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THE QUESTION OF DEVELOPMENT AND ENVIRONMENT IN GEOGRAPHY IN THE ERA OF GLOBALISATION

Key-words: geography, development, globalisation, environment, livelihood.

Abstract

This paper focuses on how livelihood and the question of development and environment in a globalising era should be examined. It discusses various views in geography on the question of environment and development, and it explores the concept of sustainable livelihood. It concludes that a geographical conceptualisation of "development and environment" may profit from the discussion on sustainable livelihood, provided that it does not become entangled in an actor-cum-local bias. Moreover, the diffusion of non-equilibrium concepts may broaden the analysis of man-land relations and open the way to an analysis of globalisation effects. Globalisation gives rise to new assortments of geographical entities and, as livelihoods adapt, they will shape constantly shifting regions with specific man-land arrangements.

Introduction

Development and environment have long been considered to be contradictory. Until the beginning of the 1990s, development, which was confined most of the time to increased income generation i.e. economic growth, was generally perceived as being inevitably detrimental to the environment. Paradoxically, poverty was also considered as a main cause of environmental degradation. It was usually accepted that economic growth in developing

countries would have negative effects on the environment. However, this seemed to be a fair trade-off in the fight to alleviate poverty. At that time, only a few geographers maintained that development and environment were compatible.

However, at the turn of the millennium, an optimistic view of the compatibility of development and environment has become fashionable. A limited number of, mainly African, case studies have provided evidence for this. Their results are now being generalised and, moreover, linked with another fashionable geographical concept, i.e. livelihood, because of the latter's potential for integrating the environmental issue into the poverty alleviation debate. However, "sustainable livelihood" as it is now called, is biased towards the locality. I will argue that livelihood and, in a broader sense, the issue of development and environment in geography, should be reexamined in the context of globalisation.

In the first sections, this paper discusses various views of geographers on the question of environment and development, illustrated with examples from environmental studies in Africa. It then explores the concept of sustainable livelihood. Finally, it focuses on globalisation and proposes how livelihood and the question of development and environment should be examined in a globalising era.

Development and environment: received wisdom in geography

Development is often interpreted in a narrow sense as "economic growth" and statistically based on only one criterion, i.e. GNP per capita. Since 1990, the United Nations Development Program has been trying to do justice to the view that development is not only a matter of income or a decent standard of living, but also of welfare. Its "Human Development Index" includes, in addition to income, longevity and knowledge. In the same vein, the United Nations Environmental Programme is paying attention to the sustainability of development

and proposing to use indicators of development that include depletion of resources, pollution etc. However, these views on development are far from being generally accepted. In this section and the next, we shall review the geographical debate on the environment and development. It will become clear that disagreements are not always as fundamental as they are said to be, although labelling the debate as “putting old wine into new bottles” is going too far.

The link between development and environment has been discussed in geography in various ways. A postmodernist would maintain that the identification of tensions or even incompatibility depends on the author’s political or ideological agenda, and on his or her social position. Even in the down-to-earth geography of development, postmodern insights from sociology and anthropology are now generally being accepted. Knowledge, and not only the indigenous knowledge of the African peasant, but scientific knowledge too, is considered to be a social construct and therefore negotiable. All knowledge is thus changeable and nothing is universal. Science is a way of reducing reality and, in the worst case, discrepancies are smoothed over, resulting in scientific myths or narratives. It is this new routine of understanding that has resulted in the stereotyping of certain accepted insights as “received wisdom.” Criticising these accepted insights by developing new propositions is then called “challenging received wisdom”. The danger here is that challenging received wisdom results eventually in a new myth, or rather, a “counter-narrative”.

To sum up, following Blaikie (1995), scientific truth is seen to be socially negotiated, rather than universal and invariably reproduced under the same experimental conditions and assumptions, irrespective of who carries them out. Different people, scientists and non-scientists alike, may claim different truths about the environment.

For a sober geographer, this may sound a bit exuberant. If this means that every geographer has his or her own truth about the link between development and environment, then it comes quite near to reading maps in the dark (Blaikie and De Haan 1998). Fortunately, some help is at hand. Looking into the rise of the modern environmental movement, Turner (1988, p.1) made a distinction into three world views, which he could also have called ideologies, underlying different sections in the movement, viz. a preservationist, an exploitationist and a conservationist view. These tendencies are, of course, not mutually exclusive. However, one could say with a wink at postmodernity, that the trick is first to construct a "myth" or "orthodoxy" and then to pin it on your opponents. This makes it a lot easier to criticise them, although the risk of only creating a "counter-narrative" is apparent.

Preservationism is a type of ecocentrism which aims to preserve as much nature - tropical forests, whales - thus biodiversity, as possible. Preservationists want to prevent species from disappearing, because the extinction of species will eventually result in the extinction of man as top of the food chain. The most extreme position, called by Turner (1988, p.1) "deep ecology", even awards intrinsic value to nature and rights to non-humans. Consequently, in this view, wildlife should be protected against poachers by the death penalty and settlers should be chased from the tropical forest. In geography, this view was at the origin of the carrying capacity concept. If the carrying capacity of a given area can be calculated, the exploitation of resources can then be confined to set limits, which cannot be exceeded without endangering the mode of livelihood. The use of terms such as "overexploitation" and "degradation" clearly reflects the existence of tensions between development and environment in this view.

