrazing, cutting in the vegetation for fuelwood needs, bush fires and the extension of land under cultivation*

Apart from the demographic factor, there is not much doubt in the NEAP as to what has caused the environmental problems of Burkina Faso. The extension of the cultivated area has, together with uncontrolled cutting of vegetation by household members and the overgrazing following from an increase in livestock numbers, led to ecological degradation. These factors, in addition to bush fires, are unreservedly to be blamed for the environmental problems of the country (my translation):

«The constant extension of land under cultivation onto vegetated areas is, no doubt, at the very base of the reduction in plant cover. Other factors contribute to the degradation process as well. In particular, the uncontrolled cuttings in order to satisfy demands for fuelwood or construction, overgrazing and bush fires» (p. 32), and «...the increase in livestock numbers is causing this overgrazing» (p. 30).

Again, there might be some truth to each of the factors mentioned. But it may also be completely the other way round. As research has shown, the way the issues are formulated grossly oversimplify matters. Thébaud (1995a; 1995b) has, for instance, together with many other researchers (Sandford, 1983; Behnke, et al., 1993; Scoones, 1994; Juul, 1996; 1997), seriously questioned orthodox views on overgrazing and degradation processes. Others have similarly questioned orthodoxies related to the rural households' cutting needs, and the effect of this on the vegetation cover (Leach & Mearns, 1988; Cline-Cole et al., 1990; Benjaminsen, 1996; 1997a; 1997b). Specifically related to Burkina Faso, a number of these issues have also been addressed by researchers attached to the SEREIN-programme (Reenberg & Lund, 1998; Rasmussen, Fog et al., 1999).

In these cases, as in many more (Leach & Mearns, 1996; Fairhead, 1998), things are a bit more complicated than what is portrayed in the NEAP. With these oversimplifi-

cations and the presentation of the causes of degradation as unquestioned truths, myths are built and narratives constructed. And for a plan (and a planning process) which seeks to address the serious environmental problems facing Burkina Faso, this is not only an example of an unprofessional piece of work, but simply a disaster, as remedial actions may be introduced based on these narratives, and risk ending up as entirely counterproductive measures.

#### *The need for awareness creation*

The NEAP for Burkina Faso has a number of strategic options, particularly in building capacities with Burkinabè institutions and creating new ones. In addition, the NEAP consists of a wide variety of programmes, but in particular projects - some new, but the majority being already existing projects funded by a variety of donors - which are now supposed to be included under the NEAP umbrella, as part and parcel of the NEAP strategy for redressing environmental problems. In addition, a major strategic component is to «sensibilise,» i.e. to create environmental awareness among the users of the land, in order to motivate and create a greater understanding for the necessity of taking good care of the environment (my translation):

«First of all, the proper management of the village territories presupposes a considerable awareness creation, education and motivation of the direct producers. Achieving this objective requires the mobilisation of all local forces by means of a process of re-enacting dynamism and intensifying management practices related to village territories» (p. 66).

Again, this may be both needed and appropriate. But taking it for granted that this should be one of the major pre-occupations of a NEAP, may be overdoing the job – and may be directing attention to the wrong issues. A good deal of research (Richards, 1985; Chambers, 1993) has, for instance, shown that the local users of the land are well aware of the environmental implications of what they do, but do not feel in a position to act differently, given external and internal socio-economic constraints. Peasants and pastoralists may not be ignorant and in great need of mobilisation or sensibilisation, but rather already experienced and with great environmental sensitivity. They may lack, however, the means and the material preconditions for correcting their situation. Again, the plan portrays the environmental problematique in a superficial and

uncomplicated way, as if it were self-evident that we will have to mobilise the masses, possibly with the assistance of external experts who so self-evidently are in a position to transmit the right and correct messages to those in need.

#### **Development projects and research: the compliant intermediaries?**

Without going too much into detail, the issues raised in the analysis made of the NEAP above, will be further illustrated by the way in which development projects and research formulate their development priorities.

The Danish aid administration, Danida, is funding two major projects aimed at redressing natural resource degradation in Burkina Faso, one in the north around the provincial town Dori, and one in the Boulgou province around the town Tenkodogo (Danida, 1997a; 1997b).

