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Mbegué: The Disingenuous Destruction of a Sahelian Forest

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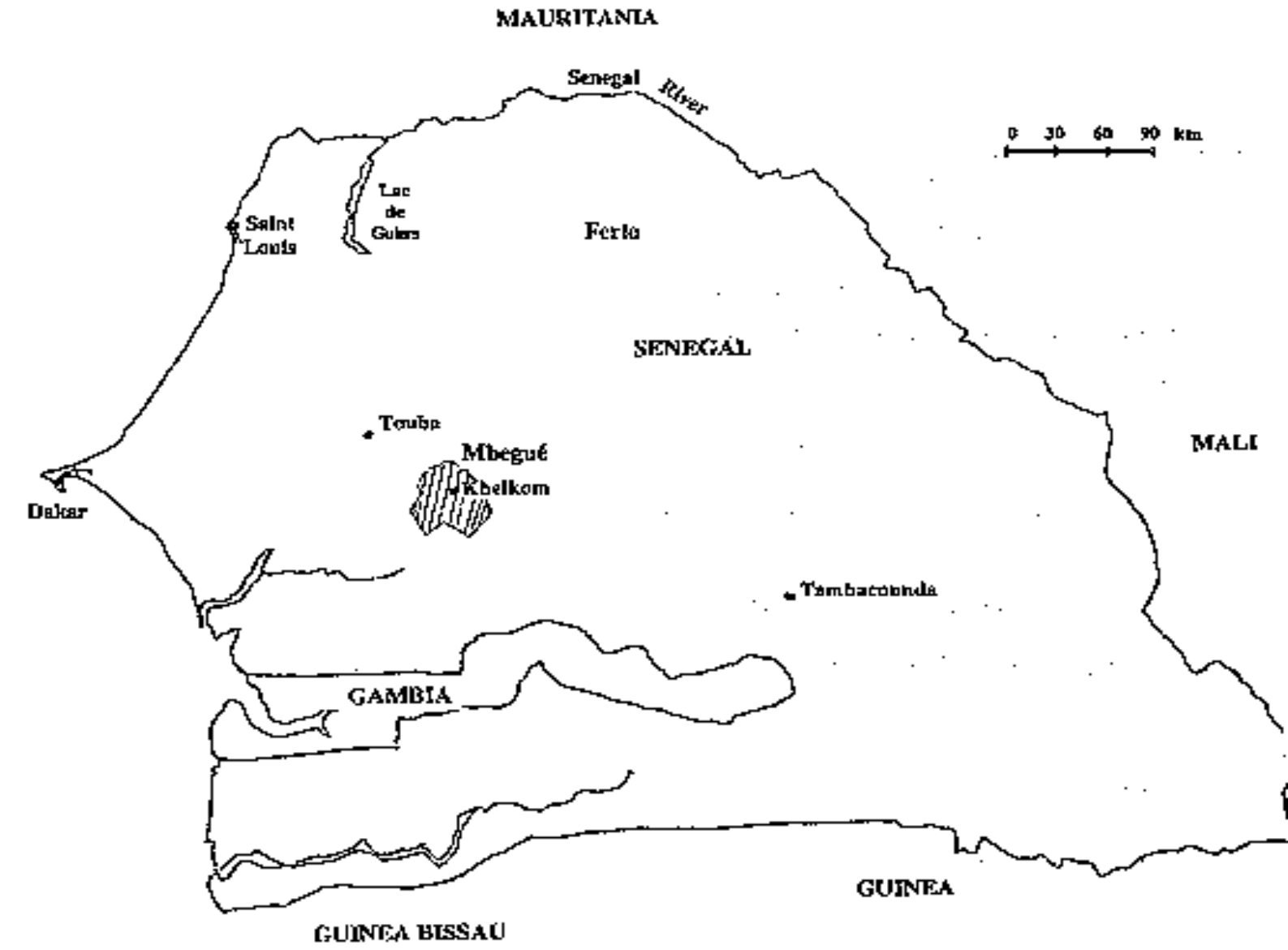
MAURITANIA
Senegal River
0 30 60 90 km
Lac de Guiers
Saint Louis
Ferlo
SENEGAL
Touba
Mbegué
Kbelkom
Dakar
MALI
Tambacounda
GAMBIA
GUINEA
GUINEA BISSAU

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April 25, 1991. A hot, dry Harmattan wind whips blowing sand into the eyes of a small group of farmers. Battling their own fatigue and the relentless rays of the burning sun, row by row they painstakingly fill small black plastic sacks provided by the local forestry agent with sand, manure, and the three tiny seeds that represent their hope for reestablishing a few hardy trees on the desolate, wind-swept fields around their village. Suddenly, there is a break in the religious chants emanating from the battered radio tipped against a watering can. "Mouride faithful of Senegal," the disembodied but compelling voice intones, "come forward one and all for the glory of God! Come in all the strength of your numbers to the village of Khelkom, in the forest of Mbegué. Bring with you any hatchet, any axe, any saw, any machete; bring any implement in your possession capable of cutting a tree or clearing a forest...."

Within three weeks of this clarion call, thousands had responded. From village and city, the faithful flocked to Mbegué[1], bringing axes and saws to clearcut 173 square miles of one of the last remaining forests in Senegal's degraded heartland. In three weekends, they felled more than five million Sahelian trees and shrubs. And by the time they had finished, they had evicted more than 6,000 pastoralists and 100,000 animals from the land, pastures, and water that sustain their livelihoods. For his part, the Khalifa-General (supreme head) of the powerful Mouride Islamic brotherhood was well on the way to meeting his goal: 45,000 hectares of newly cleared and fertile land would soon be put into peanut production.

Land use patterns across Senegal's Sahelian zone are undergoing significant and rapid change. The most notable and alarming aspect of this transformation is the unrelenting compression of a once dynamic agro-pastoral livelihood system into an ever more

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[1]The forest is referred to both as Mbegué and as Khelkom. The latter is the name of the principal village in the reserve and site of the borehole.

circumscribed space. While this phenomenon is hardly recent and has been explicitly recognized since the 1930s and 40s (Fourv 1953), the accumulated effect of decades of persistent sedentarization are being exacerbated by rapid advances of commercial agriculture on several simultaneous fronts. Irrigated perimeters have monopolized much of the Senegal river and are expanding west from the Lac de Guiers; a burgeoning demand for agricultural land around boreholes in the sylvo-pastoral zone is decreasing the area that can be used for communal pastures in the interior.

