

Batterbury, S.P.J. 1996. The Sahel of West Africa: a place for Geographers? *Geography*, 81(4):391-395.

reprinted with minor changes

Batterbury, S.P.J. 2007. The Sahel: a place for geographers? In Moseley, W.G., D. Lanegan and K. Pandit. (eds.). *The Introductory Reader in Human Geography: contemporary debates and classic writings*. Malden, MA: Blackwell Press. Pp 331-335.

10. The Sahel of West Africa

A Place for Geographers?

GEOGRAPHY
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WORLD

THE TERM 'SAHEL' is derived from the Arabic word for 'edge' or border, and describes a transitional zone forming the southern border of the Sahara desert. The West African Sahel runs for at least 4500km from Senegal through Mauritania, Mali, Burkina Faso, Niger and Chad, and blends into the slightly less arid Sudano-Sahel belt to its southern edge (Fig. 1). Semi-arid West Africa is a fast-changing and diverse region, containing a vast range of environments, ethnic groups, and landscapes. It was once home to powerful empires which profited from trans-Saharan trade, but with the arrival of the European colonial powers it became increasingly marginalised from world political and economic affairs. Problems of land degradation, water and food shortage cause frequent hardship and disruption for the indigenous farmers and herders. Today, droughts are frequent and many individuals lack secure access to the grazing and farming land they need. Non-agricultural income is scarce, and often requires Sahelian peoples to migrate southwards in large numbers in search of paid work or trade. These and other aspects of rural poverty are compounded by political and economic crises. Over the last few decades the Sahelian environment has been 'transformed' by social and environmental change, and its people have been forced to abandon longstanding ways of life.

The geographer's role

How can Western-trained geographers and social scientists find a useful role in the vast Sahel region of West Africa, given its diversity and its problems? First, linking with our African colleagues is one important task, in order to share information and resources, and to learn (Batterbury, 1996). Some of the key themes studied by geographers today include the ways in which economic, social and environmental change, influence people's access to basic resources such as adequate land or animal herds, and the ways in which livelihood systems change with the region's high population growth,