In the project documents for these two projects, the analysis of the root causes of ecological degradation very much resembles what has been stated above regarding oversimplified notions and standardised views.

First of all, in the project document for the Dori-project it is stated that the project is to be seen as inscribed into the NEAP for Burkina Faso, seeking to restore lost socio-ecological equilibria, while improving self-sufficiency in food and generally improving living conditions.

Secondly, the project is justified on the basis of an analysis which sees the degradation of soils as resulting from diminished periods of fallow, which, again, are caused by demographic pressure (my translation):

«The refertilisation of the soil was naturally achieved, thanks to prolonged periods of fallow (15, 20 even 30 years). But during the past three decenniums, the situation has been modified considerably and in a very drastic way: Séno and Yagha are in a precarious situation characterised by an increasingly strong anthropic pressure on the natural resources» (p. 9).

The problems to be addressed in the Boulgou project are similarly identified, again very much contributing to cementing orthodox views on environmental degradation (my translation):

«Rural space is becoming increasingly sparse due to extensive cultivation practices which contribute to clearing,

cutting and burning of vast areas. The vegetative cover of the country is undergoing a process of accelerated degradation, due to demographic growth, the extension of areas cultivated, the increase in livestock numbers, north-south migrations and urbanization as well as the increasing consumption of fuelwood» (p. 2).

While the mentioned projects may still be remedying some of the major environmental problems in Burkina Faso, this seems more to be an (accidental) outcome of the individual efforts of project staff rather than one which directly follows from a careful analysis of persisting problems, informed and inspired by recent research and research results.

The views of the Burkinabè research community do not differ much.

In April 1996, a research forum was held in Ouagadougou in which the role of research in addressing environmental degradation was the main theme of the conference.

In the background material prepared for the conference (Forum de la Recherche Scientifique et des Innovations Technologiques, 1996a:5), reference is made on the one hand, to the National Environmental Action Plan, mentioned above, which constitutes the overall guiding plan, reference document and source of inspiration for any action directed towards remedying the state of the environment; and on the other hand, to the Strategic Plan for Scientific Research (le Plan Stratégique de la Recherche Scientifique), prepared by the Burkinabè government, in which the country's research priorities are outlined.

The background documents largely copy NEAP or other World Bank estimates of degradation, by presenting estimates of deforestation following demographic pressure («... between 1981 and 1985, in Burkina Faso around 800 km<sup>2</sup> of land was deforested»); that the costs of degradation in the country mount to between 20 and 25% of GNP; that while in 1980, 93% of the land had its vegetation cover intact, this has since then diminished considerably; etc., etc. The reason given for this is ascribed a process through which cultivated land has constantly increased, while uncontrolled cutting in the vegetation cover, overgrazing and bush fires are the other main contributing factors («(The problems) are due to the constant extension of cultivated land to the detriment of plant cover, uncontrolled cuttings in the vegetation, overgrazing and bush fires»).

In an additional document (Forum de la Recherche Scientifique et des Innovations Technologiques, 1996b), a similar and rather oversimplified analysis is offered:

«... the demographic explosion has provoked an irreversible deforestation, a destruction of cultivated land, a degradation of grazing resources which all are behind the process of desertification» (p. 2).

In order to address the processes of degradation and its causes, four main axes of research are given priority in the government's strategic plan for research (le Plan Stratégique de la Recherche Scientifique), under which detailed research projects should be formulated: 1) the perception of the environment and the creation of greater awareness; 2) means to restore the environment and assist in the fight against desertification; 3) research into the socio-economic importance of the environment; and 4) adaption of the traditional way of managing the natural resources to the realities of modernisation! (Forum de la Recherche Scientifique et des Innovations Technologiques, 1996a:26).

As priorities guiding future relevant Burkinabè research, the proposals are not very specific, and the risk is obviously that the research community would not have the ability to escape traditional orthodoxies, and suggest new, more flexible approaches to address environmental problems. It could, rather, be feared that the research community, so much dependent on external funding for its research, would abide by the very same analyses as advanced and advocated by other partners in the policy environment, be it government circles, national environmental plans or «planned interventions» in the form of externally funded development projects, which are all seemingly contributing to cementing the same perception of the environment and the root causes of degradation - a perception which apparently pays off, at least as measured in pecuniary terms.