The vitality of the pastoralist economy depends on herders' mobility, one of the few antidotes to the capricious and parsimonious rainfall patterns of the Sahel. And yet, the communal space needed to maintain options for mobility is a rapidly declining in the once vast pastureland of the Ferlo[2] and upper peanut basin. The government's decision to permit the transfer of 45,000 hectares of forest used by agro-pastoralists to peanut fields controlled by the Mouride brotherhood is part of the larger trend toward the allocation of lands, previously maintained as communal pastures, for individual and sedentary agricultural production. This has serious implications not only for the agro-pastoral livelihood system of the FulBe[3], but also for the environmental sustainability of the entire production system in an area that is only marginally suited for agriculture.

How, at a time of heightened environmental consciousness both internationally and in Senegal was the Mbegué affront to nature and the resident population permitted without public debate or reflection? Who did it? Who stood by in silent and uncritical observation? And who has lost because of it? This essay will attempt to address some of the questions

[2]The Ferlo is variously defined. Here the term is used in its general sense and refers to the grasslands in a broad belt lying roughly between the Ferlo river valley and the Senegal river (see map).

[3]Known as Fulani in English and Peul in French, in Senegal the population in question refers to itself as Fulbe (plural) or Pullo (singular). These terms will be used here.

which have been raised about the recent deforestation, with particular attention to the larger policy implications of changing land use patterns in Senegal's Sahelian belt.

Context for the Mbegue Saga: A Brief Overview of Mouride Land Colonization

It was not by chance that the invasion of Mbegué forest by thousands of *talibés* (religious followers or disciples) over a three week period in May and June this year had the air of a well orchestrated and much rehearsed play. The stage for Khelkom was set nearly a century ago and the plot has been reenacted dozens of times with startlingly little variation in cast, script, or denouement in the intervening years.

The Mouride Islamic brotherhood was founded in the late 19th century by Amadu Bamba (died 1927). At the time, traditional Wolof society in the Kayor province[4] was in a state of social and economic disruption in the wake of the French conquest. Socially, the rapid dissolution of the feudalistic structure (with all its reciprocal duties and responsibilities between higher and lower classes) had left many of the poorer classes in a situation of great insecurity. Economically, the region was undergoing an equally profound transformation with the phenomenal growth of a cash economy based on the production and sale of peanuts for the colonial market.

The brotherhood of Amadu Bamba[5] was built on the principle of allegiance to a local Moslem spiritual leader, known as a *marabout*, but also implied a series of reciprocal responsibilities between *marabout* and *talibé* not unlike those that had characterized traditional Wolof society. As such, it offered immediate advantages to such socially dislocated groups as the former slave and warrior castes who became early and devoted adherents to the brotherhood. In addition to its emphasis on loyalty to the *marabout*, the

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[4]The Kayor was a province of the Wolof kingdom known as the Djoloff that flourished from the 13th to the 19th century.

[5]The Mourides are one of three major Sufi sects in Senegal.

Mouride ideology glorified physical labour as a principal means to redemption (Cruise O'Brien 1971). In his preaching Amadu Bamba particularly insisted on the religious value of work devoted to the service of the spiritual leader. "He who works in his own interest, his toil shall be entirely wasted. He must work in the service of the one whose good pleasure can protect [the talibé] from that which he fears in this world and in the next." (Amadu Bamba quoted in Cruise O'Brien 1971:51)

This philosophy was ideally suited to Mouride exploitation of the most promising economic opportunity of the day, the expansion of peanut cultivation into the inhospitable and largely undeveloped territories of Senegal's interior. This strategy served not only to increase the personal wealth of the *marabouts* but also to increase the brotherhood's considerable political capital with the colonial authorities who quickly recognized their utility in expanding production and exports from the colony. The brotherhood's emphasis on discipline, the sanctity of labour, and a communal sense of mission all contributed to their spectacular success in colonizing what is now known in Senegal as the peanut basin.

The first phase of Mouride colonization of the interior, from about 1910 to 1930, followed the newly installed railroad lines leading north from Thies to Saint Louis (this line had been completed since 1885) and then eastward toward Kaolack and Kaffrine. When the land close to the rails had been cleared and planted, the next great advances, in the 30s and 40s, were made along the fossil river valleys where the water tables were shallower and wells could be established without much difficulty. Great tentacles of advancing fields spread along valleys once carved out by the Sine, Saloum, and Ferlo rivers (see map).

Vast areas remained untouched by cultivation, however, due to the impossibility of establishing communities further in the interior where water tables 300 feet deep or more made it impossible to dig wells and hence to maintain populations throughout the long dry season. All this changed in the 1950s when borehole technology enabled French technicians to drill deep into the Maestrichtian aquifer. Within a fifteen year period, some forty boreholes had been constructed in a matrix across the southern belt of the Sahel. Mouride

talibés followed close behind the drilling rigs and peanuts sprouted in expanding fields around the boreholes.

Mouride colonization of new agricultural lands followed a standard pattern. Unmarried male *talibés* would set out in work groups called *daras* to undertake the initial backbreaking labour of sinking wells and clearing forests. Living in miserable remote conditions with little to console them other than the eternal salvation being earned through the rigors of their communal effort, the *talibés* wasted no time in transforming forest and dense underbrush into vast expanses of treeless fields. A small portion of these fields was reserved for the cultivation of food crops such as millet, which was used to feed the work force, but the largest tracts were devoted to peanut crops destined for sale by the *marabout*. After several years of such communal cultivation these *daras* often evolved into Mouride villages as the young men married, started families, and were allocated small landholdings by their spiritual leader. Once this happened, instead of turning the entire peanut harvest over to the *marabout*, the villagers contributed the harvest from a communally cultivated "Wednesday field". The *marabout*, in turn, provided political protection and, in less prosperous times, a certain degree of economic security to his followers. In other cases, the lands remain as plantations, with labour provided by *talibés* and the benefits accruing to the Mouride hierarchy.

