

If Farmers Are First, Where Do Pastoralists Go? : Political Ecology and Participation in Central Mali

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Abstract

In central Mali, participatory development of technical innovation is complicated by the fact that it is a landscape populated by both farmers and herders of different ethnic backgrounds and different ideas about what rural development should look like. These culture-bound ideological differences manifest in the micro-politics of participatory projects, as well as in broader level contestations over land use. Participatory research that is framed and informed by the politics of decentralization risks alienating herders from the process and the fruits of participatory rural development. As such, herders' view of development involves not just technical innovation, but aspects of institutional organization and land management at the regional level, which often falls outside the scope of local-level projects that are linked to reinforcing decentralization.

Introduction

In the Sahel, two of the greatest challenges in human ecology are the maintenance of soil fertility and pasture productivity. Over the last 40 years, the combined effects of demographic growth and significant reduction in annual average rainfalls have vastly increased the stresses that farmers and herders put on the land. These same environmental and demographic changes have also been a factor in pushing the traditionally extensive agricultural and pastoral production systems in to ever closer contact. This contact has increasingly manifested itself in competition over land and over land-management policies, generally augmenting tension in farmer-herder relations.

The Farmer First paradigm has made great strides in promoting participatory agricultural innovation, in which farmers set the research agenda and define the parameters of success. However, when working in regions where multiple ethnic groups engage in competing production strategies, applying the participatory approach becomes particularly challenging. In central Mali, putting farmers first risks, if not ensures, alienating the herders with whom farmers share the landscape. It may even contribute to shifting balances of power between the two groups.

Consequently, participatory research addressing the technical aspects of agricultural and pastoral production must be contextualized in the broader contestations over natural resource management regimes. Even when farmers and herders are both involved in the development of technical innovation, the process can be significantly affected by the legacies of historic power dynamics, contemporary politics at the local and national levels, and divergent visions for the future of rural development. All of these factors affect degrees of interest in, participation in, valuation of, and adoption of technical innovations.

In addition to being culturally and technologically appropriate, innovative subsistence techniques must also fit into the end-users' overall political agendas *vis a vis* land management and rural development if they are to be fully capitalized upon. However, when end-users from competing interest groups with different rural development agendas are involved, the project can become complicated, though not unfeasible. Such work requires even greater analysis of, and sensitivity to, local social processes and natural resource contestations. In these cases, technical development is also best accompanied by capacity building for local institutions, oriented toward management of these divergent interests and perspectives.

Background

The Sustainable Agriculture, Natural Resource and Environmental Management (SANREM) program run by the United States Agency for International Development (US-AID) seeks to integrate participatory technical research with analysis of the local political ecology and capacity-building of

local NRM institutions. Unlike most of US-AID's work, SANREM is not expressly a development project, but a research project exploring alternative models to top-down or single-sector development projects.

From 1999-2003, SANREM partnered with Mali's Institut d'Economie Rurale and the rural Commune of Madiama in central Mali to conduct participatory research on livelihood problems as identified by the community. This multi-pronged project addressed technical aspects of soil and pasture management alongside training workshops oriented toward capacity-building for civil society. By integrating participatory experiments on technical innovations with capacity-building workshops, the project sought to enable farmers and herders in the community to not only address their natural resource management problems more effectively, but to develop the social networks, institutional structures and social problem solving skills that enable them to address the broader sociopolitical aspects of conflict over natural resource management.

In cooperation with the commune's mayoral office, itself a newly elected administrative institution begun in 2000, a Natural Resource Management Advisory Committee (NRMAC) was formed in 1999 with representatives from every village in the commune, including four women. Through a Participatory Landscape/Lifescape Appraisal (Earl and Kodio, 2005), local participants identified and ranked the natural resource management problems they faced in their communities. The top three problems were declining soil fertility, declining pasture productivity, and farmer-herder conflicts. Research was then undertaken to address these most pressing concerns. For soil fertility, efforts at participatory technical innovation included experiments in crop rotation, multi-cropping and a variety of manuring regimes. For pasture management, the project conducted participatory experiments in rotational grazing, intensively managed cattle enclosures, and silage production. Training workshops were conducted on a variety of topics, including literacy, numeracy and, most popularly, conflict resolution and management. For more background and details on SANREM-Mali's participatory research on technical innovation, refer to *Conflict, Social Capital and Managing Natural Resources: A West African Case Study* (Moore, 2005).