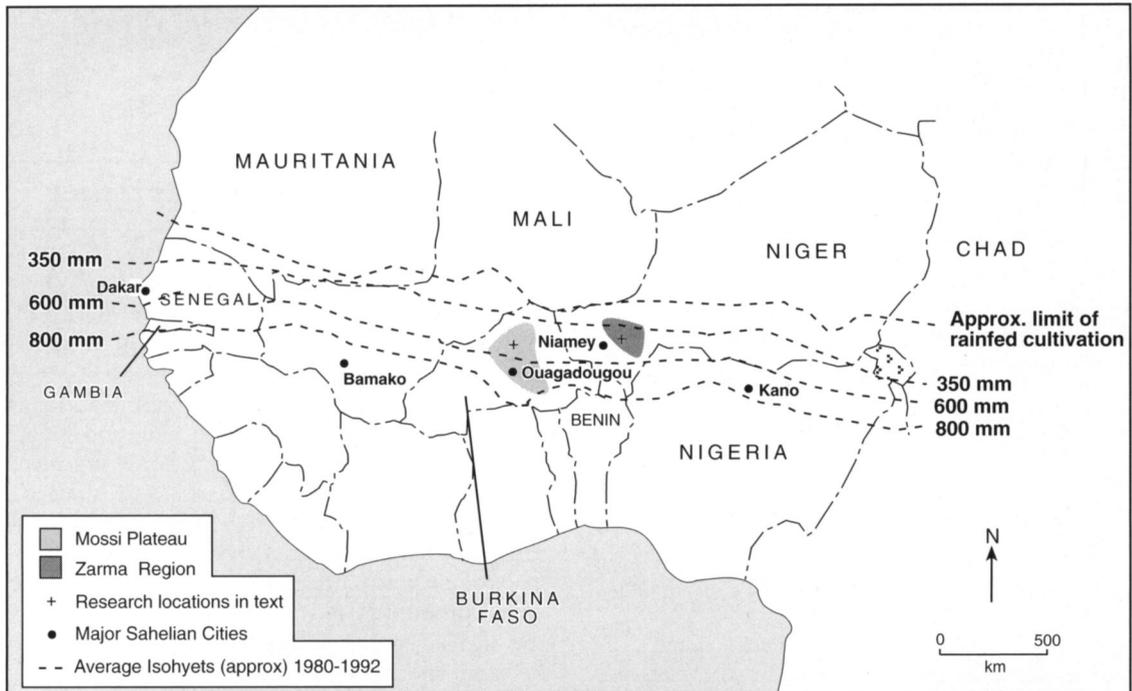


Fig. 1. The West African Sahel, showing places mentioned in the text. The definition of the Sahel is disputed, and is best defined by its ecology and vegetation. Sahelian conditions are found where annual rainfall is between 100mm to 800mm, although above 500-600mm per year, the term Sudano-Sahel is often applied.

land pressures, new technologies, and high rates of migration. Evidence collected in recent years has shown how people cope with risk and overcome natural and human-induced hazards. These responses to environmental phenomena and to economic hardship are very diverse. For example, a poor harvest in late 1995 in one village in southwest Niger (Fig. 1) resulted in a wide range of responses from the indigenous Zarma people over subsequent months. By the dry season in early 1996, most young men had migrated to seek paid work as petty traders in Ivory Coast, and they only returned to the village some months later to cultivate their land with their families. Other men exploited differentials in the price of cattle at local markets to buy healthy young cows and to profit from their sale close to Islamic festivals. A fortunate few sold their skills as Islamic wise men, promising good fortune to their clients. Still others went to seek work in local gold mines, worked on the fields of richer farmers or took on paid work such as feeding and watering animals. Women, not permitted by custom to sell produce at village markets and more constrained in their choices, traded from their huts in grain, wood, mats, sauce ingredients and 'fast foods', such as bean-cakes. Several took on the rearing of sheep and goats. Others found excuses to go to visit their parents in the city, where better conditions could be found

for their children. These are positive efforts by people to 'diversify' their sources of income and food in bad years, and to increase their options in times of hardship. Niger, a poor francophone nation, is currently going through major political changes and economic restructuring, and the government has very few funds to support its rural communities at present.

We should remember that the types of adaptation observable in Zarma villages are not always enough to ensure a good quality of life or even survival. The same village has suffered four major famines this century, caused by drought, locusts and colonial mis-management. Under such conditions, it is hard for farmers to invest the time and capital needed to improve their agricultural systems, and in recent years wind and water erosion have stripped loose topsoil from some farmers' fields, and deposited sediment elsewhere, burying and killing the millet crop. Despite having a low population density, 62 per cent of the village lands were farmed or fallow in 1992. Crop yields vary widely, according to soil quality, moisture availability and localised damage from grazing animals and pests.

Secondly, development problems and issues of equity and justice are too pressing to ignore. An 'applied' geography of Sahelian environments should examine issues such as the 'environmental

management' of land degradation, focusing on problem-solving and development initiatives and helping to translate local needs and knowledge into appropriate development strategies. We should provide opportunities for people to describe and explain their history and land use patterns, for example, by offering them air photos of their lands and creating local maps (Fig. 2). Geographers with practical skills can also offer advice to farmers on land rehabilitation and soil and water conservation, monitor its effectiveness, and publicise indigenous methods developed by farmers themselves (Batterbury, 1996; Critchley *et al.*, 1994).