The Mourides' cultivation practices have contributed to particularly rapid environmental degradation. Plantations, especially, are farmed in order to generate the largest profits in the shortest period of time; unlike smallholders who are forced to nurture their limited resources, the *marabouts'* success in appropriating new land as the old is exhausted gives them no incentive to practice more sustainable methods. Rotation with crops other than peanuts and use of manure tends to be lower on Mouride plantations than on individual small-holder farms. Large plantations often use tractors that require fields to be cleared of trees. Ploughs cut into the fragile structure of sandy soils and the continued cropping of peanuts (where the entire plant is unearthed at the harvest) leaves no organic matter behind

for the following year. The combination has disastrous effects on soil fertility and erosion. There are no incentives for *talibés* to use more sustainable -- and usually more labour intensive -- practices as long as the entire harvest is appropriated by the marabout. The environmental consequences are evident to all -- the Khalifa-General had to move his domain twice in a fifteen year period due to soil depletion (Cruise O'Brien 1971:222) -- but the response has always been to move on and colonize new lands rather than to modify their agricultural practices.

Conflict with Pastoralist Populations

While the lands colonized by the Mourides in their expansion to the north and the east were largely undeveloped (according to their definition of that word), they were neither vacant nor unused. From their earliest excursions out of the Baol and Kayor regions (where patterns of interaction with minority ethnic groups had been established through years of domination and negotiation), Mouride cultivators encountered FulBe herders who used the vast uncleared lands to graze their cattle and cultivate small fields of food crops to meet their own consumption needs. The herders had long since established their seasonal camps along the fossil river valleys where water was more accessible and the FulBe had constructed wells and shallow watering holes that they used during transhumance movements in search of better pastures. Often these wells provided the Mourides with their first foothold in a region, and they built their communities around the water points which had been earlier established by the FulBe (Pelissier 1966:358).

The Wolofs never recognized the tenure rights of these earlier users of the land. From their perspective it was only by clearing land that claims could be established and from the 1930s when the Mourides began systematically to settle the valleys, this brought regular and often bloody conflicts between cultivators and herders. When they were new in an area and still few in number, the Mourides bought off the FulBe and peacefully persuaded them to move on. As the settlers became more numerous and better organized they tended to resolve land

disputes by brute force, evicting the pastoralists with threats or actual violence. Where the FulBe resisted, the Mourides were fully prepared to fight and in one notable case in 1937 more than 50 people were injured in a dispute at Touba Fall (Cruise O'Brien 1971:198). In cases where the FulBe attempted to appeal to the colonial courts for protection of their rights, they were almost always rebuffed since the official attitude held that Mourides peanut production contributed more to the economy than the pastoralists' grazing. In the rare instance when the courts did support the ancestral rights of the FulBe, the Mourides simply disregarded the decision and planted their peanuts as before. Fearful of antagonizing the highly organized and economically productive Mouride establishment, the authorities cast a blind eye on such transgressions and the FulBe had little choice but to move on (Cruise O'Brien 1971:198).

Environmental Protection Strategies: the Establishment of Classified Forests and Sylvo-Pastoral Reserves

While the colonial government generally supported the Mourides in individual conflicts between cultivators and pastoralists, there was growing official concern about the rate of peanut expansion and the injurious effect it was having on both herding populations and the environment, particularly once the borehole construction opened more northerly areas to cultivation. The boreholes were originally intended to assist the pastoralist population but instead they introduced massive competition for land and water in an area previously used on a seasonal basis by the pastoralists alone. In 1953, after the first generation of boreholes was installed, a colonial administrator remarked that, "Another consequence of creating these boreholes in this still virgin region has been to attract agricultural populations who are leaving their degraded coastal areas in search of "new lands" for peanut cultivation (Foury 1953:19)."

The colonial government was well aware of the contradiction between the economic imperative to produce peanuts and the clear environmental costs it implied: "The all-out production of peanuts leaves a complete void behind it ... and a tendency to desertification of

the milieu (Bellouard 1945:4)." "The soils of Senegal are degenerating. Everyone is in agreement on this issue and it has been observed for some time. The principal cause of this degradation is the fact that the land is put into cultivation too often. Since the fallow period is too short, the soil has no time to recover on its own (Foury 1953:11)." But, as Conservator of Water and Forests he went on to say,

> *"Would [the state] have the courage and the interest to expel the cultivators who move in around the boreholes?... And why would it do this? The solutions that have been suggested to reduce the degradation of soils in the coastal areas are all for the long-term. In the short term, to maintain Senegal's peanut production, which is the basis for life in the entire country, at current levels there is no other solution but to put new lands into cultivation, to push peanut cultivation even further onto lands where it can still be profitable (Foury 1953:19)."*

Concerned about the effect of this massive migration to settle the lands around boreholes, the colonial authorities had, as early as 1945, begun to design a policy intended to limit the expansion of the peanut front. The compromise devised by the colonial administration protected the most fragile soils on the high lands from peanut cultivation, restricting these areas for use by pastoralists who were recognized to be gentler on the environment: "the FulBe way of cultivating does not, in fact, cause any great damage to the vegetation or tree cover. The placement of their camps changes from year to year. One year they cultivate the place where their camp was the year before and these lands are enriched by the manure left by the animals that gather each night around the huts and water points (Foury 1953:19)." Commercial cultivation would, however, be permitted in the valleys. "Inserted between the valleys like links of a net, the plateau will be classified as sylvo-pastoral reserves where users will have rights to temporary cultivation and pasturing of animals.... It is in this perspective (classification of the plateau and free use of the valleys for agricultural production) that the policy of classifying the forests of Mbegué, Koum Koum, Déali and Lindé has been determined (Foury:20)."