Political ecological contexts of technical development

The development of the Farmer First paradigm has taken place concurrent with the development of political ecology, an analytical framework that synthesizes the interactions of human ecological systems with political and economic processes (Bryant 1998; Greenberg and Park 1994). Political ecology recognizes that contestations over natural resources can have both material and ideological aspects that function at multiple scales, from the individual to communities to governments to international organizations (Brosius 1997; Escobar 1996, Fairhead and Leach 1996). Within political ecology research, the finding that technological change often has cultural and political implications is not unique. But integrating competing visions of development into participatory technological innovation is a little explored topic.

In central Mali, agricultural and pastoral production systems are simultaneously in competition with each other (for control of production spaces), mutually interdependent (for exchange of food and labor), and increasingly blurred together (by pressures for everyone to practice mixed agro-pastoralism). Along with rural development policies, several decades of low rainfall, punctuated by severe multi-year droughts, have increasingly pushed many herders into agriculture and pushed farmers into animal husbandry. The Rural Commune of Madiama, at the southeast edge of the Niger River Inland Delta (NRID), is populated by a majority of ethnic Marka and significant minority of Fulani, all of whom could be broadly described as "agro-pastoralists". Relying on exogenous and technical analyses, development professionals would put them into the same subsistence category and expect them to be interested in similar technical innovations.

However, in this region, farming and herding are not just technical production systems, they represent distinct cultural systems. While Marka are strongly associated with farming, cattle herding is strongly linked to the Fulani ethnic group. This historical connection between ethnicity and production systems creates a situation in which the different ethnicities have different bodies of technical knowledge and distinct sets of cultural values *vis a vis* production practices, despite their both currently using agro-pastoral livelihood strategies. Due to different cultural values, there is significant variation in how innovations in technical knowledge are perceived or adopted, and how they are deployed to political ends. Integrating and anticipating this variation requires an understanding of the connections between technical knowledge, behavioral decision-making and broader cultural systems.

The research presented here, which was supported by SANREM, examines some of the political-ecological aspects of technical innovation in central Mali, such as how perceptions and processes of technical innovations intertwine with contestation over land tenure regimes, inter-ethnic social relations, constructions of ethnic identity and competing visions for the future of rural development in the region. This research was conducted alongside the aforementioned technical experiments and capacity building workshops in order to bring a broader perspective to the processes of technical and social innovation, in terms of understanding both existing collective actions and individual decision-making regarding natural resource management. While the connections between technical innovation for soil fertility maintenance, social constructions of ethnic identity and competing visions for rural development may at first seem tenuous, this paper contends that systemic analysis linking the technical with the political-ecological has the potential to be an important aspect of applied research.

Local politics of participation

Despite living in the same commune, Marka and Fulani social networks in Madiama are very weakly integrated. Inter-marriage is rare and most villages are ethnically homogenous. The one village with a relatively even distribution of Marka and Fulani, is known for substantial intra-village ethnic tension. From its very inception, the NRMAC exhibited the ethnic politics of technical development in Madiama. Fulani are a minority in the commune, but they are proportionally underrepresented in the NRMAC. This occurred largely from the normal action of local political power. In order for the NRMAC to have social validity, village chiefs were closely involved in the selection of delegates, with the result that close relatives of the village chiefs were frequently chosen to be the NRMAC representatives. The Fulani are the majority population in two villages and close to 50% of a third village. However, only one village is headed by a Fulani. The other two villages with significant Fulani populations have village chiefs who are not Fulani. The NRMAC representatives from both of these villages were children of their respective village chiefs. Consequently, the only Fulani in the NRMAC is the male representative from the one village that *is* headed by a Fulani. There could have been a second Fulani, as this Fulani headed village also sent a female representative. However, very few Fulani women speak Bambara, and thus the female representative from the village is actually Jakoromé, an ethnic caste of business people and artisans integrally linked to Fulani society, but by all accounts decidedly *not* Fulani. Her participation was largely predicated on the fact that she speaks Bambara fluently. The result was that in spite of all efforts to maximize participation across villages, the play of local politics disproportionately left Fulanis largely out of the project.