Locally based efforts to nurture and protect the resource base are a feature of many development initiatives in the Sahel today. There are literally thousands of farmer co-operatives, small scale NGO projects, internationally funded development projects and programmes involved in environmental rehabilitation, soil and water conservation, rural health, and other forms of support to rural people. All have a profound influence on rural livelihoods, but not all are

beneficial. Geographers and other social scientists are urgently needed to monitor the successful and failed impacts of development projects and co-operative ventures on access to resources, social differentiation, and environmental quality. What do farmers learn from projects, and is their knowledge broadened and altered by contact with them (Atampugre, 1993)? Practical research can permit local people to take over the management of running their *own* development initiatives, since we know that development rarely succeeds where it is imposed or where it ignores complex social and ecological realities (Ndione *et al.*, 1995). Work is needed within environmental programmes to help to monitor the impacts of soil and water conservation and watershed management on access to resources, livelihoods, and local ecology.

A classic case for better monitoring of the environmental impacts of development policy is the Central Plateau of Burkina Faso, occupied by the Mossi people (Fig. 1). The Plateau, which straddles the Sahel and Sudano-Sahel zones, is a 'laboratory' for some of the most innovative techniques in soil and water conservation and

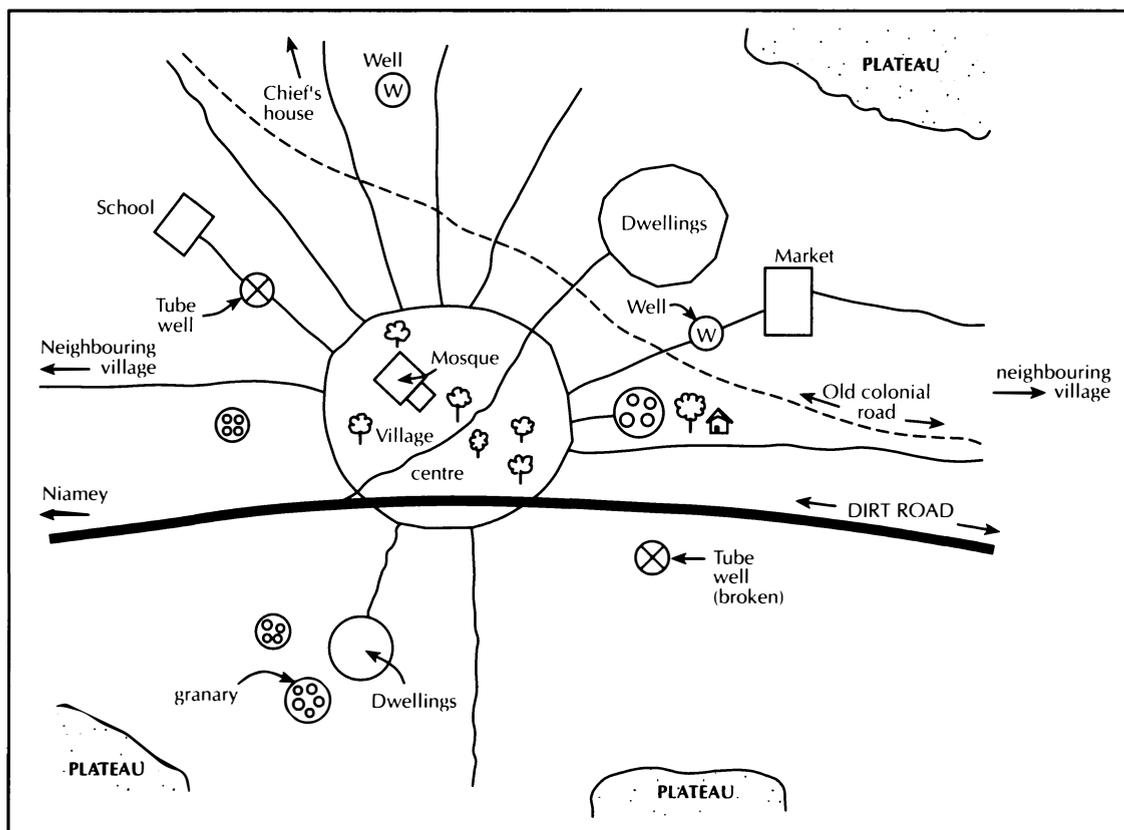


Fig. 2. The lands of a Zarma village in southwest Niger. This was originally drawn in the sand by a group of women farmers to highlight places, paths and important features. Maps like these are used as discussion points for resource management activities, to highlight differences in perception between class, gender, age or ethnic group, and as a basis to explore conflicts and disputes over land and resources. Source: Batterbury *et al.*, 1996.