Déali, 1954

Barely had the decree classifying the sylvo-pastoral areas been pronounced than Mouride cultivators began to covet the forbidden territory. After classifying Déali, in 1951 the government sunk a borehole in the reserve to provide water to herders and the animals pastured there. A few months later, the Mourides made an official request for a triangular parcel of land south of the borehole (but still in the reserve) that would give them access to the water source. Despite unanimous opposition to the transfer by the agricultural and forest services, the land was granted to the Mourides on the condition that they maintained windbreaks and alleys of uncultivated land to reduce erosion. In January 1954 the *talibés* moved in *en masse*. In three days, ignoring all official restrictions, they cleared more than 1,200 hectares of land, leaving only a few Baobab (*Adansonia digitata)* and Kapok (*Bombax dostatum*) trees standing. The *talibés* were also reported to have committed a series of affronts against the local FulBe population, including bloody fights, seizing of animals, and the taking of hostages (Santoir 1983:50). Concerned at the blatant disregard for official strictures, agricultural agents returned to the area a few months later and, still hopeful that something could be salvaged of the forest, clearly demarcated the bands which were to be left to regenerate as natural vegetation. Their efforts and optimism were for nought since by the following year *daras* had put the entire area under peanut cultivation (Pelissier 1966:361).

Significant because of its uncanny resemblance to the Mbegué deforestation 40 years later, the Déali drama was only one in a continuous sequence of incidents, the results of which have been to confine Senegal's pastoralist populations to ever more restricted areas. In 1966, another 10,550 hectares in the forests of Déali and Boulel were transferred to the Mourides, followed by additional declassifications of 19,000 hectares in the same forests over the next 15 years. In 1971, 80,000 hectares of public lands were seized for the Ranch de Doli, an animal fattening scheme run by the parastatal SODESP. And now, in the latest

attack on communal pasture lands, the Mbegué decree of just a few months ago, allocated 45,000 hectares to the Mouride Khalifa.

The Displaced Fulbe Pastoralists

The Senegalese FulBe can be divided into three major groupings based on lineage and spatial distribution: the *WaalwaalBe*, the *JeerinkooBe*, and the *Fula* of eastern Senegal and areas south of the Gambia (Ba 1986: 48). The *WaalwaalBe* are predominantly centered around the Senegal River, cultivating their crops on the alluvial plains. Traditionally, they conducted transhumance movements between the river valley during their agricultural season, which followed the annual flood, and moved to higher pastures in the Ferlo during the rainy season. The *JeerinkooBe* have been centered in the high country south of the alluvial plain, and traditionally spent the rainy season in the heartland of the Ferlo and further south where they cultivated their crops and pastured their animals around seasonal ponds. During the dry season they would move north in order to water and graze their animals on the river and its tributaries. Contrary to the common conception of FulBe as single-minded pastoralists, both the *WaalwaalBe* and *JeerinkooBe* have maintained their livelihoods for generations by agro-pastoralism: a combination of herding and cultivating (traditionally millet and sorghum) in which animal raising plays a critical role in reducing the riskiness of agriculture under conditions of unreliable rainfall. Mobility has also been an important part of the FulBe's risk aversion strategy since it has permitted pastoralists to make maximum use of the region's ecological diversity and to respond to considerable and unpredictable variations in both rain and pasture quality (Toure 1985:34).

Mobility and the Agro-pastoral Livelihood System

In the first half of this century where we, perhaps arbitrarily, began this story, the FulBe populations in question still practised transhumance migration on a grand scale. Within these

linear patterns of seasonal migration between the river and seasonal pastures, camps would move on periodically in order to take advantage of pasture conditions and possibilities to exchange milk for food and other products produced by sedentary populations. The drilling of boreholes across the Ferlo had a rapid and profound effect on these migration patterns. For the *Jeerinkobe*, the establishment of year-round water points in rich pastoral areas meant that it was no longer necessary to move families and herds north to the river during the dry season. Instead they installed themselves either in villages, which rapidly grew up around the boreholes, or in encampments within easy proximity of these water points. Instead of major seasonal transhumance, most now engage in what has been called "micro-nomadisme" (Barral 1982:67) that involves only limited and short distance movements to take advantage of better pastures late in the season or to compensate for non-operating boreholes or outbreaks of disease.[6]

Despite what is in fact only very limited mobility in most cases, the option to move greater distances continues to be an important component in reducing risks faced by pastoralists. Localized variations in rainfall and the quality of grasslands in particular micro-environments largely determine the limited nomadic movements which dominate FulBe practices today. Similarly, greater rainfall variation, and particularly drought, require that herding populations maintain the option of longer distance transhumance strategies in their risk aversion portfolio. The enormous losses (40-60% of cattle) suffered during the 1972/3 drought were in large part due to the recently settled populations' reluctance to move their herds away from the apparent security afforded by the borehole. In the next major drought of 1983, animal losses were much reduced because the FulBe resurrected traditional drought strategies and quickly moved their animals south to richer pastures when the threat became apparent (Toure 1990:9). Mbegué forest was an important source of water and forage during these drought induced southerly migrations.

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[6]If the distance between pastures and camp becomes too great for the animals to return each night to be milked, the family will move to temporary camps. Such camps may be moved two or three times in a season but rarely more often and rarely very far (Barral 1982: 64).

Constraints on Mobility: the Compression of Pastoralist Space

Options for FulBe mobility, both short-distance seasonal movements and larger transhumance patterns in times of serious drought or other natural disaster (fire, pests), are being rapidly eroded on several simultaneous fronts. From the north, the construction of dams on the Senegal river has greatly increased the value of potentially irrigable lands. As the stakes have risen, large tracts have been monopolized for commercial agriculture. Despite official warnings to maintain corridors of access, these vast irrigated perimeters have in many cases effectively reduced access to the river and turned lands formerly used for pastures into commercial farms (Santoir 1983:151). A second year-round water source close to rich pasture lands was provided by the Lac de Guiers, Senegal's largest fresh water lake, which extends south from the Senegal river. Until recently surrounded by small-holder farms and pasture lands, with extensive rights of access by pastoralist populations, it too has now attracted larger scale cultivators (many of them Mouride *marabouts*) eager to turn a rapid profit from irrigation before the soils become saline and worthless (Mathieu et al 1986).

Both of these factors have had the effect of compressing pastoralist activities deeper in the Ferlo but, at the same time, large tracts of these grazing lands are also being appropriated for cultivation, often by Mourides, and usually at the expense of the traditional FulBe users of the territory. The administrative district[7] of Barkedji, at the interface of the peanut basin and the Ferlo, provides an example of this appropriation of previously communal territories in the agro-pastoral zone. The principal villages in the district follow the ancient Ferlo river valley. As early as the 1930s farms were established in the valley although Mouride population growth in this area was restrained by nearly a decade of low rainfall in the 1940s

[7]The term district, as used here, refers to the French *arrondissement* while rural community refers to the administrative division known in Senegal as the *communauté rural*. Each *arrondissement* in Senegal includes several *communautés rurales* and each *communauté rural*, governed by a *conseil rural*, includes numerous villages and encampments.

