



Local peoples' visions and incentives for sustainable development in the Sahel

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LaSyRe-Sahel

A region wide assessment of land system resilience and climate robustness in the agricultural frontline of Sahel
- *the triple exposure of local livelihood strategies and food provision to climate change, population pressure and globalization*

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Local peoples' visions and incentives for sustainable development in the Sahel

- Recommendations and support for sustainable development have been overwhelmingly dominated by issues related to improving the performance of agriculture and pastoral productivity
- Technology driven improvements are often praised by local people, yet only when considered as 'free or almost free' interventions
- The possible mismatch between regional development policies and local peoples' visions often fails to be appropriately acknowledged - agriculture is an important part of the culture, but less and less important in the local livelihood portfolio
- Lack of attention to the complex and dynamic livelihood and the persistence of the cultural importance of the peasant identity will have important implications for a possible positive outcome of development interventions – and may even hamper desirable changes of the livelihood beyond the current agricultural or pastoral portfolio

The following pages will illustrate the issues listed above – with examples from the Sahel region

Photos below: Pediplain landscape in Oudalan (left) and the goldmine in Essakan (right)



Projects as a livelihood portfolio component

Some villages, e.g. Biidi-2 in Oudalan, have developed an impressive capacity to identify and use the wide range of project support options that are offered for various purposes. The aims of the projects vary, such as dune fixation, anti-erosion measures, gardening in the oases, assistance with research project, and many other issues.

It is interesting to note that the people in the village fully realize their target: they look for income. The actual aim of the intervention, such as preventing degradation or enhancing resilience to climate variations, matters less. What is of interest is the income that can be derived from project involvement. The project-work 'salaries' enable people to buy food and other daily needs to fill the increasing gap between the requirement of an increasing population and the limited agricultural potential. For this reason, people can stay in the village – without sustaining their livelihood from agriculture. They still consider themselves as peasants, but cultivation has increasingly been less important as a breadwinner; yet, farming as a cultural identity remains important.

Fig 1, exemplifies a project addressing the erosion problems. Sacks filled with sand were used to halt the gully formation. It is thought provoking that the local interest in continuing this activity disappeared immediately after the project funding expired – despite the fact that the positive impact was appreciated. The main incentive was the salary, not the long term preservation of the local natural resources.

Figure 2. Small scale gold mining



Figure 1. Anti erosion measure in Biidi-2

Gold mining – new livelihood perspectives

Gold mining has accelerated in the Sahel in recent years. It has developed from artisanal mining activities to large scale mines run by foreign investors. It has meant new income opportunities to local people – first mainly from gold digging, later from various employments with the mine. It has contributed to a significant decoupling of food provision from agricultural activities.

Around Belgou, close to the Essakan, gold was discovered in the late 1980s. The presence of these gold deposits led to widespread engagement in artisanal gold mining and attracted people from other villages in Burkina Faso. In the beginning they settled in Belgou each year during the dry season to pursue artisanal gold mining, but after a while the settlement became more permanent implying a substantial population growth in Belgou. Moreover, the discovery of the Essakan deposit in 1985 and the later opening of the Essakan gold mine 8 km from Belgou made the village a convenient place to settle. As villagers engage in gold digging during the whole year, it may lead to labour shortage during the cultivation season. This is, however, not a main concern among villagers as gold constitute a reserve of wealth which can be used to purchase millet.

Tractors for intensification



Figure 3. Greening created by deep plowing

Recent years have brought tractors to the Sahel. Project interventions support deep plowing of the pediplains. It results in visible improvements of the biomass production, and is for this reason appreciated by the local people. Yet, the issue of necessary investment is an important constraint. The improvement in outcome can hardly balance to needed investment in economic terms. Hence, the strategy will need a continued external support to be viable.

Tractors have also emerged as an accessible technology at the farm level management of fields in Oudalan. It is possible for the farmers to buy services to prepare the fields. However, it has only been adopted by a very limited number of people – for most farmers it was considered far too expensive compared to the possible gains in terms of higher yields or spared hard work.