Exploitationism is a type of technocentrism which accepts "as axiomatic that the market mechanism in conjunction with technological innovation will ensure infinite substitution

possibilities to mitigate long-run real resource scarcity" (Turner 1988, p.1). Exploitationists have a firm belief in the functioning of the market, which will always promote substitution of scarce resources. In its extreme form, this view may even maintain that once clean air becomes scarce, help is near, because the production of clean air will become profitable. It is crystal clear that there is no tension between development and environment in this view. Conservationism rejects the possibility of infinite substitution and aims at a controlled resource use by policies setting resource management rules. Regulation is accepted in this view, although there is a preference for promoting the internalisation of externalities through reward. For example, thanks to a combination of enforcement and ecology tax (representing the costs of air pollution in the price of leaded motor fuel), cleaner motor fuel has become profitable and therefore available. In geography, this view has modified the carrying capacity approach by incorporating the notion of discrete levels of technology allowing for different levels of resource exploitation.

Development and environment: challenging received wisdom in geography

A more recent view also accepts the regulation of resource use, although it is best characterised by its firm belief in "human agency", i.e. in the capacity of people to integrate experience into their actions and to look for outlets for ambitions and solutions to problems. Because of its emphasis on the human capacity to adapt repeatedly to changing circumstances, Blaikie (1998) has called this view "neo-populist developmentalism". Neo-populism is strongly actor-oriented and pays much attention to local or indigenous knowledge. Participatory research is favoured and looks for local agendas to support. The political agenda is that of empowerment of the excluded poor through their grassroots, community-based or non-governmental, organisations. Sustainable exploitation of scarce

resources and economic growth go very well together according to this view. Man is capable of overcoming tensions between development and environment. Echoing Boserup (1965), population growth is considered to be an impetus for sustainable resource exploitation rather than the herald of a Malthusian apocalypse. In what follows I will discuss the origin and argumentation of neo-populism in the geography of development.

“Challenging received wisdom” is the title of a section in a book by Leach and Mearns (1996) with the provocative title “The Lie of the Land”. It is also a telling characterisation of what has become a national sport among British geographers and other environmental scientists: contesting established views of resource exploitation, degradation, development policy and economic growth. However, they do not simply criticise, but have developed a new coherent argumentation against the orthodoxy, which is almost without exception characterised by an optimistic, postmodern faith in the capability of man to master environmental problems and to attain sustainable development, even in opposition to outdated state policies. The seriousness of environmental problems is usually not denied, but general problems, such as desertification, are first localised and then confronted with more positive findings from other locations. The resulting picture is one of relativism and optimism: man is able to improve his livelihood by exploiting natural resources in a sustainable way. The International Institute for Environment and Development (IIED) and the Overseas Development Institute (ODI), both in the United Kingdom, can be considered the cradle of this neopopulist approach. Most drafts of papers and reports are published in the Issue Papers of IIED's Drylands Programme, the Haramata Bulletin and IIED's Gatekeepers Series and the Network Papers of ODIs Pastoral Development Network and later on, as scientific articles and books, give rise to debate. Their influence goes beyond the scientific world. At present there are close links between these institutes and some important development donors like the British Department for

International Development, the European Union and the Swedish International Development Agency.

Leach and Mearns (1996) was by no means the first neopopulist publication, but it gives an excellent overview of the group's critique of preservationist, exploitationist and conservationist views on environmental themes, notably deforestation, desertification, pastoralism, population growth and intensification. Strikingly, most of their argument is related to the African environment.

In the remainder of this section two debates, the first on pastoralism and rangeland ecology and the second on land degradation and population growth, will be examined to illustrate the neopopulist critique of the received wisdom on the tension between development and environment.

Pastoralism and rangeland ecology

What does responsible management and sustainable exploitation of rangeland by nomadic and semi-nomadic pastoralists mean? A stormy debate is raging on this question, which is rooted in the complexity of vegetation degradation and conflicting views on vegetation dynamics. For several decades, “received wisdom” has been rooted in the Clementsian theory of vegetation succession. This theory states that every area, given its soil and climate characteristics, has its own climax vegetation. If this climax vegetation is disturbed by human exploitation, it will return after a certain period of rest. The Clementsian assumption that a shifting cultivation field in the tropical forest will be completely recaptured by the forest once cultivation stops is well-known. The theory makes a similar assumption about rangeland, where grass is considered to be the climax vegetation. Environmental policy based on this theory expects the pastoralist to maintain an equilibrium between the grazing pressure of his

flock and the natural regeneration towards the climax vegetation, maintaining the equilibrium between grazing pressure and regeneration has become synonymous with sustainable rangeland exploitation. The concept of carrying capacity was operationalised as the maximum permissible grazing pressure. Exceeding this carrying capacity was considered to be overgrazing, that would result in degradation of the vegetation. Eventually the pastoralist would be forced to abandon the range. Regeneration would then result in the restoration of the climax vegetation. However, heavy overgrazing could also irrecoverably damage the ecosystem, thus making regeneration of the vegetation impossible. This was considered to be one of the main causes of desertification, producing a genuine Malthusian script.

Two publications, Behnke et al. (1993) and Scoones (1994), provide an excellent review of the conflicting proposition: challenging Clementsian received wisdom. These adherents of "new range ecology" argue that, in regions with extreme climatic variability, the notion of climax vegetation is not applicable, simply because variability from one year to another can be so extreme that a climax vegetation can never be achieved, or rather, is imaginary. In these so-called "non-equilibrium environments" conditions are so variable that even average situations only exceptionally occur. The proposition of non-equilibrium environments is a rather recent variation on Prigogine's economic chaos theory. Again, most of the arguments in new range ecology stem from research in African drylands, notably the Sahel, which is also characterised by specific, very poor, soil conditions.