(Santoir 1983:42) and expansion was further limited by the classification of large areas of land as sylvo-pastoral or forest reserves.

Over the past 20 years, competition for land in the area has become increasingly pronounced. Between 1977 and 1988, over 6,500 hectares of land were attributed to applicants in the rural community of Barkedji. During this period, the Mourides, who comprised 6% of the applicants for this land, received 62% of the land holdings (Toure 1989:32). Many of the lands so allocated fall into areas which are clearly classified as forest or sylvo-pastoral areas. The process has taken on a new amplitude over the past year. In 1990 alone, Mouride *marabouts* submitted claims[5] for more than 80 km^2 of land (Juul 1991:5). While in theory the community council, which in the case of Barkedji has been 80% FulBe, has the right to refuse such claims, in fact they lack the effective capacity (knowledge and appreciation of their potential authority in this domain) to do so and virtually no requests are denied. In allocating the land, there is no evidence that competing claims for the land, its proximity to water points or animal passage ways, or other factors that would interfere with traditional user rights and pastoral activities are taken into consideration.

Alarmed by the clear implications of such land privatization on their livestock activities, the FulBe of Barkedji have reacted by submitting their own claims for land. They are explicit on the point that they have no intention to fence or otherwise change the use of the lands they wish to control, but only seek to ensure the continued access of local populations to essential corridors and grazing spaces and to limit the expansion of Mouride peanut cultivation (Juul 1991:6). This strategy has seen only limited success, however, due to the administrative criteria used to judge requests. The applicant must demonstrate the ability to put the land into productive use ("*mettre en valeur*" in the French legal terminology) and in

[5]It is alleged that these land claims are part of a systematic campaign by the Mourides to establish colonies in every rural community of Senegal, thereby expanding their political influence across the country.

Senegal extensive livestock raising and the use of land for pastures is not yet considered to be "productive". Thus while the FulBe rural councillors have no hesitations about approving their relatives' requests, these are frequently turned down at the level of the *préfet* (departmental administrator) where all such land allocations must be approved (Touré 1991:14).

The experience of Barkedji, where applications for 15% of the total land area of the rural community were submitted in 1990 alone, is perhaps more dramatic than what has happened in other areas. It is illustrative, however, of the trend toward increasing competition for control of common lands and the systematic preference demonstrated by the authorities for sedentary and agricultural systems over those based on mobility and livestock production. The human and ecological significance of the Mbegué deforestation, which has now eliminated a major grazing area on the southern edge of the FulBe transhumance routes, becomes apparent when it is put into this broader historical and spatial context.

MBEGUE, 1991

The forest of Mbegué was classified as a reserve in 1936 as part of the colonial policy to limit the expansion of peanut culture in areas where it posed the greatest ecologic peril; namely, the fragile sandy soils of the "plateaux" above the Sine and Ferlo river valleys. In 1949, a borehole was sunk in roughly the middle of the forest to serve the pastoral populations. In 1952, the classification of the forest was changed from "forest" reserve to "sylvo-pastoral" zone, meaning that it could be used by pastoralists for grazing and planting crops for their own consumption but could not be used for commercial agricultural activity. Earlier this year, the government established a "contract to cultivate" with the Khalifa-General of the Mourides, giving the brotherhood permission to put 45,000 hectares of the 73,000 hectare sylvo-pastoral reserve into commercial production.

The story is one that will by now sound familiar. At the end of April, the Khalifa called on his followers to join forces to clear the 45,000 hectares they had been allocated in order to

plant with this year's rains. Over the next three weeks, at a rate of approximately 2,000 hectares a day, the forest was cleared by Mouride followers who flocked to Khelkom from all parts of the country. In this task they were assisted by numerous government agencies, including the state forestry agents whose water cisterns (intended for fighting forest fires) provided water for the forest cutters, firemen who contributed first aid and an ambulance service, and a police force which kept the peace and ensured that curious observers were made to feel unwelcome. The government newspaper was the first to react with a front page announcement glorifying the organization, commitment, and hard work of the Mouride faithful (Le Soleil, 29 April). Before long, the independent press responded with outspoken and critical commentary on the "sacrifice of our national forest patrimony (Sud Hebdo, 2 May, 1991)."

Fearful of public and, particularly, donor reaction that might be provoked by critical press coverage , the Minister of Foreign Affairs called a briefing of the international diplomatic corps to "discuss with the friends of Senegal this important subject concerning the environment (Le Soleil, 25-26 May)." They assured the donors that any ecological worries they might have were entirely unfounded because: (1) The whole purpose of the exercise was to rehabilitate the Mbegué landscape which was little more than a "cemetery of standing dead-wood"; (2) The government had a complete agro-forestry plan for this rehabilitation, which included leaving at least 20 trees standing per hectare and maintaining wind-breaks as well as the vegetation in all low-lying areas; (3) the allocation of the forest to the Mourides was really only part of the government's attempt to follow the recommendations of the C.I.L.S.S. Ségou conference[9], which called for the management of natural resources to be decentralized and include the participation of local populations. Hence, the Minister explained, the Mourides as neighbours of the forest were well organized to regenerate 45,000 hectares while the remaining portion of the forest (28,000 hectares) would be maintained as

[9]The 1989 C.I.L.S.S. (Comité Inter-état de Lutte Contre La Sécheresse au Sahel) workshop in Ségou, Mali is often cited by NGOs as a benchmark in efforts to promote greater local participation in natural resource management. It is ironic that the government seized on this populist rhetoric of the workshop to justify its Mbegué policy.

sylvo-pastoral lands to be managed by the local pastoralist populations (République du Sénégal 1991).