However, at the same time narratives are built and oversimplified notions maintained, contributing to a powerful knowledge system, paving the way for continued external funding and dependency, but also ensuring that the various actors in the environmental political arena remain in business.

### **By way of conclusion**

As has been discussed above, the official view on the environment, the NEAP for Burkina Faso in its analysis of the root causes of ecological degradation and the research community have portrayed a number of oversimplified

postulates which, I have argued, contribute more to cementing conventional wisdom, myths and narratives, than necessarily to solving the environmental problems of the country. In fact, the obvious risk is that measures and solutions introduced could even prove counterproductive. In the case of Ethiopia, Hoben (1995) has exactly shown how environmental narratives have contributed to maintaining an external food dependency situation, while having introduced soil and water conservation measures in grandiose scale which have proven largely unsuccessful, even detrimental to existing, more environmentally friendly traditional production systems.

One of the reasons why knowledge systems, such as the above, are so pervasive and persistent is, obviously, that the funding mechanisms, primarily with foreign donors, are managed and controlled by representatives who share the very same beliefs and perceptions in relation to ecological degradation. In this consensual club of actors, striking the right concepts and understandings in building the meta-language of development (and modernisation) will more likely and more easily lead to the granting of the funding applied for - or even offered in a not unusual donor-driven approach. Environmental concerns coupled with participatory processes and rapid rural appraisal techniques may not necessarily change this. As has been shown in a number of studies (Long & van der Ploeg, 1989; Ferguson, 1990; 1998), the «development interface» has in many instances created a situation of expectations among possible target beneficiaries of projects, where the fear of exclusion from the benefits of «modernity» leads to «appropriate» responses being given to any enquiry from the outside experts. Common to these two situations is that using the correct meta-language - which includes catalytic concepts such as grass-roots orientation and gender, with a touch of poverty alleviation, decentralisation and democratisation, in most cases will be well received by the donor community, readily opening the purse for the funding of such activities.

Seen in the wider perspective of an incessant change of paradigms, where environmental issues are forcing such a major shift as argued by Dickens (1992); Sachs (1993) and Warren (1995), one more optimistic explanation could be that the aid community and its political allies in the Third World are simply lagging behind. Given a little time, the new paradigm will offer itself more insistently and will be adapted, amalgamated and incorporated into existing knowledge systems.

Another, perhaps less optimistic, explanation could be that such paradigmatic change will not occur within the foreseeable future. The vested interests in maintaining the existing paradigm are so powerful that changes will only happen in the longer term. Of particular importance in this regard is, as pointed to by Warren (1995), that it is extremely difficult to shift course in situations where paradigms and common understandings have become institutionalised, as exemplified by the NEAP or the International Convention to Combat Desertification above. In such a situation, policies and paradigms become tightly woven together, reinforcing each other while perpetuation is kept at the fore:

«The policy-maker must have a general framework with which to structure policy. The policy gains its coherence and is legitimated by the paradigm. The framework is needed to explain policy to political mentors. Even if the policy-maker has doubts, policy comes to be dictated by the framework within which the demands have been couched. Equally, the paradigm (and its constituent models) gain the stature, credibility and funding necessary for their perpetuation» (Warren, 1995:198).

While a certain paradigm may be maintained far beyond what research or experience may justify, changes do take place. This is, for instance, witnessed by a recent, more coherent transformation in the perception of man - nature relationships, where the credo of sustainability as bound with «environment» and «development» has come to the fore, seen in the perspective of «win win» strategies rather than as «trade-offs», if only these relationships can be better «managed». In this more harmonious perspective on the global economy, where an improved and better managed natural resource base creates winners all over, global ecological thinking regarding the serious problems facing «planet Earth», whether in the form of loss of biodiversity, pollution, effects of greenhouse gasses, or the overexploitation of resources, has fundamentally changed. The response to environmental problems, globally, nationally and locally, to issues of ecological threats, misuse and overexploitation of natural resources has been to advocate an improved *management* of the natural resources, in order to minimise problems and, hopefully, restore lost equilibria or reinstate the harmonious relations between man and nature, believed to have existed in the past.