It will be clear that new range ecology takes a different view of sustainable rangeland exploitation by pastoralists. From this angle, the herder cannot influence the most important factor determining the quality of the range, i.e. rainfall, so there is very little for him to regulate at all. For example, fewer cattle (reducing grazing pressure) will not guarantee sufficient fodder the next year, because a dry spell may then prevent grass from growing at all. In that case the herder would have been better off if he had fully exploited all the

available biomass in the first year. In new range ecology, “opportunistic range management”, defined by the keeping of large, productive herds as long as circumstances permit and moving on and selling off as quickly as possible when circumstances dictate, is perceived as the most sustainable method of resource use. And, of course, this is precisely what pastoralists have been doing all the time. In the non-equilibrium environments of the Sahel, the productivity of the rangeland is spatially very heterogeneous and highly variable in time, so that mobility of the herds is a prerequisite.

This does not mean that pastoralists simply muddle along and manage their flocks without a plan. Numerous studies have emphasised their fabulous environmental knowledge. Rotation of pastures, weekly or monthly, have been noticed. Most pastoral groups monitor closely the state of their pastures and have scouts who visit distant pastures by foot or on horseback and who determine which pastures to go to and which to avoid or spare. Overgrazing of the range is not only prevented by trekking to new pastures in time, but also by increasing the rangeland's capacity. In the Sahel, pastoralists protect seedlings of the *Acacia albida*, a tree that carries leaves in the dry season and therefore increases the fodder capacity in a period considered to be the most restraining of the year. Old camp sites are protected, in order improve regeneration of the range, because the dung deposited stimulates plant growth, which turns these places into regeneration poles (Niamir 1990).

The “new range ecologists” admit that the natural vegetation changes as a result of pastoralist exploitation. However, they do not consider that as degradation, any more than the cultural landscape of any farming system is considered to be degradation. In fact, they maintain that nomadic and semi-nomadic pastoralism in the Sahel is the most efficient system of biomass exploitation for that region, with yields per hectare surpassing those of modern American or Australian ranches. Development programmes that have tried to improve traditional pastoralism by imitating this alien ranching model, including the rotation of enclosed

pastures, the introduction of new species of grass and improved breeds, have failed to achieve their production goals and are now considered to have contributed to degradation.
Nevertheless, neo-populists do not ignore the fact that Sahelian pastoralism is under pressure. Encroaching crop cultivation frustrates herd mobility and reduces the area of pasture. Moreover, failing government and donor interventions, wars and population growth make the situation for Sahelian pastoralists even worse. It is therefore argued that there are no standard solutions and that all development policies should start from the complexity of pastoral livelihood strategies. Incidentally, is it a coincidence that not only are human causes of desertification currently being explored, but that renewed attention is also being paid to purely climatic determinants? At least, this trend supports the neopopulist crusade of absolving pastoralists from the crime of desertification.

Land degradation and population growth

The second debate illustrating diverging views on development and environment, is the so-called “intensification debate”, which focuses on land degradation, conservation and population growth. Here, neo-exploitationists challenge a neo-Malthusian scenario of disastrous population growth by reviving Boserup's (1965) proposition about the advantageous relationship between population growth and economic development.
The neoMalthusian “narrative” is well-known. It presupposes a certain production capacity for every agroecological zone and it also emphasises that tropical ecosystems are very vulnerable. Population growth in these circumstances would soon give rise to overexploitation, especially if the population was poor. Overgrazing, unlimited forest exploitation and short rotation cycles of bush fallow would result in soil exhaustion, vegetation degradation and perhaps even in desertification and climatic change. In other

words, the vicious circle of impoverishment was seriously argued. Proof for this argument was close at hand. Almost everywhere in Sub-Saharan Africa agricultural output per capita was declining. Drought and famine were omnipresent and soil degradation was documented. Resource competition was suspected behind the violence between ethnic groups, for example, between peasants and pastoralists. At the macro-level the agricultural crisis was, and still is, apparent. For a long time, the wave of micro-studies in the 1980s and '90s – which repeatedly stressed the adaptive capacities of peasants and, increasingly, of peasant women too, and expressed growing appreciation for their local knowledge systems - were unable to develop a coherent vision to combat this neo-Malthusian scenario. At last, the debate on agricultural intensification was given a decisive impetus by the *éminences gris* of the neo-Boserupian thesis, Mary Tiffin and Michael Mortimore. The latter had already attracted attention in the 1970s with his research results from the Kano Close-Settled Zone in Hausaland, Northern Nigeria. The pair became celebrated for their "More people, less erosion" publications on the Machakos district in Kenya (cf. Tiffin, Mortimore and Gichuki 1994). The authors show photographs taken in the 1930s of seriously eroded landscapes in the then native reserve. In the 1990s population was almost sixfold and acreage per capita had been more than halved. But photographs taken at the same spots now show a prosperous countryside with terraces, trees, coffee and farmsteads. Yields per acre have expanded by a factor of 6 and value of production (in constant prices) is now 10 times as high per acre and 3 times as high per capita. The explanation for this success story starts with the forced construction of terraces in the colonial period and the introduction of ploughs by Kenyan soldiers returning from India in the Second World War. But the take-off in land conservation came after independence when forced labour disappeared, the construction of terraces was implemented by traditional working parties, and women started playing a leading role in the community, because of the migration of men to Nairobi. There is much organic fertilisation of crops - livestock that used

to be collectively herded are now held individually and in cowsheds - fodder is grown and improved dairy breeds have been introduced. Extended families have increasingly given way to nuclear families and the position of women has been improved.

The authors claim that the initiative for this metamorphosis came from the population itself which developed its livelihood on the basis of its own needs, perception, experience and knowledge, profiting from the revenues of labour migration and coffee exports. In addition, they used knowledge, training, support in soil and water conservation and new varieties provided by the government and donor agencies. The enabling role of the Kenyan government was especially acknowledged in the way that it facilitated the proper functioning of markets and land titling.