Fig. 3. Stone line construction by Mossi farmers in Bam, Burkina Faso.
Photo: Simon Batterbury.

agroforestry in dryland Africa (Critchley *et al.*, 1994; Harrison, 1987). Farmers are suffering poor crop yields and pasture quality, but have proved particularly keen to embrace new ideas and methods to conserve soil and water. Some of these ideas have come from European volunteers and farmers experimenting together, and are transforming the landscape around hundreds of villages. Contour stone lines built by farmers and consisting of lines of stones and rocks placed across the land contour, are cheap and popular erosion control methods and are much publicised by development projects (Fig. 3). These are built to slow the erosive overland flow from summer rains and to encourage the deposition of sediment and nutrients up-slope, thus benefiting crops and trees.

Many projects are helping farmers to build their own stone lines. Successful examples include Oxfam's *Projet Agroforestier* in Yatenga, and PATECORE, a bilateral initiative between German Technical Co-operation (GTZ) and the Burkina Ministry of Agriculture in Bam. Both projects have hosted geographers (including the author) and other researchers, who have found project staff and local people to be highly competent at environmental rehabilitation. The Mossi are slowly being given more power in the conservation process, but these and other projects have been slower to involve women and Peul herders in their activities, and are having difficulties turning over

conservation works entirely to village institutions (Atampugre, 1993). So although stone lines and other conservation works are now highly visible features of the contemporary rural landscape, if these techniques are to be refined and extended by village groups and volunteers, more applied research and collaboration with farmers is required.

Conclusion

The difficulties experienced by many projects are not only a function of the scale of the problem and the harshness of the Sahelian environment, but also arise from the competing viewpoints and objectives of those involved. Environmental issues in developing countries are perceived differently by diverse 'actors' and it is often a failure to communicate and understand each other that leads to a 'messy' policy 'environment', the misapplication of technology or knowledge, and the potential failure of projects (Blaikie, 1995). In the Sahel, we urgently need to study the important changes which development projects are setting in motion, as well as how these projects 'think' about the people and environments they are working with. Geographers are well placed to assist in this through the range of critical skills they gain in their

training, especially where this involves study of 'nature-society' or 'people-environment' interactions, and long-term fieldwork (Binns, 1995). So as well as working with farmers and assessing long-term trends, we should also work with those in positions of influence and power to *improve their interventions* and to help ensure positive benefits to rural people and their livelihood systems, and to help translate the wishes of rural dwellers into 'project language' (Ndione *et al.*, 1995).

This is a vital aspect of geography, and of rural development, which should not be overlooked. An applied geography of environmental management must aid, assist and participate in this process, to ensure that the voices of those unable to shout loudly are heard, and to ensure communal and progressive environmental action is maintained. For, as many geographers are discovering, the Sahel is a special place indeed:

And what a stranger feels in the Sahel, more strongly than most other places on earth, is the power of the unspoken, the impalpable. Between the lines, therefore, you must read many long silences, a lot of human warmth and laughter, a reverence for all the spirits that have been part of the world since time immemorial – and imagine above it all, from one flat horizon to the other, the great unbroken canopy of sky (Sharp, 1990, p. 3).

We need to challenge the thinking and actions of everybody involved in the Sahel's future, and must not overlook clashes, conflicts and failures which are often starting points for more effective action. Assisting rural people's own efforts at environmental management and problem-solving is one place where geographers can find a role in the Sahel.

Acknowledgements I am grateful to the Africa Program of the SSRC (New York, USA) and the Global Environmental Change Programme of the ESRC for supporting fieldwork in Africa, and to Tony Binns for his comments.

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