In this process, nature as an external and independently



existing domain has been transformed into an overarching environmental problem which may have local causes, but global effects. In the quest for «sustainable development» the international imagination of the global has been the uniting element, which with tremendous force has drawn attention to the urgent need for establishing improved *management* practices.

In this focus on managing natural resources better, which no one can object to, direct producers are at the centre as both the victims and perpetrators (at least in the Third World) who, with (external) expert advice, need to «manage» their livelihoods better. And in order to create sweeping solutions to immense problems, narratives and oversimplified statements as to the root causes of ecological degradation offer their kind and convenient service also in this regard.

## References

- Behnke, R. (1994): Natural resource management in pastoral Africa. *Development Policy Review* 12(1):5-27.
- Behnke, R., Scoones, I. & Kerven, C. (eds.) (1993): *Range ecology at disequilibrium. New models of natural variability and pastoral adaptation in African savannas*. London, ODI/IIED.
- Benjaminsen, T.A. (1996): Boies-énergie, déboisement et sécheresse au Sahel. Le cas du Gourma malien. *Sécheresse* 7(3):179-185.
- Benjaminsen, T.A. (1997a): Natural resource management, paradigm shift, and the decentralisation reform in Mali. *Human Ecology* 25(1): 121-143.
- Benjaminsen, T.A. (1997b): Is there a fuelwood crisis in rural Mali? *GeoJournal* 43: 163-174.
- Burkina Faso (1994): *Plan d'action national pour l'environnement (PANE): 2e édition*. Ouagadougou, Burkina Faso. Ministère de l'Environnement et du Tourisme.
- Burkina Faso (1997a): *La désertification au Burkina Faso: Causes et conséquences*. Forum National, Convention des Nations Unies sur la lutte contre la Désertification. Ouagadougou. Ministère de l'Environnement et de l'Eau.
- Burkina Faso (1997b): *Les concepts de la Convention des Nations Unies sur la lutte contre la désertification dans les pays gravement touchés par la sécheresse et/ou la désertification, en particulier en Afrique*. Forum National. Ouagadougou. Ministère de l'Environnement et de l'Eau.
- Bush, R. (1997): Africa's environmental crisis: Challenging the orthodoxies. *Review of African Political Economy* 74:503-513.
- Chambers, R. (1993): Challenging the professions. *Frontiers of rural development*. London. Intermediate Technology Publications.
- Cline-Cole, R., Main, H.A.C. & Nichol, J.E. (1990): On fuelwood consumption, population dynamics and deforestation in Africa. *World Development* 18(4): 513-27.
- Crehan, K. & von Oppen, A. (1988): Understandings of «development»: An arena of struggle. *Sociologia Ruralis* 28(2/3): 113-145.
- Danida (1997a): Document de projet. *Projet de Gestion des Ressources Naturelles dans le Seno et le Yagha (PRGRN/SY)*, Burkina Faso.
- Danida, (1997b): Document de projet. *Projet de Développement Rural dans le Boulgou (PDR/B)*, Burkina Faso.
- Dickens, P. (1992): *Society and nature. Towards a green social theory*. Hertfordshire. Harvester Wheatsheaf.
- Elwert, G. & Bierschenk, T. (1988): Development aid as an intervention in dynamic systems. *Sociologia Ruralis* 28(2/3):99-112.
- Fairhead, J. & Leach, M. (1996): *Misreading the African landscape. Society and ecology in a forest-savanna mosaic*. Cambridge. Cambridge University Press.
- Fairhead, J. (1998): Reframing deforestation: Escaping orthodoxies in West Africa. Pp 13-28 in: Reenberg, A., Nielsen, I. and Marcussen, H.S. (eds): *The Sahel. Sahelian perspectives – Myths and realities*. SEREIN Occasional Papers 6, Copenhagen.
- Falloux, F. & Talbot, L. (1993): *Crisis and opportunity: Environment and development in Africa*. London. Earthscan.
- Falloux, F., Talbot, L. & Larson, J. (1991): *Progress and next steps for national environmental action plans in Africa*. Environment Division. Washington D.C. World Bank.
- Ferguson, J. (1990): *The anti-politics machine*, Cambridge. Cambridge University Press.
- Ferguson, J. (1998): *Transnational topographies of power: Beyond «the state» and «civil society» in the study of African politics*. In: Marcussen, H.S. and Arnfred, S. (eds.): *Concepts and metaphors: Ideologies, narratives and myths in development discourse*. International Development Studies, Roskilde University: Roskilde.
- Forum de la Recherche Scientifique et des Innovations Technologiques (1996a): *Session I: Role de la Recherche Scientifique dans la Gestion des Ressources Naturelles*. Ouagadougou, Burkina Faso: Ministère des Enseignements Secondaire, Supérieur et de la Recherche Scientifique.
- Forum de la Recherche Scientifique et des Innovations Technologiques (1996b): *Session II: Role de la recherche scientifique dans la protection de l'environnement*. Ouagadougou, Burkina