It looks at first sight as if Boserup's thesis on the positive effects of population pressure has been given new life. But it is more that that. As Grigg (1979) showed over 20 years ago in his overview of studies testing Boserup's thesis, numerous situations may occur, and indeed have occurred, in which population pressure has not resulted in agricultural development. The interesting point of the case presented by Tiffin and Mortimore, and the reason why I label it *neo*-Boserupian, is that they do not limit their explanation of successful agricultural intensification to population pressure, but also link it to the healthy working of labour migration, commercialisation and government policies. Some critics even doubt if the Machakos study has been able to prove the link between population growth and agricultural intensification at all. They argue that an ordinary coincidence may explain the success story or that the boom in coffee prices in the 1970s and 1980s on its own was sufficient to account for the agricultural investments.

For the purpose of this paper, it is less interesting to go into this controversy, than to analyse why the Machakos study was so enthusiastically welcomed. There are at least three reasons

that come to the fore in explaining its warm reception. Firstly, it provides the perfect neopopulist answer to the neo-Malthusian environmental doom scenario. Secondly, it reveals that neopopulism, by not only stressing human agency, but also acknowledging the working of some kind of social capital, i.e. working parties etc, has provided itself with a way out of postmodern individualism. Thirdly, by partly attributing the success to government policies and the operation of the market, it has succeeded in combining a neo-populist proposition with the other, even more powerful, narrative in the present development scene, i.e. "neoliberalism". Neoliberalism is the development discourse that argues for the market as an organising principle and for government policies geared to improve its functioning. Tiffin and Mortimore have succeeded in juxtaposing their study of agricultural intensification in Machakos in between these two popular discourses.

To sum up, the popularity of "neo-populist developmentalism" lies in its emphasis on adaptive strategies and their ability to enhance livelihood systems and sustainability. At the same time, it bears a certain bias towards actors and micro-analysis. I think the geography of development and environment is able to overcome these limitations of micro-analysis, by analysing how contextual factors, or structure, and the adaptive capabilities of actors interact, i.e. they are both stimulated, influenced or limited by the broader socio-cultural, economic and political structure and, at the same time, they reshape this structure through their actions. Moreover, socio-economic growth and the sustainable exploitation of natural resources can at present only be properly understood by taking account of globalisation. This task for the geography of development and the environment is discussed in the next section.

Globalisation: the end of geography or new directions for studies in development and environment?

Livelihood

Challenging received wisdom in geography thus opens new directions, although some will still feel it to be reading maps in the dark. I will try to shed light by bringing up to date the notion of livelihood as the geographical conceptualisation of man-land relations.
Livelihood is the way in which people make themselves a living using their capabilities and assets and the livelihood of groups of actors constitutes a livelihood system. In classic French geography (Claval 1974), a livelihood system or "*genre de vie*" was a integrated set of livelihood strategies of a human group in a specific region, in which the interaction between society and natural environment played a major role. Nevertheless, the environment did not determine livelihood. Social reality and force of habit were of importance, too. A "*genre de vie*" was therefore to be characterised as a whole of interaction of livelihood strategies with the natural environment, with a clear, spatial identity: the region. "In the 19th century one could write about the French regions as more or less independent units, nowadays livelihood, even in the remotest corners of the world, experiences a multitude of influences from a broader national and international economic, social and political context. Moreover, the man-natural resources perspective has broadened into an interaction with various types of resources .... , so that a livelihood system can no longer be regarded as a more or less closed regional system". "What has remained is the view that livelihood systems are a social reality which, by force of habit, experience a certain inertia, so that it is sometimes hardly possible to

reconstruct how they came into being. Livelihood strategies are rooted in this social reality." (De Haan 2000, p.18)

In order to earn a livelihood people use their capabilities and require assets and resources. To use a catchword, I shall call these "vital capital " and I distinguish in turn human capital (labour, skill, creativity), natural capital (resources like land, water, forests and pastures, and also minerals), physical capital (stocks, livestock, equipment), financial capital (money, loans) and social capital. Social capital is described by Carney (1999a) as consisting of the following core elements (1) relations of trust, reciprocity and exchange between individuals, (2) connectedness, networks and groups, including access to wider institutions and, (3) common rules, norms and sanctions mutually agreed or handed down within societies. I want to stress, in particular, the importance of access in the notion of social capital or what Portes (1995, p. 120) called "the capacity of individuals to command scarce resources by virtue of their membership in networks or broader social structures.... social capital refers to the individual's or group's ability to mobilise resources on demand".

This means that "vital capital" does not necessarily have to be privately owned. Land, ponds and forests can also be communally owned. What counts is the access to the resource when it is needed. Thus it refers to the real opportunity for women to gather firewood in the forest or for men to use water for irrigation from the village well. According to Chambers (1995), it also refers to the possibility of a wife to obtain food from her husband's granary, or the access by pastoralists to information about cattle prices or the opportunities for temporary wage labour elsewhere in the region. Blaikie et al. (1994) have further detailed the notion of an access profile in their "access model to maintain livelihood". In this model, households, and even individual household members, have a particular access profile to resources and tangible assets, which depend on their rights by tradition or by law. Livelihood strategies are selected on the basis of this access profile. Their "access model" resembles Sen's "entitlement