The above also shows that language was another important axis in the ethnic politics of participation. The majority of the NRMAC representatives speak Bambara as their first language, and few of them speak Fulfulde¹. Despite initial training in the value of linguistic egalitarianism, NRMAC meetings were conducted entirely in Bambara. With only a few notable exceptions, Fulani generally claim not to be able to speak Bambara adequately to follow or participate in ranging conversation. The Marka of Madiama, none of whom speak Fulfulde, dispute this, saying that Fulani can speak Bambara, but they refuse to do so out of pride or cultural arrogance. Regardless of which characterization is most accurate, linguistic differences contributed to under-participation by Fulani herders in the NRMAC and in NRMAC projects.

Linguistic issues, however, represent only a part of the imbalance. From the beginning, SANREM sought to inclusively address issues in both agricultural and pastoral management, but disjunctions between Fulani cultural values and intensive animal husbandry techniques diminished Fulani receptivity and interest in the project. For many Fulani the very focus on management of land *within* the commune defined SANREM as a “farmers’ project” because the Commune of Madiama does not have any “real” pastures. The rotational grazing experiments were conducted on plots of land that, by Fulani standards, were too small and marginally productive to be taken seriously as resources for pastoralist livelihoods. Instead, they were seen as only appropriate for small-scale, intensive animal husbandry, such as that practiced by Marka farmers.

Other explorations of intensive animal husbandry techniques did not resonate with Fulani participants because the methods were anathema to Fulani cultural values as herders. Following the herds, and having skill to manage a large number of moving animals is an important identity marker of

¹ The name of the Fulani language.

being Fulani. Within the SANREM project, research experiments on techniques based on tying animals to pickets in enclosed grazing areas were dismissed out of hand by the Fulani because such treatment of animals was seen as fundamentally contrary to Fulani values about how animals should be treated and what it means to be a pastoralist.

Thus, though attempting to address management of pastoral resources, SANREM's geographic boundedness and focus on intensive techniques precluded Fulani interest in much of the project. Beyond being economically important, herding is the most highly-regarded activity in Fulani society, and is central to Fulani sense of identity (Riesman, 1974). While the Fulani of Madiama are, in practice, mixed agro-pastoralists, their primary interests and aspirations for economic growth lie in *transhumant* pastoralism. Even those Fulani who presently rely on farming for a significant part of their livelihood, still identify transhumant pastoralism as the most important and meaningful activity in their livelihood. Due to SANREM's focus on management of lands inside the commune, the type of pastoralism that Fulani most value was framed outside the scope of the project. While this geographical boundedness can be partly explained by logistical practicality, it also stems directly from broader political processes.

The explicit focus on *communal-level* natural resource management is the result of both national policies and the agenda of international development community. These broad political movements provide a framework within which certain technical innovations are encouraged and others implicitly excluded. This is not intended as a criticism of researchers nor policy-makers. Instead, it is meant to highlight that the ways in which participatory technical developments are framed have implications in the material and discursive constitution of resource contestation at local and regional levels. By focusing on local management of lands, and specifying this "locale" as the commune, the project from its inception was not framed in such a way as to make it culturally salient to Fulani, despite its participatory nature. Local politics and language differences acted as barriers to active participation of Fulani as NRMAC representatives or workshop attendees, but ethnic ideologies that value transhumant pastoralism also led many Fulani to eschew participation in SANREM, because it did not address land management and development at a geographic scale that was relevant to their culturally preferred subsistence strategy.

Political ecology of development

The 1992 democratic revolution in Mali ushered in a new era of reform regarding the relationship between land, the state and rural producers. Politically, this reform is called "decentralization" However, in terms of rural development, conservation and planning, putting control of natural resources in local hands is more often known as the "*approche terroir*" (Painter et al., 1994). Based on the premise that West African central governments tend to be under-funded and poorly-situated to manage local natural resources, decentralization devolves authority away from the central government and back to local political institutions who are better-situated and motivated to sustainably manage natural resources (Benjaminsen, 1997). The *approche terroir* is based on three fundamental premises: first, that institutional authority to manage is clearly defined; second, that the territory to be managed is clearly bounded; and third, that people's livelihoods utilize only resources within their bounded territories.