existing domain has been transformed into an overarching environmental problem which may have local causes, but global effects. In the quest for «sustainable development» the international imagination of the global has been the uniting element, which with tremendous force has drawn attention to the urgent need for establishing improved *management* practices.

In this focus on managing natural resources better, which no one can object to, direct producers are at the centre as both the victims and perpetrators (at least in the Third World) who, with (external) expert advice, need to «manage» their livelihoods better. And in order to create sweeping solutions to immense problems, narratives and oversimplified statements as to the root causes of ecological degradation offer their kind and convenient service also in this regard.

## References

- Behnke, R. (1994): Natural resource management in pastoral Africa. *Development Policy Review* 12(1):5-27.
- Behnke, R., Scoones, I. & Kerven, C. (eds.) (1993): *Range ecology at disequilibrium. New models of natural variability and pastoral adaptation in African savannas.* London, ODI/IIED.
- Benjaminsen, T.A. (1996): Boies-énergie, déboisement et sécheresse au Sahel. Le cas du Gourma malien. *Sécheresse* 7(3):179-185.
- Benjaminsen, T.A. (1997a): Natural resource management, paradigm shift, and the decentralisation reform in Mali. *Human Ecology* 25(1): 121-143.
- Benjaminsen, T.A. (1997b): Is there a fuelwood crisis in rural Mali? *GeoJournal* 43: 163-174.
- Burkina Faso (1994): *Plan d'action national pour l'environnement (PANE): 2e édition.* Ouagadougou, Burkina Faso. Ministère de l'Environnement et du Tourisme.
- Burkina Faso (1997a): *La désertification au Burkina Faso: Causes et conséquences.* Forum National, Convention des Nations Unies sur la lutte contre la Désertification. Ouagadougou. Ministère de l'Environnement et de l'Eau.
- Burkina Faso (1997b): *Les concepts de la Convention des Nations Unies sur la lutte contre la désertification dans les pays gravement touchés par la sécheresse et/ou la désertification, en particulier en Afrique.* Forum National. Ouagadougou. Ministère de l'Environnement et de l'Eau.
- Bush, R. (1997): Africa's environmental crisis: Challenging the orthodoxies. *Review of African Political Economy* 74:503-513.
- Chambers, R. (1993): Challenging the professions. *Frontiers of rural development.* London. Intermediate Technology Publications.
- Cline-Cole, R., Main, H.A.C. & Nichol, J.E. (1990): On fuelwood consumption, population dynamics and deforestation in Africa. *World Development* 18(4): 513-27.
- Crehan, K. & von Oppen, A. (1988): Understandings of «development»: An arena of struggle. *Sociologia Ruralis* 28(2/3): 113-145.
- Danida (1997a): Document de projet. *Projet de Gestion des Ressources Naturelles dans le Seno et le Yagha (PRGRN/SY),* Burkina Faso.
- Danida, (1997b): Document de projet. *Projet de Développement Rural dans le Boulgou (PDR/B),* Burkina Faso.
- Dickens, P. (1992): *Society and nature. Towards a green social theory.* Hertfordshire. Harvester Wheatsheaf.
- Elwert, G. & Bierschenk, T. (1988): Development aid as an intervention in dynamic systems. *Sociologia Ruralis* 28(2/3):99-112.
- Fairhead, J. & Leach, M. (1996): *Misreading the African landscape. Society and ecology in a forest-savanna mosaic.* Cambridge. Cambridge University Press.
- Fairhead, J. (1998): Reframing deforestation: Escaping orthodoxies in West Africa. Pp 13-28 in: Reenberg, A., Nielsen, I. and Marcussen, H.S. (eds): *The Sahel. Sahelian perspectives – Myths and realities.* SEREIN Occasional Papers 6, Copenhagen.
- Falloux, F. & Talbot, L. (1993): *Crisis and opportunity: Environment and development in Africa.* London. Earthscan.
- Falloux, F., Talbot, L. & Larson, J. (1991): *Progress and next steps for national environmental action plans in Africa.* Environment Division. Washington D.C. World Bank.
- Ferguson, J. (1990): *The anti-politics machine,* Cambridge. Cambridge University Press.
- Ferguson, J. (1998): *Transnational topographies of power: Beyond «the state» and «civil society» in the study of African politics.* In: Marcussen, H.S. and Arnfred, S. (eds.): *Concepts and metaphors: Ideologies, narratives and myths in development discourse.* International Development Studies, Roskilde University: Roskilde.
- Forum de la Recherche Scientifique et des Innovations Technologiques (1996a): *Session I: Role de la Recherche Scientifique dans la Gestion des Ressources Naturelles.* Ouagadougou, Burkina Faso: Ministère des Enseignements Secondaire, Supérieur et de la Recherche Scientifique.
- Forum de la Recherche Scientifique et des Innovations Technologiques (1996b): *Session II: Role de la recherche scientifique dans la protection de l'environnement.* Ouagadougou, Burkina