approach" (Sen 1981; Drèze and Sen 1989). In Sen's analysis of famines, "endowments" refer to owned assets (land, plough) and personal capacities (skill) through which an "entitlement" to food can be exercised. "Entitlement" is the way in which access to food is obtained, for example, by producing it with endowments, by selling labour or cash crops to buy food or through gifts and loans. The value of Sen's entitlement approach with respect to natural resources and environmental issues is demonstrated by IDS' "Environmental Entitlements Research Team". Leach et al. (1997, p. 9) define "environmental entitlements" as alternative sets of benefits derived from environmental goods and services, i.e. natural capital in my conceptualisation, over which people have legitimate effective command and which are instrumental in achieving livelihood. Entitlements enhance people's capabilities. Interestingly, their contribution to the conceptualisation of the relationship between social capital and natural capital is not limited to the actor-related entitlements, but extends to the institutional level of social capital, too. Notably, Leach et al. (1999) analyse the role of institutions in man-land relations. They conclude that components of the natural environment become endowments and entitlements to actors through the complex working of both formal and informal institutions. Diverse institutions thus influence the course of ecological change. Different people in the same area rely on different institutions to claim natural capital in order to earn a livelihood. In general, it is not simply one institution that explains the difference between success and failure. Often it is only the intertwining of different institutions that accounts for a successful livelihood. For example, formal or informal rights "to access trees for wood fuel may be of little use to generate income unless combined with kin-based claims on labour for wood-cutting and transport, and trading networks for effective marketing" (Leach et al. 1999, p. 240).

Sustainable livelihood

What is also noteworthy for the discussion on development and environment is the recent coupling of livelihood with sustainability in the concept of "sustainable livelihoods". Livelihood is considered to be sustainable if it meets three conditions: firstly, it should be adequate for the satisfaction of self-defined basic needs and, secondly, it should be proof against shocks and stresses. These conditions were already formulated by Chambers (1995). Thirdly, the environment has been brought into the equation. Attention is now drawn to the need to prevent the depletion of natural resources in the effort to increase prosperity. Hyden (1998, p. 8) even argues that ecosystems should be the point of departure for sustainable livelihood. Following Scoones (1998), it is sufficient to formulate as the third condition for a sustainable livelihood that it should not undermine the natural resource base. These three conditions are examined further below.

Starting with the first condition, i.e. the satisfaction of self-defined basic needs, the problems reside not so much in "basic" as in "self-defined". This involves a recognition of personal value systems that vary from one person to another and of social values that vary from one society to another. As a society's value system attaches less importance to what a person can do or does and more to what he or she possesses or consumes, consumption becomes a means of being accepted by society. Moreover, needs increase over time. UNDP (1998, pp. 59- 60) notes that social standards of consumption tend to rise faster than incomes. When Brazil, Chile, Mexico and Malaysia reached the same level of income in the 1980s as in Japan in the 1960s, car ownership was three to four times as high. What was considered a luxury 30 years ago is now a necessity.

The second condition is the capacity of livelihood to provide security against shocks and stresses. Shocks are violent and come unexpectedly; stresses are less abrupt, but can last

longer. Floods and earthquakes are well-known shocks. Drought is a high-level environmental stress; seasonality a low-level environmental stress. Of course, it is not only the environment that is a source of shocks and stresses. The economy is important, too, and so are politics. Inflation weakens competition, devaluation not only gives rise to higher prices of imported goods, but may also result in the production of more export crops. Violent political conflicts are as devastating as the worst natural hazards.

A breakthrough in the understanding of the differential impact of shocks on livelihood had already been made by Sen in the 1980s (1981; Drèze and Sen 1989). He showed that drought and subsequent crop failure result in famine only under certain conditions. For example, stocks must be insufficient; social capital must be weak, as otherwise food could be borrowed; there must be a lack of employment to earn money in order to buy food; markets must be malfunctioning, as otherwise they would attract enough food from elsewhere once scarcity triggered a price rise. The lessons learned since Sen are, (1) that shocks stemming from the social, economic and political context may be as important as shocks from the natural environment, and (2) it is only in combination with the limited access of actors to vital capital that these shocks cause famines.

An excellent expansion and elaboration of Sen's argument on the impact of environmental shocks such as floods, earthquakes and landslides, storms and biological hazards was produced by Blaikie et al. (1994). Criticising Sen's initial notion of perceiving endowments and entitlements as static and given (Blaikie et al. 1994, p. 88), they particularly examine the dynamics and multi-causality of vulnerability. The accessibility of actors to vital capital is conceptualised in the "access model for maintaining livelihood" (see above) and connected to a "pressure and release model", which analyses how disasters occur when natural hazards affect vulnerable people.

In periods of shocks and stresses, people temporarily fall back on safety mechanisms or “coping strategies”, i.e. short-term responses to secure their livelihood. Coping strategies are specific manifestations of livelihood. Foraging for wild food and hunting, the sale of jewellery or cattle, migration to wetter areas or to the city, and reliance on international disaster relief, are all temporary responses to external shocks and stresses. Depending on the severity and length of these, coping strategies fade away and normal livelihood strategies are resumed. If shocks and stresses become permanent, as when a drought is prolonged to become a long-term reduction of rainfall, then temporary coping mechanisms develop into permanent “adaptive strategies”. Adaptive strategies lead to an adapted livelihood. Subsequently, the idea of adaptation is lost and the adaptive strategy is considered to be a normal livelihood strategy

(CASL 1998, p.2). For example, for the Fulani, semi-nomadic pastoralists in the Sahel, migration to southern, wetter areas is a well-known livelihood strategy. More attention to crop cultivation in order to compensate for the loss of cattle is seen as a coping strategy. For the Fulani who stayed after the Great Sahelian Drought of the 1970s in North Benin, agriculture eventually became an adaptive strategy and agropastoralism a new livelihood. However, I think that, at present, this type of equilibrium thinking no longer offers sufficient explanation. Climatic change, the world market and global politics are almost constantly exerting shocks and stresses on livelihood. New coping and adaptive strategies will increasingly occur as responses to new shocks and stresses, even before stability in livelihood as a result of a previous adaptation has been achieved.