As it was initially being promoted across West Africa, Painter et al. (1994) predicted that the *approche terroir* would disproportionately favor agricultural livelihoods. In environments with low biological productivity such as the Sahel, pastoralism requires the dynamic use of vast spaces. Implementation of the *approche terroir* disadvantages pastoralists due to the fact that their production needs cross numerous territorial boundaries, over which herders have little or no tenurial rights. Customarily, land tenure in the Sahel is associated with the establishment of permanent villages, but, Fulani pastoralists have historically been transhumant, grazing their cattle in the grasslands between farming villages. This history of transhumance means that many of the Fulani villages outside the NRID floodplain have been established relatively recently and thus have weak tenure over relatively small spaces.

The case study of Madiama exemplifies Painter et al's thesis about the *approche terroir* favoring agriculturalists at the expense of pastoralists. By examining the cultural interrelationships between identity, history and subsistence strategy, this case study shows that participatory technical innovations premised on the *approche terroir* silently contribute to shifting balances of power between farmers and herders, and play into ethnic politics.

Cultural ideologies, history and the future of rural development

Currently, the Marka and the Fulani of Madiama could both be accurately labeled as agro-pastoralists. However the forms of agro-pastoralism that they practice differ significantly. These differing economic strategies represent the latest moment in divergent subsistence histories which carry with them distinct ideologies about relationships with the land and continuing contestation of control over development. Moreover, Marka and Fulani cultural ideologies construe their relationships with farming and herding in ways that lead them to pursue very different visions for the future of rural development. The important variables are how the Marka and Fulani came to be agro-pastoralists, and how those different pathways affect their land politics.

At present, Marka farm extensively, including both cash crops and household staples. Surplus cash from cash crops is often invested in cattle and small ruminants, which, in addition to holding and multiplying value, also provide traction and manure. Agricultural labor is generally kept in the household as much as possible and any herding is contracted out to Fulani, usually from other regions. The Marka arrived at agro-pastoralism through their relatively rising fortunes over last century. Until the 1950's, the Marka of the NRID were exclusively farmers, mostly for subsistence, and relied entirely on human labor. Animal husbandry had no place in their household production strategies. The French colonial regime introduced the cattle-drawn plow and the donkey cart in the 1950's in an effort to stimulate the production and marketing of agricultural surplus both staple crops and cash crops. As one informant said,

In the last 55 years, a great change has taken place. Before, all work was done by hand. But around 55 years ago, the plow started showing up little by little, then carts. By 35 years ago, it had changed completely. Plows, carts, bicycles were everywhere. It was not since more than 20 years ago that watermelons have been grown as a cash crop.

Animal husbandry arrived initially as an externally-induced means of increasing agricultural production. The introduction of the plow permitted farmers to extensify their operations, and having successfully gained surplus, they invested in cattle, both as capital investments in agricultural production and as savings. The production of surplus was further enabled by the development of watermelon as a cash crop. Though watermelons are indigenous to Africa, the commercialization of "improved" varieties is relatively new to the region. The overarching theme in the development of Marka agro-pastoralism is that increased production and cash flow have led to the adoption of cattle keeping as an augmentation of farming activities. These increasing fortunes have been actively fostered by the national government and myriad international development agencies with the goal of bolstering national food security.

Currently, the Fulani of Madiama practice intensive agriculture alongside pastoral activities. The historical pathway through which Fulani have become agro-pastoralists is markedly different that that of the Marka. In brief, declining fortunes have forced Fulani to become agro-pastoralists. In the 19th century, prior to being colonized by France, Fulani were the predominant regional power, having governed central Mali through the Dina of Massina (1818-1864), and subsequently the Tukolor regime, both Fulani kingdoms based in the southern NRID area. During the Fulani reign of the 19th century, especially the Dina, land use laws were developed that codified herders' land rights, especially in and around the floodplain pastures. These legal conventions, some of which are still in effect today, clearly favored herding (Cissé, 1985), especially inside the floodplain, though they were never codified for the upland pastures on which herders rely during the rainy season.