Unfortunately, like the Déali windbreaks 38 years earlier, the Mbegué plan proved to be mythical -- or devised after the fact with no bearing on the reality of the situation. Several independent visits to verify the situation revealed, first, that while hardly the dense canopied forests one might imagine in more tropical areas, Mbegué was a remarkably rich and diverse Sudano-Sahelian forest. It harboured more than 53 woody species, including at least a dozen which have disappeared in surrounding areas, at an average density of 35 trees per hectare (Gonzales 1991: Tables 1 and 2). Far from preserving or rehabilitating this biodiversity, all evidence suggests that the forest was razed following no plan, that no wind or water erosion prevention measures were put in place, and that the lowlands were, if anything, deforested more systematically than the rest of the reserve due to the better soils they provide for peanut production. Random site measures suggest that the *talibés* cut anywhere from 88-99% of the trees, leaving at most seven trees per hectare in the valley sites and an average of four per hectare on the savanna (Gonzales:3). The intention is not to regenerate the reserve but rather to divide the deforested lands into 15 vast plantations of 3000 hectares, each under the authority of a *marabout* who will install a *dara* to cultivate peanuts.

The likely ecological impact of turning the forest into a peanut plantation can be seen with sobering clarity if one travels just 10 km north of the reserve into the areas around the villages of Sadio and Baila, colonized in earlier expansions of the Mouride domain. The villages, shaded by parks of Neem trees, are nestled in seas of billowing dunes, much of the land so degraded that it can no longer support crops. With hardly a tree or bush to stop the blowing sands, it is difficult for even the most hardy pioneer species to regenerate on the depleted soils. Reduction of rainfall from the 1950s level (averaging 700 mm a year) to current levels (average 450 mm over the past decade) and the lowering of the water table makes natural regeneration of trees much more difficult than it was in the past; efforts at human assisted reforestation in the zone have had only mixed success rates. The short-term pay-off to the Mourides' unsustainable strategies can be impressive, however. Quick and

conservative estimates of the annual proceeds from the Mbegué forest if the largest part is put under peanuts as anticipated suggest that the value of the crop is likely to be on the order of 2-4 million dollars per year.....at least until soil depletion takes it toll and the *marabouts* move on.

The Effect on the Pastoralist Populations

The forest of Mbegué has for forty years played a central role in pastoralist strategies in northern Senegal. Its relative importance has increased as other sylvo-pastoral areas have, by decree or simple land poaching, been put under cultivation. The reserve had two principal functions: as a seasonal, rainy season haven for "micro-nomadic" populations and as a refuge for more distant users during periods of severe water or pasture deficits in other areas.

In the case of the former, the forest has been used, since the borehole was built in 1949, primarily by the *NdurnunaaBe* FulBe faction of the *JeerinkooBe* described above. 370 families[10] numbering some 6000 people established camps in the forest during the rainy season when cultivation of all the neighbouring areas necessitates the sequestering of cattle to prevent crop damage. The *NdurnunaaBe* themselves estimate that they maintained approximately 100,000 head of cattle in the forest (Nopa/Repas 1991). Traditionally, these families grew small quantities of millet for home consumption, a practice which is clearly permitted in sylvo-pastoral reserves. In recent years, the population reports having been severely harassed by forest agents who denied them this right to cultivate in the reserve and levied fines of up to 100,000 cfa ($350) for growing a hectare of millet. Some families left as a result, seeking lands further east where they could continue their integrated agro-pastoral

[10]For information concerning the Fulbe population displaced from Khelkom I am indebted to reports brought back by Yero Dooro Jallo, Faadal Aysata Soh, Seek Bammba Soh, and Alhajji Abuubakri Dem from several visits they made to Khelkom in the weeks following the deforestation (Personal Communication and Nopa/Repas 1991).

activities; it appears likely that the heavy-handed and entirely unjustified fines were part of a process aimed at disengaging the FulBe from the reserve (personal communication). Other factions, who do not actually base their camps in the reserve, used its pasture and water resources on a less permanent basis. The *NdurunaaBe* estimate that some 200,000 cattle used the forest during the dry season on an *ad hoc* basis.

As one of the more southerly sylvo-pastoral reserves, the forest had particular importance in years of poor rainfall when herders would come down from the north, some from as far as Mauritania and Mali, in order to escape the ravages of drought. It was one of the few areas still open to pastoralists in the more southern part of the Sudano-Sahelian belt stretching across the peanut basin. The borehole at Khelkom was managed by the FulBe themselves, who levied fees on families and animals in order to pay the costs of operating the pump. It had a reputation as one of the better managed boreholes in the sylvo-pastoral zone and its reliability was important both to the local populations as well as outsiders who depended on it when seeking refuge from droughts.

When rumours first began to circulate that the forest would be declassified, the *NdurunaaBe* organized to write a letter to Abdou Diouf, President of Senegal:

> *"...we would like to draw your kind attention to the importance of this ancient forest which has seen the birth of generations of livestock raisers and which plays an important role in maintaining the herd of this nation. Situated between the departments of Kaffrine, Gossas, and Linguere, the forest of Khelkom Diaga has always welcomed, according to the season, pastoralists from all directions who, in our pure ancestral tradition, point their herds toward its free and abundant pastures. Hence, we who have been based permanently in this site and never failed in our duties as citizens, believe firmly in your justice, your humanitarian spirit, and in your meritorious function as president of all Senegalese, to restore our rights. We live from the products of our animals, which constitute our raison d'être. If you help conserve our forests you help us to live in peace." (letter from El Hadji Magoume Sow, Chef du Village de Khelkom Diaga to Abdou Diouf, 3 April, 1991)*

A response was sent to the FulBe indicating that the dossier had been sent to the Minister of Rural Development, which would not fail to write them concerning the issue. However nothing further was heard until, six weeks later, armed *talibés* began arriving in the forest forcing FulBe families to flee, stealing animals, and burning houses and fences. Most of the FulBe have taken refuge in the eastern part of the reserve, 28,000 hectares of which have at least for the moment been maintained for sylvo-pastoral use. This area represents not only a small fraction, in size, of the forest they previously occupied, but it is also clearly inferior from the pastoralists' perspective. In the former forest of Mbegué; there were 35 seasonal ponds which maintained water for at least two months after the end of the rains. These ponds enabled the dispersal of animals and a more consistent consumption of pastures. As such, pastures nearer to the borehole could be conserved for later in the dry season. When the area was divided into 45,000 hectares for cultivation by the Mourides and 28,000 hectares for use by pastoralist populations, none of these ponds ended up on the herders' side of the line.