The third condition for sustainable livelihood relates to the exploitation of the natural resource base, i.e. to natural capital. At this point, one has to bear in mind that large donors like UNDP, DFID and the World Bank’s poverty reduction programme, have now embraced the concept of sustainable livelihood (see Ashley and Carney 1999; Carney 1999b; also

Amalric 1998). Consequently, a wide range of views on environment and development, from neo-populist to conservationist, are now represented in the discussion. It is more important to note that the environmental condition is causing a bias in "sustainable livelihood thinking" towards the locality. With the attention being paid to natural resources, locality is coming to occupy an important position, because natural resources are place-specific. Community-based natural resource management, whether in its traditional form or adapted to modern times, is repeatedly at the focus of the analysis. In fact, the perception of shocks and stresses is also dominated by a local orientation. Their origin is almost exclusively seen as extra-local and their impact runs through the five forms of vital capital for livelihood strategies. I think this notion needs to be specified and amended in two ways. Firstly, it raises the question of scale. For example, a drought is a phenomenon on a macro-regional scale, which is locally manifested in the lack of rainfall. Climatic phenomena, such as droughts, should therefore be considered as a macro-level of scale in natural capital. On the other hand, soil fertility should be regarded as belonging to the local level. The same applies to social capital. Networks, including access to wider institutions, and political parties form part of social capital. But these operate at higher levels of scale than mutual help from neighbours. Secondly, the direction is mainly from the macro to the local. In order to clarify my argument, I need to draw a parallel with the actor-structure debate at this point. "Agency" is the capacity of people to integrate experiences into their livelihood strategies, to realise ambitions and to solve problems. Human agency reshapes social conditions, because it is embodied in the individual, but embedded in social relations through which it becomes effective (cf. Bourdieu 1977 and 1990; Giddens 1984; Long 1989 and 1992). Individual choices and decisions are embedded in values and norms and institutional structures. Structures determine human actions and actions change structures. Thus, agency enables livelihood to adapt and to develop in the long run. In the same vein, the macro-local relation does not follow a single

direction of impacts from the macro to the local, but should be perceived as a mutual interaction, permitting agency to operate also from the local to the macro.

Globalisation

This brings me to the last part of my argument, which is how the question of development and environment in geography should be understood in the era of globalisation. For some authors it is quite simple. They have announced the end of geography (Hettne 1997, p.90) and, with that, the irrelevance of the question, because globalisation will diminish the sense of geographical distance and cause the disappearance of borders and spatial boundaries, and therefore of territoriality as an organising principle of social and cultural life (cf. Waters 1995 quoted in Dibaja 1997, p.110). But what exactly is globalisation? At first sight, there appears to be nothing new. What has alternatively been called "imperialism as the latest phase of capitalism", "world system", "integration into the world market" or "interdependence" all refers to an ongoing process of internalisation. Nevertheless, Conti and Giaccaria (1998, p.18) explain that the physical overcoming of geographical boundaries is still apparent in the notion of internationalisation, while the notion of globalisation refers to the globe as a whole place. Thus, if there is something new going on, a qualitatively different phase in the process of internationalisation, then a specific label is justified. Schuurman (1997, p.152) discerns two different interpretations of globalisation as a new phenomenon. The first takes globalisation to mean increased homogenisation and interdependence in cultural, social and economic spheres all over the world. For some authors, the driving forces are mainly socio-political and for others primarily economic, i.e. originating from production and markets. The second interpretation discerns a dialectical relationship between the global and the local, and is therefore sometimes called the "glocalisation" view (Robertson 1995). The latter recognises a

paired trend: increased integration and homogenisation of markets and politics together with increased diversity and the growing importance of regionalism and community. De Ruijter (1997, pp. 381-382) strikingly outlines this paired trend. He points, on the one hand, to technological innovations in the fields of automation, telecommunications and transport, resulting in a massive exchange of people, goods, services and ideas. Not only have markets become global, but social relations and interactions increasingly span the globe, too. Tourism, media, transnational marketing etc. contribute to cultural homogenisation and standardised life styles, sometimes called “macdonaldisation”. Developments of any kind which originally appear in one part of the world, are echoed in other parts. He notes that this is no longer considered to be a “process”, but increasingly a “property” of the global system, meaning that developments in one part can only be understood within the framework of the world as a whole. “A worldwide web of interdependencies has been spun” (De Ruijter 1997, p. 382). However, on the other hand, he points to growing fragmentation and cultural diversity, which are seen as a corollary to globalisation. This refers to the reinforcement or even reinvention of traditions and local identities as an answer to the fear of loss of identity through homogenisation. It also bears witness to divergence, shrinking social cohesion and chaos.

Localisation, however, should not be limited to social and cultural domains. In his essay on the Japanese automobile industry, Miyakawa (1998) has shown that localisation proved to be indispensable for enabling that industry to outclass global competition. In his opinion, localisation took the form of high-tech investments in already existing production areas of the Tokaido Megalopolis; through its connection with improvement (kaizan) movements; through the economies of agglomeration between automobile producers and subcontractors; and through the involvement of venture capital business in housing for workers. This did not result in just another example of agglomeration effects, but in a distinct production environment. Foreign automobile companies had no option but to establish

subsidiaries there, too. And there are more examples: one need only think of the distinctive position the famous Silicon Valley occupies in the world of information technology. Another localisation trend in the economic domain is mentioned by Schuurman (1997, p. 152) quoting Naisbitt (1994), who sees transnational companies deconstructing themselves into autonomous units, resulting in corporations which are a collection of local businesses with intense global coordination.

In the political sphere, globalisation is often thought to result in the decline of the state. The restructuring of the welfare state accompanied by privatisation and deregulation have rolled back the activities of the state. Regional identities have emerged in Catalonia and Flanders and ethnicity is creating new substates in federal Nigeria and in the Balkans.