- Faso: Ministère des Enseignements Secondaire, Supérieur et de la Recherche Scientifique.
- Greve, A.M., Lampietti, J. & Falloux, F. (1995): National environmental action plans in Sub-Saharan Africa. Environmentally Sustainable Development Division. Africa Technical Department. Washington D.C. The World Bank.
- Hellden, U. (1991): Desertification: Time for an assessment? *Ambio* 20(8):372-83.
- Hoben, A. (1995): Paradigms and politics: The cultural construction of environmental policy in Ethiopia. *World Development* 23(6):1007-1021.
- Hoben, A. (1998): The role of development discourse in the construction of environmental policy in Africa. In: Marcussen, H.S. & Armfred, S. (eds.): *Concepts and metaphors: Ideologies, narratives and myths in development discourse*. International Development Studies, Roskilde University. Roskilde.
- Juul, K. (1996): Post drought migration and technological innovations among fulani herders in Senegal: The triumph of the tube. IIED Issue Paper No. 64, London. IIED.
- Juul, K. (1997): Tubes, tenure and turbulence; The Effects of drought related migration on tenure systems and resource management in northern Senegal, unpublished Ph.D. dissertation, Roskilde University. Roskilde.
- Kuhn, T. (1970): *The structure of scientific revolutions*. Chicago. University of Chicago Press.
- Leach, M. & Mearns, R. (1988): *Beyond the woodfuel crisis: People, land, trees in Africa*. London. Earthscan.
- Leach, M. & Mearns, R. (1996): *Environmental change and policy*. In: Leach, M. & Mearns, R. (eds.), *The lie of the land: Challenging received wisdom on the African environment*. International African Institute. London. James Currey & Heinemann.
- Long, N. & van der Ploeg, J.D. (1989): Demythologizing planned intervention: An actor perspective. *Sociologia Ruralis* 29(3/4).
- Marcussen, H.S. & Speirs, M. (1998): Contradictions and conflicts in environmental planning: A case study of the national environmental action plan for Burkina Faso. *Journal of Environment and Development* 7(2):164-183.
- Mintzberg, H. (1994): *The rise and fall of strategic planning*. New York. Macmillan.
- Mortimore, M. (1995): Caring for the soil: Agricultural expansion, population growth and natural resource degradation in the Sahel. Pp. 55-77 in: Reenberg, A. & Marcussen, H.S. (eds.), *The Sahel*. SEREIN Occasional Papers 1. Copenhagen.
- Mortimore, M. (1998): *Roots in the African dust. Sustaining the sub-Saharan drylands*. Cambridge. Cambridge University Press.
- Olsson, L. (1993): Desertification in Africa - Critique and an alternative approach. *GeoJournal* 31(1):23-32.
- Rasmussen, K. (1998): Land degradation? Pp. 49-59 in: Reenberg, A., Nielsen, I. & Marcussen, H.S. (eds.): *The Sahel. Sahelian perspectives - Myths and realities*. SEREIN Occasional Papers, 6. Copenhagen.
- Rasmussen, K., Fog, B. & Madsen, J. (1999): Desertification in reverse? Observations from northern Burkina Faso. *Forthcom.*
- Reenberg, A. & Lund, C. (1998): Land use and land right dynamics under conditions of population pressure - Determinants for resource management options in eastern Burkina Faso. *Human Ecology* 26(4):599-620.
- Richards, P. (1985): *Indigenous agricultural revolution: Ecology and food production in West Africa*. Hemel Hempstead: Allen and Unwin.
- Roe, E. (1991): Development narratives or making the best of blueprint development. *World Development* 19(4):287-300.
- Roe, E. (1995): Except-Africa: Postscript to a special section on development narratives. *World Development* 23(6):1065-69.
- Sachs, W. (ed.), (1993): *Global Ecology*. London: Zed Books.
- Sandford, S. (1983): *The management of pastoral development in the Third World*. Chichester. Wiley.
- Sardan, J.-P.O. De (1988): Peasant logics and development project logics. *Sociologia Ruralis* 28(2/3):216-226.
- Scoones, I. (ed.) (1994): *Living with uncertainty. New directions in pastoral development in Africa*. London: Intermediate Technology Publications.
- Speirs, M. & Marcussen, H.S. (1998): *Environmental planning on the margins of structural adjustment in Burkina Faso*. London. IIED.
- Swift, J. (1996): Desertification. In: Leach, M. & Mearns, R. (eds.): *The lie of the land: Challenging received wisdom on the African environment*. International African Institute, London, James Currey & Heinemann.
- Talbott, K. (1990): *Public participation in African environmental action plans*. Washington, D.C. World Resources Institute.
- Thebaud, B. (1995a): Land tenure, environmental degradation and desertification in Africa: Some thoughts based on the Sahelian example. London. IIED.
- Thebaud, B. (1995b): Pastoralisme et dégradation du milieu naturel au Sahel: Mythe ou réalité? Pp. 79-98 in: Reenberg, A. & Marcussen, H.S. (eds.): *The Sahel*. SEREIN Occasional Papers 1. Copenhagen.
- Thomas, D. (1997): Desertification: The uneasy interface between science, people & environmental issues in Africa. *Review of African Political Economy* 74:583-89.
- Tiffen, M., Mortimore, M. & Gichuki, F. (1994): *More people, less erosion: Environmental recovery in Kenya*. Chichester, Wiley.