The FulBe know that the remaining land is insufficient to support them and their cattle. They anticipate major conflicts in the agricultural season ahead when their animals will seek old ponds and pastures now lush with peanuts. The herders know that in such conflicts they invariably lose, whether the cultivator takes matters into his own hands or presents the case in court. As one herder described a typical scene, "The farmer takes me to court because my cows trampled a corner of his field: who has rights, the cows or the field? I present my argument. The farmer presents his argument: 'but your honour, do my fields have legs to walk?!?' Each time, the judge tells me to pay." (personal communication, village of Samkedji, 11/89)

Does it matter?

The noose is tightening around the pastoral economy. Social, economic, and political factors all tend toward the privatization of common spaces in the sylvo-pastoral zone and the spread of farms onto whatever lands can support sedentary agriculture. The FulBe have with remarkable adaptability modified their livelihood strategies in response to this reality; many have already become master farmers and are largely sedentarized in communities with schools and other public services. Others continue to pursue older livelihood strategies, moving further to the periphery in order to avoid conflict with more powerful and organized cultivators. They know that time is running out for this strategy, however. An elderly FulBe from Khelkom recently told a visitor, "Wherever the pastoralist chases the jackal to set up his camp, the farmer -- and especially the Mouride -- will chase him in turn to cultivate his peanuts (Nopa/Repas 1991:3)." If the pastoralists live by the adage "to live happy, live hidden (Nopa/Repas 1991:1)," the experiences of Mbegué and Barkedji suggest that there will soon be few places left to hide.

The environmental implications of the transition from an extensive, semi-nomadic agro-pastoral production system to a sedentary agricultural production system are extremely worrisome in the marginal Sahelian belt. The Mourides, having mined and discarded lands more appropriate for agriculture with their extractive, profit motivated agricultural practices, continue to push men and machines into increasingly marginal and fragile environments. As we have seen above, pastoral systems based on opportunistic mobility developed in response to the risk-prone Sahelian environment where rainfall may be sufficient for agricultural production on average only two in five years. The FulBe have traditionally managed these risks by juggling a portfolio of activities and maintaining the geographic flexibility needed to adapt their livelihood strategies, each year, to whatever conditions nature serves up. A single family might keep large and small animals with different consumption patterns, grow several different crops, collect a variety of forest products including gum arabic and baobab fruit. Systems of exchange with more distant relatives and maintaining access to pastures in diverse geographic locations permit the pastoralists to manage the risks associated with their

environment in a way that does not in most cases put undue stress on that eco-system.[11] Intensively used pastures can be permitted to regenerate if open access enables herders to move their animals to other areas when conditions are more favourable; lands can be left to lie fallow if the families have other income generating strategies to cover consumption requirements.

Specialized, sedentary farming systems in general (and especially Mouride peanut plantations as described above) are characterized by less diversity, less adaptability to environmental fluctuations and, in most cases, an extractive and less sustainable approach to production. The mining of the land causes long-term if not irreversible damage to the soils; the more marginal the rainfall the more difficult it is to regenerate these environments to productive levels. A fifteen year German project attempting to restore 30,000 hectares of land not dissimilar to that which is left in the wake of Mouride cultivation has cost more than $5 million (Wal Fadjri 21 June:5) and, even after such an investment, has not been particularly successful in meeting its objectives. In the case of the Mouride domains, short-term private gain is permitted not only at the expense of displaced users, but at great long term cost to the nation as a whole.

It would be incorrect to claim that there has been no degradation in Mbegué over the past 40 years while it has been used primarily by pastoralists. The users themselves are well aware of changes that have been wrought by drought and their own management of that space. Questions of herd size and the divergence between what may be privately and communally optimal continue to be debated by academics, state and private development agencies, and in some cases the FulBe themselves. However, it is difficult to dispute that forty years of use by more than 6,000 pastoralists and their animals has wrought nothing like the irreparable

[11]Studies of the Ferlo indicate that grazing patterns often result in patches of degradation, particularly in proximity to boreholes or other well-used water points (Wispelaere 1980; Valenza 1981; Valentin 1983). Larger patterns of environmental degradation in the Ferlo appear to be less related to grazing activities than to climactic variation and periodic reductions in rainfall (Valenza 1981).

damage caused by three weeks of Mouride deforestation. History suggests that within a decade, Mbegué will have been reduced to little more than a wasteland.

The Donor and Public Response

From the muffled response of many of the official donors, one would be hard-pressed to discern that Mbegué matters much to them. USAID has been one of the most conspicuously silent, particularly given that improved natural resource management is one of the two pillars of its country strategy. The agency funds a 12 million dollar reforestation project and is about to finance another 26 million dollar project funding research on natural resource management. Neither of these projects are likely to have positive environmental effects of anything near the magnitude of the damage done by deforesting 45,000 hectares in Mbegué. Yet, with close to 40 million dollars of projects on the line, the U.S. government has not lodged a public protest, much less take any stronger measures to reduce the ecological and human toll. In the light of Senegal's support of the allies in the Gulf war, it is reportedly considered unseemly for the U.S. to criticize the Diouf government on such issues.

The World Bank, in contrast, has been notably more outspoken. The Bank funds, in collaboration with several European donors, a major conservation and resource management project (PICOGERNA) in the same area as the Mbegué forest. (The scene that opens this article comes from an actual incident in a village participating in the PICOGERNA project.) In the months following the forest cutting, the Bank sent a mission to investigate and concluded that "the policies of participative management of natural resources subscribed to by the Government are no longer credible." They went on to criticize the government action in the strongest terms and noted that it would be difficult to continue support of natural resource projects unless the government reestablished its credibility in this domain. Continued funding of the PICOGERNA project has been put in question, and the Bank has called for a number of measures including the approval of a forest code which permits greater local management of resources, a more systematic and transparent policy concerning

classified forests, and an immediate moratorium on cultivation in classified areas. Since Mbegué was never officially declassified, this is presumably an attempt to stave off peanut production in those part of the forest that have already been cleared.

