

Introduction

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How will rural societies in Africa adapt to the climate risks and uncertainties to come? Although there is still considerable uncertainty with regard to the scale of future climate changes in Africa, it is clear that they will come and that societies will have to face them—some exposed to rises in temperature, others to changes in the rainfall pattern, more arid soils, etc. Analysis of farmers' practices shows that they have great capacity for adaptation and innovate continuously to address variability in climate and environmental resources and also in reaction to economic, political and population changes. Rural African societies are dynamic. Whether focused on crops or pastoral activities, whether located on the coast, in the Sahel or in forest, their socioeconomic organisation and farming systems change and adapt continuously (BOURGEOT, 1994; CARPENTIER and GANA, 2013; RABEARIMANANA *et al.*, 1994). This generally enables these societies to remain on their land in spite of the environmental risks and uncertainties.

Faced with the unprecedented climate changes announced by the works of the IPCC, politicians, civil societies and scientists are wondering about the capacity of rural societies to respond to future changes to the environment (loss of soil fertility, changes in rainfall regimes, etc.) or even to anticipate them (Inter-réseaux, 2010; ADB, 2012). The 'Escape' programme is part of this approach. Social science researchers in the programme are addressing social dynamics interacting with environmental dynamics. This means meeting a 'methodological challenge' to describe the dynamics that operate at these very different spatial and temporal scales. How can local changes (at the level of a village, a household, a farm, etc.) be observed in relation to global changes (at the scale of a continent or the world)?

Is it possible to separate the ‘environmental impact’ from all the other components (economic, cultural) of the context in the changes observed in rural societies?

For the best possible analysis of the interactions – more than the relations – between rural populations in Africa and their environment, the Escape programme has favoured an interdisciplinary approach, applicable to social sciences too. Joint work by demographers, anthropologists, sociologists, geographers and historians allows reflection incorporating the various scales of time and space while hinging different observations units: farm, field, village, family or even individual persons. Interdisciplinarity also makes it possible to show that the relation between environmental and social changes is neither ‘mechanical’ nor ‘automatic’ and that an interface or mediation is required—between production modes and consumption modes for example (SGHAÏER and PICOUËT, 2004; VÉRON, 2013).

It is thus reminded in Chapter 11 that rural societies in Africa have always shown proof of great capacity for adaptation to environmental changes by modifying their farming practices. Comparison of the situations in Niakhar (Senegal) and Djougou (Benin) shows in Chapter 12 that farming systems are not unchanging and farmers now use ‘hybrid’ systems that are between extensive and intensive. These innovations in farming systems can be seen as a response to environmental changes and also to economic and/or social changes, such as a need for cash related to new modes of consumption (motorcycles, telephones, improved dwellings). This seamless agrarian transition is based on farmers’ know-how and uses rural societies’ endogenous capacity for adaptation.

The responses of individuals and families to changes in the environment can take many forms and not be limited to farming. Escape programme scientists have laid stress on the complexity of societies and the variability of responses to changes, thus refuting a direct link of cause and effect between climate variation, the increasing scarcity of natural resources or a decrease in soil fertility, for example, and socio-demographic behaviour.

Migration is a good example: migrants do not move because of the constraint of a single factor (climate change or shock, for example) but because of a complex set of factors (economic, social, demographic, etc.). This is illustrated perfectly for Mali and Benin in Chapter 13, for Senegal in Chapter 14 and for Niger in Chapter 15. It is true that environmental changes can intensify migratory movements or change a few features (such as the calendar and the duration), but rural people leave their villages for many reasons: a desire for independence among young people, men and women and/or seeking a job to earn cash (for a dowry, to fund a farming project, a child’s education, etc.) and/or a strategy of diversification of household incomes, etc. In return, migrants are vectors in the changing of rural societies through knowledge gained during migration, farming or non-farming investments made possible by earnings during migration, etc. The mobility of rural people is not a failure to adapt to climate changes but clearly one component of adaptation among others. Furthermore, migration does not always mean leaving farming.

The importance of the play of scales is very well illustrated in these chapters. The results of the Escape programme confirm the need to reposition the questions related

to climate or environmental changes—whose issues are often at the macro scale—in time, space and local contexts. For example, a look at nearly two centuries of evolution of Tuareg society in Imanan in Niger is provided in Chapter 16. The authors thus examine changes in arable and livestock farming through the history of colonisation and political struggles, but without ignoring the role of climate shocks and changes and especially the droughts of the 1970s and 1980s.

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