- Toulmin, C. (1995): The convention to combat desertification: Guidelines for NGO activity. London. IIED.
- Toulmin, C. (1996): Tackling dryland degradation. Will a convention help? Pp. 3-12 in: Reenberg, A., Marcussen H.S. & Nielsen, I. (eds.): The Sahel. SEREIN Occasional Papers 5. Copenhagen.
- United Nations (1994): Earth summit. Convention on desertification. New York, United Nations.
- Wade, R. (1997): Development and environment: Marital difficulties at the World Bank. Global Economic Institutions Working Paper Series 29, London.
- Warren, A. (1995): Changing understandings of African pastoralism and the nature of environmental paradigms. *Trans. Inst. Br.Geogr.*, NS 20:193-203.
- Warren, A. & Khogali, M. (1992): Assessment of desertification and drought in the Sudano-Sahelian region. New York. UNSO.
- Warren, A. & Agnew, C.T. (1988): An assessment of desertification and land degradation in arid and semi-arid areas. London. IIED.
- Williams, G. (1995): Modernizing Malthus: The World Bank, population control and the African environment. In: Crush, J. (ed.): The power of development. London. Routledge.
- World Bank (1996): Effectiveness of environmental assessments and national environmental action plans: A process study. Operations Evaluation Department. Washington, D.C. The World Bank.

---

<sup>1</sup>As expressed by the Burkinabè minister for the Environment and Water during a presentation to Danida in Copenhagen in 1996.