Thus, globalisation dramatically changes the subjective sense of distance, which is well reflected in the Global Village notion. But that is not the same as the disappearance of territoriality as an organising principle for social life. Globalisation will have different consequences in different places and consequently trigger new efforts of assortment and distinction by spatial differentiation (Van der Wusten 1998, p. 1). I think that Conti and Giaccaria (1998, p. 18) succeed best in sketching the outlines of these new assortments when they observe that globalisation influences the perception of scales in the making of different actors' strategies in the sense that the perception of differences between places becomes fuzzier. They argue that the meaning of “local” in glocalisation “is not dissimilar to that of region, when understood as a theoretical construct and not simply as an entity outlined by physical or political-administrative confines … In brief, a local system is not simply part of the global system, but it is a whole in itself, endowed with its own identity … It is composed of actors who are aware of this identity and are capable of autonomous collective behaviour. Levels of analysis of global and local cannot be separable, nor can they be put in a hierarchy” (Conti and Giaccaria 1998, p.20).

To put the argument in a nutshell: globalisation gives rise to new entities, but with less hierarchy and fuzzier boundaries. This means that, as far as development and the environment are concerned, Brookfield's (1992) approach of sustainability as a "nested hierarchy" of levels of scale is decreasingly in accord with reality. In discussing the sustainability of agricultural production, this author argued that the soil of a field can be exploited sustainably only when it fits into the sustainable exploitation of the farm as a whole, because fallow and rotation can be micro-economically organised only at the farm level. Next, sustainable exploitation at the farm level should fit into that of the agroecological zone or river basin. Take, for example, soil and water conservation measures such as terracing or irrigation, which can yield sustainable effects only if organised at an extra-farm level of scale. Beyond that, still staying with Brookfield, environmental policy should be organised at the regional level and macro-economic sustainability at the state level. But, in the era of globalisation, the "nested hierarchy" approach is problematic. I have shown elsewhere (De Haan, 2000) that actors' livelihoods are becoming increasingly multi-local, so that locations of livelihood are increasingly no longer connected to each other vertically by lines that converge at upper hierarchical levels. Instead, they are increasingly connected horizontally by direct lines which incidentally are also becoming increasingly longer. The result is constantly shifting regions, each with its own specificity of nature, pace and direction of economic, social and cultural change, spatial arrangements and land use (De Bruijne et al 1999, p. 42). To return to the Machakos case, some authors have argued that it is not representative of Africa. Because of its nearness to the market of Nairobi, its bimodal rainfall regime and the availability of uncultivated land, the region is better endowed than other parts of Africa. However, Machakos is representative from the globalisation-localisation perspective or, rather, "exemplary". Its people's sustainable livelihood has resulted from a specific formation:

population pressure; local knowledge enriched with experiences from India; profitable world coffee markets; multi-locality in livelihood strategies, thanks to migration; social capital of self-help groups; and an enabling state. The example of Machakos shows that sustainable livelihood and the supportable exploitation of natural resources can be properly understood only by introducing globalisation into the equation.

Conclusions

The question of development and environment tends to be viewed optimistically at present in geography. Our review of standpoints to this question has revealed that this is mainly due to the influence of neopopulist developmentalism, which has succeeded with a number of well-documented studies - though mainly limited to Africa - in counterbalancing preservationist-inspired doom scenarios. Although its overall value still has to be ascertained, I conclude that neopopulist developmentalism potentially contributes in two advantageous ways to a geographical conceptualisation of the tension between development and environment.

Firstly, the notion of sustainable livelihood may breathe new life into the geographical discussion on livelihood, provided that it does not become entangled in an actor-cum-local bias as neopopulism tends to. The reader will note that I have somewhat neglected the influence of neoliberalism of organisations like the World Bank on sustainable livelihood thinking. Nevertheless, if studies on livelihood, coping and adaptation scrupulously explore actor-context interactions, they will come closer to reality.

Secondly, the diffusion of non-equilibrium thinking, as in new range ecology, has a healthy effect on geographical conceptualisation. It not only provides more instruments for analysing man-land relations and thus the question of development and environment, but it also opens the way to

an unprejudiced analysis of globalisation and its effects. Globalisation induces new sets of geographical entities, but with less hierarchy and fuzzier boundaries. Continuously adapting livelihoods shape constantly shifting regions with specific man-land arrangements. There is an urgent need for a neo-idiographic approach in this era of globalisation.

References

Amalric, F. (1998), The Sustainable Livelihoods Approach. General Report of the Sustainable Livelihoods Project 1995-1997. Society for International development. Rome, SID.

Ashley. C. and Carney, D.(1999), Sustainable Livelihoods: Lessons from early experience. London, DFID.

Behnke, R., I. Scoones and C. Kerven (1993), Range Ecology at Disequilibrium. New Models of Natural Variability and Pastoral Adaptation in African Savannas. London, ODI/IIED.

Blaikie, P. (1995), Changing Environments or Changing Views? A Political Ecology for developing Countries. In: Geography, 80,3, pp.203-214.

Blaikie, P. (1998), Paradigms for environment and development In: L. De Haan and P. Blaikie eds, pp.9-40.

Blaikie, P. and L. De Haan (1998), Reading Maps in the Dark. Route Planning for Development Geography in a Post-ist World. In: L. De Haan and P. Blaikie eds, pp.148-164.

Blaikie, P., T. Cannon, I. Davis, B. Wisner (1994), At Risk. Natural hazards, people's vulnerability and disasters. London, Routledge.

Boserup, E. (1965), The Conditions of Agricultural Growth: The Economics of Agrarian Change under Population Pressure. Chicago, Aldine.