Hence, technology may provide visible results, but not outcomes that can fulfill a cost benefit assessment of a sustainable land use system.

Improving or exhausting water resources

The cuvettes (oases) are an important feature in the SE-Niger landscape. They are used in three main ways: for agriculture, for grazing or for a mix of the two. In addition, they are important for agroforestry products (doom palms and dates in particular), and for salt and natron excavation.

Contemporary development visions for improving the local livelihoods consider cuvettes to have a significant potential for irrigated agriculture (African Development Fund (2003)). But there are reasons to ask if the strategy will be sustainable in a longer perspective, not least because farmers seem to agree (and worry about) that the water table in the wells is continuously declining, even in years of abundant rainfall.

Under pressure from climate changes, increasing population pressure and poverty local people have managed to cope by gradually modifying their agricultural strategies, recently assisted by the introduction of small motor pumps. The contemporary emphasis of irrigation agriculture in the cuvettes seems promising in a short perspective, but fails short in taking the possible long term implication of the water use strategies into account. If the perceived (over-)usage of the ground water corresponds to the hydrological realities, the use of motor pumps will only provide a short window of opportunity, and in fact it may accelerate the exhaustion of the water resources.



Figure 4. Irrigation from local wells in Niger

Migration – income rather than exodus

Circular migration is an inherent part of the traditional livelihood in the Sahelian region. Destinations and type of work may have changed over the decades, but the predominant feature is still that the majority of migrants come back for the agricultural season.

For example, a large proportion of the men from Yomboli in Northern Burkina Faso departs on migration after the crop harvest in November to work as security guards or to engage in small commerce. Abidjan, Côte d'Ivoire, surpassed Ghana and Saudi Arabia as the major migration destination in the 1970s and has remained so ever since, despite unrest in Côte d'Ivoire since 2002.

Out-migration to Abidjan is not a response to scarce land resources as often suggested in the literature. On the contrary, villagers report an abundance of land. Decisions on whether to migrate, when to leave and when to go back are clearly underpinned by considerations on the economic feasibility of the labour. Moreover, villagers' labour investments in cultivation during the rainy season are closely linked to thoughts on migration. If the rain is insufficient during the rainy season, villagers may e.g. choose to cultivate less hard and thereby be able to 'build up energy' for the approaching off-farm

Figure 5. People from Yomboli, Oudalan.



About LaSyRe

LaSyRe (Land Systems Resilience and Climate Robustness in the Agricultural Frontline of the Sahel) is a Danida-FFU funded project.

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The research partners include:

Department of Geoscience and Natural Resource Management, University of Copenhagen, Denmark; INERA, CNRST and Department of Geography, University of Ouagadougou, Burkina Faso, ISE, University of Dakar, Senegal; Department of Geography, University of Niamey, Niger

For more information, see www.lasyresahel.ku.dk

LaSyRe briefs extract details from the more comprehensive research reports in order to make the easily available to a broader user community, e.g. policy makers.

The current brief is primarily based on the following publications:

Reenberg, A., Maman, I. & Oksen, P. (submitted). Twenty years of land use and livelihood changes in SE-Niger: Obsolete and shortsighted adaptation to climatic and demographic pressures? *Journal of Arid Environments*.

Rasmussen, L.V., Rasmussen, K., Reenberg, A. & Proud, S.R. (2012). A system dynamics approach to land use changes in agro-pastoral systems on the desert margins of Sahel. *Agricultural Systems* 107C, 56-64

Nielsen, J. Ø., D'haen, S. & Reenberg, A. (2012). Adaptation to climate change as a development project: A case study from Northern Burkina Faso. *Climate and Development* DOI:10.1080

Rasmussen, L.V. & Reenberg, A. (forthcoming): Multiple outcomes of cultivation in the Sahel: A call for a multifunctional view of farmers' incentives.

Ouedraogo, M., Dembelle, Y. & Some, L. (2010). Perceptions et stratégies d'adaptation aux changements de précipitations: cas des paysans du Burkina Faso. *Sécheresse* 21(2):87-96.

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