Until the last few decades, Fulani were themselves exclusively herders, though they maintained a link to the agricultural economy through relationships with their *rimaaybe*, the social class of former slaves who farmed for them². While slavery was traditionally practiced by virtually all ethnicities in West Africa, what is significant in the case of the Fulani in central Mali, is that the practice of slavery buffered the entire ethnicity from agricultural labor.

² Despite the fact that slavery was officially outlawed by the French colonial regime, old social structures and relationships remain. The ineffectiveness of the French ban is revealed by the fact that slavery was officially outlawed *again* after Malian independence in 1960.

For Fulani in Madiama, their current status as agro-pastoralists represents a decline in fortunes. Having lost much of their wealth in cattle during the severe and prolonged droughts of the 70's and 80's, they find themselves having to stoop to farming for part of their livelihood. Even having done so, Fulani agricultural practices differ from Markas' in that they farm only staple crops for household consumption in small, intensively managed fields, which regularly benefit from manure from the herds of those Fulani who have them. Even as they include farming in their livelihoods, money is preferentially earned through herding one's own cattle and selling the milk. One informant put it simply, "We don't try to make money from our fields". Moreover, Fulani try not to work in their fields if they can avoid it. Wealthier Fulani will hire Marka or other non-Fulani men to work their fields whenever possible. Seen through the lens of Fulani culture, farming is considered work only suitable for *rimaaybe* or other ethnicities. According to their cultural values, Fulanis' proper place is on transhumance with their herds.

When asked about their ideas for the future of rural development the Marka and Fulani of the Commune of Madiama provide significantly different visions. Marka respondents consistently indicated that farmer-herder conflict is caused by herds entering unharvested fields. In order to reduce conflicts, Marka favor the maintenance of extensive farming practices with intensive herding of cattle and small ruminants in the interstices of an agricultural landscape. According to Marka respondents, this would be accomplished through continuing the devolution of authority over land management to the communal and even village levels. Such a vision of rural development asserts agricultural dominance and implicitly rules out any regional-scale management over pastoral resources, effectively precluding extensive pastoralism and Fulani lifeways and exemplifying Painter et al.'s (1994) prediction that the *approche terroir* would institutionalize pastoralists' disadvantage.

Fulani cite encroachment of farmers' fields into pastures and trails as the primary cause of farmer-herder conflicts. This encroachment, they say, has been amplified by recent policies empowering village chiefs' control over local land, even land that has been an officially designated cattle trail for over 150 years. In order to reduce conflicts, Fulani envision rural development in which federal policy clearly defines and defends pasture spaces and cattle trails, overriding the complete localization of the land management in the interest of maintaining the viability of pastoralism. Their solution to conflict is for the farmers to intensify their agricultural practices in the lands already farmed, and to cease encroaching on the space of extensive pastoralism. Fulani's appeal to *federal* authority implicitly shows their recognition that the *approche terroir* is favoring agricultural villages' abilities to define land rights and use practices. Even with full participation and equal power in local processes of land management, livelihoods reliant on extensive pastoralism are framed outside of peoples' ability to address them.

Conclusion

From an external point of view, it is easy to say that both farmer and herders in the Sahel must intensify their production practices, that demographic growth and environmental change necessitate such responses. However, divergent cultural ideologies and political interests make the processes of intensification competitive between interest groups. Both farmers and herders adopt strategies and positions that push the other to intensify, while maintaining their own preferred production strategies in relatively extensive forms. Participatory technical innovation takes place within these frameworks of contested land rights, scales of land-use and contradictory visions for rural development. While participatory innovation does not explicitly favor one side or another, an agricultural bias is implicit in any local-scale and technical orientation, effectively putting the pastoralists second. This incidental marginalization detracts from herders' sense of ownership of and inclusion in participatory research.

Participatory development of technical innovation is, and will continue to be, an important aspect in the intensification of agriculture and pastoralism in the Sahel. However, the inherently extensive character of Sahelian pastoralism requires that technical innovations are also applied at broader scales. Furthermore, pastoralists have indicated that in order to make their participation fully relevant, technical innovations should be combined with the development of a secure system of land management, land rights and institutional structures that anticipate the needs of the inherently extensive pastoralism of the Sahel. By defining rights and obligations for both farmers and herders, such an effort would more equally benefit all actors within the regional agro-pastoral landscape.

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