Bourdieu, P. (1977), Outline of a Theory of Practice. Cambridge Studies in Social Anthropology. Cambridge, Cambridge University Press.

Brookfield, H. (1992), Environmental Sustainability with Development: What Prospects for a Research Agenda. In: European Journal of Development Research 3, 1, pp.42-67.

Carney, D.(1999a), Social Capital. Key Sheets for Sustainable Livelihoods. Policy Planning and Implementation. London, DFID/ODI.

Carney, D. (1999b), Approaches to Sustainable Livelihoods for the Rural Poor. Poverty Briefings 2. London, ODI.

CASL (1998), Adaptive Strategies. Community Adaptation and Sustainable Livelihoods. (http://iisd1.iisd.ca/intro+defs/Def-AdaptiveStrategies.htm)

Chambers, R. (1995), Poverty and Livelihoods: Whose Reality Counts? University of Sussex, Institute of Development Studies. Brighton, IDS.

Claval, P. (1974), Essai sur l'Evolution de la Géographie Humaine. Paris, Les Belles Lettres.

Conti, S. and P. Giaccaria (1998), Globalization and Geography. In: GeoJournal, 45, 1-2, pp.17-25.

De Bruijne, A., T. Dietz and H. Verrest (1999), Is SGO “milleniumproof”? Deel II. In: Geografie, 8, 5, pp.38-43.

De Haan, L., and P. Blaikie eds (1998), Looking at Maps in the Dark. Directions for Geographical Research in Land Management and Sustainable Development in Rural and Urban Environments of the Third World. Netherlands Geographical Studies 240. Utrecht/Amsterdam, KNAG/AGIDS.

De Haan, L. (2000), Livelihood, Locality and Globalisation. Nijmegen, Nijmegen University Press.

De Ruijter, A. (1997), The era of glocalisation In: T. Van Naerssen, M. Rutten and A. Zoomers eds, pp.381-388.

Dibaja, Z. (1997), Globalisation: The Last Sky. In: C. Kay ed, pp.107-127.

Drèze, J. and A. Sen (1989), Hunger and Public Action. Oxford, Clarendon Press.

Giddens, A. (1984), The Constitution of Society. An outline of the theory of structuration. Cambridge, Polity Press.

Grigg, D.(1979), Ester Boserup's Theory of Agrarian Change: A Critical Review. Progress in Human Geography 3, 1, pp.64-84.

Hettne, B. (1997), Development, Security and World Order: A Regionalist Approach. In: C. Kay ed, pp.81-106.

Hyden, G. (1998), Governance and Sustainable Livelihoods: Challenges and Opportunities. Paper for the Workshop on Sustainable Livelihoods and Sustainable Development. Gainesville, UNDP/University of Florida.

Kay, C. ed (1997), Globalisation, Competitiveness and Human Security. London, Frank Cass.

Leach, M. and R. Mearns eds. (1996), The Lie of the Land. Challenging received wisdom on the African environment. London, James Currey.

Leach, M., R. Mearns and I. Scoones (1997), Challenges to Community-Based Sustainable Development. Dynamics, Entitlements, Institutions. In: IDS Bulletin, 28, 4, pp.4-14.

Leach, M., R. Mearns and I. Scoones (1999), Environmental Entitlements: Dynamics and Institutions in Community-based Natural Resource Management. In: World Development, 27, 2, pp.225-247.

Long , A. and N. Long eds (1992), Battlefields of Knowledge. The Interlocking of Theory and Practice in Social Research and Development. London, Routledge.

Long N. (1992), From Paradigm Lost to Paradigm Regained?. In: A. Long and N. Long eds, pp.16-43.

Long, N. (1989), Encounters at the Interface. A Perspective on Social Discontinuities in Rural Development. Wageningen Studies in Sociology 27. Wageningen, LU.

Miyakawa, Y.(1998), Globalization and localization of the orbit in geography. In: GeoJournal, 45, 1-2, pp.115-122.

Naisbitt, J. (1994), Global Paradox. New York, Avon Books.

Niamir, M. (1990), Herders' decision-making in natural resources management in arid and semi-arid Africa. Community Forestry Note no. 4. Rome, FAO.

Portes A. (1995), The Economic Sociology of Immigration: Essays on Networks, Ethnicity and Entrepeneurship. New York, Sage.

Robertson R.(1995), Glocalisation: time-space and homogeneity-heterogeneity. In: M. Featherstone, S. Lash and R. Robertson eds, Global Modernities. London, Sage, pp.25-44.

Schuurman, F. (1997), The Decentralisation Discourse: Post-Fordist Paradigm or Neo-Liberal Cul-de-Sac. In: C. Kay ed, pp.150-166.

Scoones, I. (1994), Living with Uncertainty. New directions in pastoral development in Africa. Intermediate Technology Publications. London, International Institute for Environment and Development.

Scoones, I., (1998), Sustainable Rural Livelihoods: A Framework for Analysis. Working Paper Institute of Development Studies. Brighton, IDS.

Sen, A., (1981), Poverty and Famines. An essay on entitlement and deprivation. Oxford, Oxford University Press.

Tiffin, M., M. Mortimore and F. Gichuki, (1994), More People, Less Erosion. Environmental Recovery in Kenya. Chichester, Wiley.

Turner, R. (1988), Sustainable Environmental Management. London, Bellhaven Press and Boulder.

UNDP (1998), Human Development Report. New York, Oxford University Press.

Van Naerssen, T, M. Rutten and A. Zoomers eds (1997), The Diversity of development. Essays in Honour of Jan Kleinpenning. Assen, Van Gorcum.

Van der Wusten (1998), Globalization and Geography. Editorial. In: GeoJournal, 45, 1-2, pp.1-3.

Waters, M. (1995), Globalisation. London, Routledge.