For all their environmental and populist rhetoric, the non-governmental organizations have also been oddly silent on the issue of Mbegué. There has been no organized protest nor systematic attempt to respond to the needs of displaced pastoralist populations. Until now, the largely ineffectual efforts of the Mbegué population to contest their fate suggest that the assistance of an NGO sensitive to local empowerment issues would be welcome. Yet none of the myriad of development organizations registered in Senegal have responded to this need.
This lack of overt action by NGOs is probably due to the highly politicised nature of the Mbegué clearance, and worry amongst NGOs of the consequences of their sticking their necks out.

In Senegal, the debate on Mbegué has been largely a private one among sympathetic colleagues. The independent press has been outspoken in documenting and criticizing the affair but has not succeeded in generating a public debate. Within the government, many officials, particularly in the Forestry Department, are privately very critical of the government's action and deeply disillusioned but are fearful of speaking out. The opposition political parties, wary of the Mouride's political power, have yet to utter a word on the subject. It is significant that the only major newspaper that did not even mention the subject was Sopi, financed by the most powerful opposition party. The FulBe of Khelkom had written to alert Sopi to the situation well before the cutting began, hoping to enlist their support in galvanizing opposition, but the pastoralists' concerns fell on deaf ears.

Policy Perspectives

Land allocation in central and northern Senegal, of which Mbegué is a significant example, are wasteful in their use of scarce national resources. Extensive and unsustainable "throw-away" agricultural practices common among the Mourides, who are the principal colonizers of marginal agricultural lands in the sylvo-pastoral zone, result in serious soil depletion and a weakening of the agricultural production base. The current system which gives the Mourides virtually unlimited access to new lands acts as a severe disincentive to their adopting more intensive and sustainable agricultural practices. At the same time, Mouride monopolization of vast tracts in the sylvo-pastoral zone is severely reducing agro-pastoralist mobility that is essential to these populations' risk diversification strategies. The pressures of increased grazing on fewer pastures will lead to the increasing degradation of the commons that remain. Both the agricultural and pastoral parts of the agro-pastoral system are being pushed in ways that are destructive of fragile environments and inimical to the well-being of populations whose livelihoods depend on those environments.

Senegal has a legal and administrative framework capable of weighing competing land use interests. Many of the decisions concerning these matters are taken at the local level. In theory, this permits the extensive participation of affected populations in decisions concerning the land on which they live. Among the critical legislative acts are the 1964 Law of the National Domain which makes the State the ultimate legal holder of most land, but gives rural community councils the authority to allocate lands according to the beneficiary's capacity to render it productive ("*mettre en valeur*") in conformity with the programme established by the councils themselves (Loi 64-46). The councils that make such decisions are popularly elected from the villages which comprise the Rural Community. The power of these rural councils was strengthened earlier this year when they were given greater control over their budgets, though all decisions continue to be subject to approval by the *préfet* (departmental administrator). Attempts to protect pastoral interests were codified in a 1980 decree (80-268) which prohibits clearing and cultivation in "natural pastures". It also called

for the establishment of "committees for the conservation of pastures" that would be set up in each district, department, and region.

Unfortunately, the potential of these decrees to ensure local participation and to protect agro-pastoral interests has never been met; local decision making structures remain largely unempowered. While the experience of the rural councils varies widely, in few cases are the councillors adequately trained to understand the rights and responsibilities afforded by their position. It is rare to find councils refusing a request for land since many perceive their role as "giving land to those who ask". They are further handicapped by the state's failure to recognize pastoralist activities as "productive, value-adding" uses of land. The 1980 pastoral decrees have been largely ineffectual since, aside from classified areas, it is not at all clear what is meant by "natural pastures" and the pasture conservation committees have not, in most cases, been activated (Juul 1991:3).

The overriding issue in any discussion of competing land claims is the immense political power of the Mourides, however. Whether actually true or not, the perception certainly exists in Senegal that presidential, and many other local elections, cannot be won without the endorsement of the Mouride hierarchy. The discipline and organization which has made the brotherhood so successful in colonizing new lands also gives them virtually unchallenged political strength. The history of pastoralists, on the other hand, is one of social fragmentation, low levels of schooling, and relatively weak social cohesion at higher political levels (Santoir:167). On a scale of political mobilization, this puts the two groups at opposite extremes, with various other interest groups somewhere in between. Hence, without explicit actions to strengthen agro-pastoral claims and to assure continued access to lands needed to maintain the system's mobility, current trends toward a squeezing of the agro-pastoral economy are likely to continue and, possibly, to accelerate. Time is running out since, with each passing land appropriation -- whether 45,000 hectares in one decree at Mbegué or a dozen new allocations of 10-20 hectares in a Ferlo Rural Community -- the agro-pastoral system loses more of its vitality. Land allocation is supposed to be based on the principle of rendering the nation's territorial patrimony productive. In fact, current

policies are sapping its potential and systematically robbing both present and future generations of sustainable livelihoods.

There is no time to be lost; a number of actions are needed. Local and international NGOs can help to assist agro-pastoral populations to understand their legal rights and to organize to pursue those rights without recriminations from more powerful interests.[12] These NGOs are in a position to help the wider development community understand and respect agro-pastoralists' own ideas for better managing their space. Academics and development analysts must continue to document changes in both social and ecological systems, thereby providing essential information concerning the sustainability of various livelihood systems and the implications for public policy. The international donors may be the only institutions capable of providing a counter-weight to Mouride influence on issues like Mbegué. Senegal's willingness to grant expansionist Mouride land claims makes a mockery of donors' continued funding of environmental regeneration programmes; donors have both the right and the responsibility to make further funding of environmental programmes contingent on the government's insistence that, at a minimum, the Mourides demonstrate the use of more sustainable agriculture production strategies before they are allowed to expand into new territories.

On a global scale, the Mbegué story may be of minuscule importance compared to humankind's demonstrated ability to destroy, say, Amazonia and its cultures. Yet it matters greatly to the FulBe herders of Khelkom and falls into much the same pattern: the destruction of national and international resources by a relative few has been permitted by the negligent, complacent, and ultimately complicit silence of the many.

[12]The Khelkom Peul have already asked for legal assistance to assure that they are at least given an official mandate to manage the 28,000 hectares of remaining sylvo-pastoral forest and to ensure that this land is not also expropriated for cultivation.

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NOTE

Since the time of writing, the consortium of NGOs in Senegal, CONGAD, has established a working group to discuss the implications of the Khelcom forest clearance.

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